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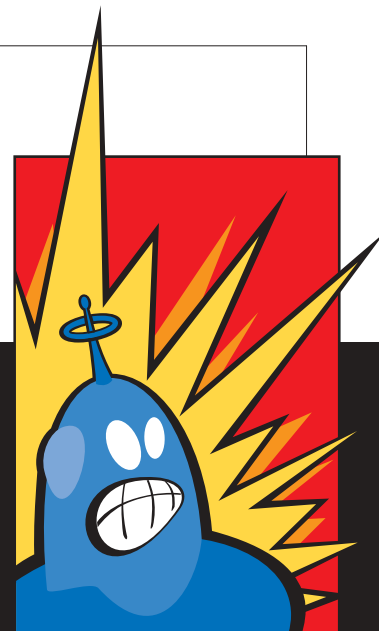


The Magazine of Business Innovation

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Robot Warriors of Brooklyn

Flying robots, the high-tech war machines of the future, are being built in Brooklyn. Life-saving and cost-effective, these machines are part of the new world of warfare.

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Should we call the Terminator? There's a team working in the anonymous factory rows of Brooklyn, building flying robots – the computer-controlled high-tech war machines of the future.

Atair Aerospace, Inc. is receiving solid financial backing from the U.S. military and generating interest from “Special Forces” around the world, as recent conflicts have shown the effectiveness of keeping troops and pilots out of harms way, if a drone or “droid” can do the job instead. This applies not just to avoiding surface-to-air missiles for pilots, but also to precision-delivery of bombs and supplies.

The privately-held Atair has won awards for its solution that is modeled on a 2 parachute delivery system that divides guidance and soft landing between two parachutes.

The U.S. Army has made precision airdrop a central component to its Revolution in Military Logistics (RML) and Army After Next (AAN), strategic plans to modernize its Objective Force for the twenty-first century.

“Outside the context of warfare, Atair AS' technologies could have wide and perennial use by addressing logistics problems emerging from natural disasters, famine, civil unrest, accidents, infrastructure failures, medical emergencies, and sheer remoteness.”

Atair believes corporate industries such as mining, forestry, and oil companies that operate in locations not well served by land or water transport will find the ONYX System beneficial to their objectives.

Says Daniel Preston, CEO of Atair Aerospace: “there are significant technical benefits of the double parachute concept over prior art single parachute concepts. By dividing guidance and soft landing into 2 separate parachutes, we are able to ideally match the required performance of each task. The guidance wing no longer has to be docile enough for an autopilot landing and as such can be designed for the extremely high speed and high glide. Vulnerability to winds aloft and enemy detection is great-

FLYING WAR ROBOTS BASED IN NYC

Speaking with National Defense Magazine about this problem, Edward Doucette, Director of Airdrop and Aerial Delivery at the Army Natick Soldier Center, Mass., stated that “dumb airdrop? The way we [the Army] do it today is at the mercy of the wind, and accuracy is nonexistent.”

In response, Atair AS has developed the ONYX System. This recoverable and reusable delivery system can be deployed from an altitude of up to 35,000 feet and autonomously navigate its cargo to a predetermined landing target, thus ensuring the safety of aircraft and personnel from hostile ground-based fire.

After release from the aircraft, the ONYX System employs an elliptical parafoil for initial deployment and guidance. The navigation of the cargo to a predetermined landing zone is controlled by an on-board flight computer that utilizes GPS and Inertial Navigation Sensor technology. A second non-guided parachute is then deployed at the lowest possible altitude for a soft landing.

The ONYX System is unique in that its design significantly reduces time aloft and vulnerability to wind. It is also scalable to considerably heavier cargo weights than is feasible with other technologies. The technological advances used to design this system have received multiple top awards, been used to set multiple world records in the parachute industry, and have led Atair AS to file more than 16 patents.

Atair's Marketing Manager, Mark Montalvo, says “Atair is a young high-tech company, and while we do not have the giant infrastructures of companies like BAE Systems and Northrop Grumman, we possess the technological speed and ability to drive innovation that is often lost in huge bureaucratic defense organizations.

“Ultimately, the military wants airdrop platforms for 75 lbs all the way to 20 tons. The potential market for the military alone to supply them with an aerial delivery system could approach \$1 billion in the not too distant future.



“The trend right now is a full-on push to completely develop autonomous flight delivery systems.

— Daniel Preston

BY DUQUESNE RAMSEY



ly reduced due to the high flight speed and short time aloft. Flight time of a single parachute system can be more than 10 times longer than our double parachute system. Additionally, the complexity of the guidance system is reduced as is the overall system cost.

“The trend right now is a full-on push to completely develop autonomous flight delivery systems. We are extremely excited and busy preparing for the upcoming PATCAD conference where airdrop technologies will be demonstrated before 100 top ranking Department of Defense officials (including three star generals) and a 100 of their foreign counterparts. We have been told by the U.S. Army that Atair Aerospace is the only U.S. manufacture to have developed and to be demonstrating an autonomous system.

“Precision airdrop is one of the U.S. military's top priorities. From this technology there will also be an increase in the development of unmanned vehicle systems both for corporate and military uses. These vehicles will perform in hazardous or dangerous environments to achieve their objectives without putting a human life on the line.”

The company, founded in 2001 as an outgrowth of a business focusing on recreational parachutes, prices the products at between \$15,000 and \$60,000 for production quantities – an extremely low price compared to the life-saving value. ■