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Hot Start-Up: H3 Dynamics

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Tom Raymore, H3 Dynamics talks about who and what is H3 Dynamics, a Singaporean tech company involved in both robotics systems and sub-systems hardware, as well as field communications and real-time analytics.

In addition to designing and developing an autonomous drone, DRONEBOX, we are working to connect self sustainable field robots to the cloud to develop domain expertise.

So fundamentally, DRONEBOX is a mobile sensor for the Internet of Things, so you've got your data gathering, power independence, data communication, mobility, all under the field of – all under the umbrella of telerobotics, very similar to the Mars Rover which is another platform for telerobotics which everyone in this room, I'm sure, is familiar with.

How did we come up with DRONEBOX? So you take the example of cell phone tower inspection. Historical example is technician shows up, puts the safety harness on, climbs up the cell phone tower, does the inspection, comes back down, safety gear off, back in the truck and gone.

That evolved into commercial UAV operator shows up in a truck or van, launches a UAV, conducts a similar inspection. But now DRONEBOX is out there 24 hours a day, seven days a week, scheduled flights, unscheduled flights, doing analysis, whatever you need it to do but it's on-site 24/7. As an IoT device DRONEBOX is going to change the face of the commercial UAV industry.

Two main value propositions of DRONEBOX and H3 Dynamics. The first is automation of drone inspection for services. Now, we're going to talk about that a little bit more in just a moment. I see some inquisitive eyes here.

The second is 24/7 availability, as I mentioned. So most drone service companies specialise in a single vertical. For example, commercial UAV operator shows up to a farm, goes out to the field, scans the field, provides the data analysis to the farmer and leaves.

However, through DRONEBOX, H3 Dynamics wants to develop domain expertise. So what does that look like, domain expertise? We started to categorise this into oil and gas, inspection, agriculture, so on and so forth. I won't read all those. What we want to do is, through our SDK platform allow people to upload their domain expertise.

For example, inspection. A commercial UAV operator in Spain does solar panel farm inspection. That person can upload their domain expertise into our app environment and a similar commercial UAV operator in Arizona can access that, download that expertise and perform the same solar farm inspection in Arizona.

Every time that happens, if you look up here in the upper right, that original owner of that expertise is actually paid a royalty fee, and the person downloading it and using it and subscribing to that domain expertise in Arizona, in this particular example, only pays a small monthly subscription.

Looking to the future, again we want to remove the hardware piece as a barrier to entry. So the hardware eventually, as we see it, be free, and the revenue model will come from subscriptions and analytics as a service from domain expertise.

Our go to market plan, rather – there's more opportunities than time and resources, people and money, so therefore our go to market plan is focus on a few opportunities now, become very strong experts at those, and over time grow that expertise again, rather than be average at a whole bunch.

A glimpse into the future. Not only will we have DRONBOX as an IoT sensor, but like I mentioned in the last – in the panel, ground robots, human robots, marine robots, fixed-wing aerial robots too. This kind of ties to the first speech that we had, or first informational lecture that we had. Artificial Intelligence.

DRONEBOX will scan the field, look for overwatering, under-watering, overfertilization, look for disease, tell another drone where the specific area of mitigation is. That drone will launch, apply the fertiliser, apply the water, whatever's necessary, but it's all conducted by drones.

Recently our customers have asked us for how drones go from box, to box, to box. Powerline inspection, pipeline inspection, positive train control. It's a bit of a pony express for DRONEBOX, going from one box to the next to recharge and back, so this is a business concept that we have for the future.

A quick glimpse into some of our IoT go to market partners, customers and pending customers too. We are H3 Dynamics, we are working to connect selfsustainable field robots to the cloud to develop domain expertise.

Photo: Tom Ramer, H3 Dynamics
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