

Dronebox nest concept carries impact on drone use efficiency

March 3 2016, by Nancy Owano



Singapore-based H3 Dynamics has unveiled Dronebox; this is a system that converges drone-enabled service activities "with the Industrial Internet of Things."

Popular Science's Kelsey Atherton said that "With DroneBox, a quadcopter lives most of its life [inside](#) a landing pad. The top of the box has solar panels to charge the drone."

The company has its definition of Dronebox as "a grid independent battery charging and data communication shelter for on-demand sensing drones routine inspections in the field, as well as provide a highly reactive 24/7 perimeter and border security [solution](#)."

Drone services can be labor-intensive expeditions, but the Dronebox concept could change the direction of drone service capabilities.

Taras Wankewycz, H3 Dynamics founder and CE, was at the Singapore Air Show, and he talked to Reuters: "We have gone beyond the fixed sensor. We now have a sensor that has come out of its [enclosure](#) and moves."

It's a flying sensor that then goes back to its enclosure and provides the data back to the operator. As such, he said, you get lots of information. The drones can behave as unattended sensors—events are triggered, scheduled, or on demand. A live feed is also possible if it is a situation where you want to respond to as quickly as possible. The purpose for this is to help automate drone operations in a range of applications—for inspection or security purposes, for example.

Primary power is from the sun and backup power is from fuel cells.

How it works: Reuters said that "once a drone lands on it, the vehicle is charged inside the box's shelter using [solar panels](#), allowing the UAV to

be powered up off-grid." The drone sends data to a central server using an Internet connection; in remote areas, it's a satellite connection.

Wankewycz spelled out its real-world impact on costs and efficiency, such as on a project involving oil and gas monitoring:

"If a pipeline is 200,000 kilometers long or the network is that big, it takes forever for these people to know the information and it's extremely expensive to stop the flow of oil as we can all imagine, so their whole concept is to know what the problems are or where they are likely to happen across an entire huge stretch of pipeline."

He said that their dream is to be able to know the situation of their whole asset base within a day, whereas right now it takes them more than a year and a half to cover the entire network. He said that "with Dronebox we just want to shorten the timeframe from maybe a year and a half to one day."

Dronebox, as important, can be networked into an Internet of drones, and of things.

"The company says that mobile sensors hosted in networked Droneboxes could potentially revolutionize border and perimeter security," reported Reuters.

Applications could be many, such as telecom inspections, worksite inspections, precision agriculture as well as security.

Wankewycz said that for the company, the Dronebox was "kind of like the Mars Rover but on earth, that goes to very remote areas where we don't want to go, but inspects assets or inspect borders or national security related issues using this device."

What's next? "According to Wankewycz," added Reuters, "the team is working on improving battery life for the drones. Currently most drones can fly up to 20 minutes but they want to improve this to an hour."

Signs of interest: "He said the company has received interest from oil companies, government agencies, various security companies, as well as [drone](#) manufacturers," according to Reuters.

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