Flyability set to empower drones for good deeds

10 February 2015, by Nancy Owano

Flyability drones are going to advance a perception of drones as service angels as opposed to attack agents. Switzerland-based Flyability is all about making robots to support search and rescue operations. Their product is a small, lightweight drone which can collide on obstacles without losing stability and is safe to fly in contact with humans.

Ensuring drones can do the job they set out to do for search and rescue has not been easy, with collision risks. Patrick Thevoz, co-founder, said the company vision involves service drones that can be safely deployed even in populated areas. He said the team was aiming to empower search and rescue technicians with robot partners which truly fit their needs, in scenes such as entering a building to assess smoke; entering an accident site to identify the source of a chemical leak; and entering an unstable structure to further assess its safety. The company promotes its work in developing a "collision-tolerant" robot. The machine makes use of obstacles to find its way instead of avoiding them. Its flight-control algorithms keep the robot stable. Designed to go everywhere, the insect-inspired machine, in addition to flying, can roll on walls, ceilings and on the ground.

The company, founded last year, is a spinoff from the Swiss Ecole Polytechnique Federale de Lausanne (EPFL). The "Gimball" is protected by an external spherical frame decoupled from the avionics. Thanks to its design, it can be sent to hard-to-reach locations during a disaster, for example, to film the environment with its onboard camera and provide information to rescuers. With its surrounding small spherical cage shape, it bounces off obstacles; a rotating cage gives it the ability to meet obstacles in challenging environments without losing stability.

Greg Kumparak, Mobile Editor at *TechCrunch*, explained how the cage is held in place by a multi-axis gimbal system, allowing the cage to rotate and roll independently of the propeller/camera rig at its core. He also remarked that, "rather than hunt down rebels, this thing is meant to save lives—and between the IR camera (for seeing through smoke) and that crash resistant shell, it's easy to imagine it doing just that in the not-too-distant future." It's also easy to see that Flyability is making headway in impressing people with their work. Earlier this month, it was announced that Flyability won a $1 million grant in the International Competition of the UAE Drones for Good Award (billed as the "World Cup" for drones).

Flyability co-founder Thevoz said, "We struggled to find funding to develop our search and rescue drone, but this UAE Government Summit initiative, Drones for Good, means we can commercially develop our project within a year, and with Flyability capable of going anywhere that is too dangerous for rescuers, it can save lives." He said the Drones for Good award was inspirational "because while there are many awards for academic research there aren't many for the social application of new technology."

  More information: www.dronesforgood.ae/about
actu.epfl.ch/news/gimball-take … -in-the-middle-east/

www.flyability.com/
www.prnewswire.com/news-releas …
prize-291155561.html

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