

C-UAS demonstration was held at Fukushima Robot Test Field (RTF)

Demonstration brief

From target detection to capturing, we performed demonstration of C-UAS.



A demonstration of the C-UAS system was carried out at the Fukushima Robot Test Field (RTF), which was constructed in the Reconstruction Industrial Park in Minami Soma City, Fukushima Prefecture. *Fukushima Robot Test Field(RTF), developed based on Fukushima Innovation Coast Framework, is one of the largest research and development bases in the world. At this research base, verification test, performance evaluation and operation training can be carried out while reproducing the actual operating conditions, mainly for ground, maritime, underwater and aerial robots that are expected to be utilized for logistic, infrastructure inspection and large-scale disaster. *Reference website : <https://www.fipo.or.jp/robot/en>



(YouTubeを表示)

Demonstration of drone detection and tracking by middle range radar, and mitigation by autonomous hunting drone.

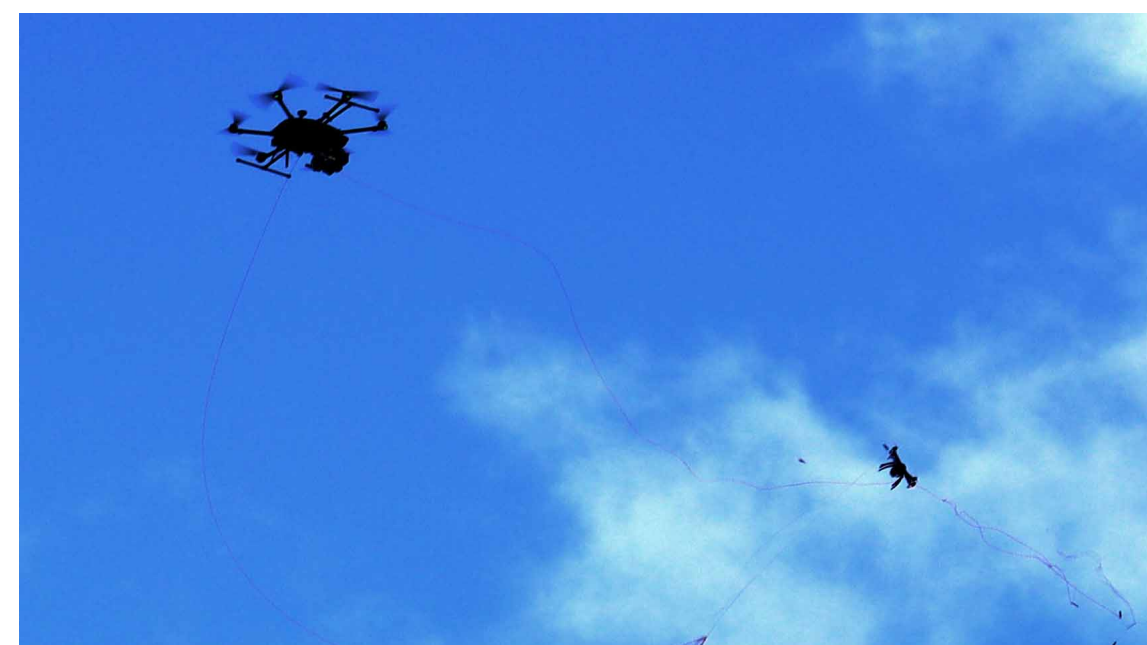
Preparations for the demonstration began early in the morning under clear, cold December skies with the setting up of the middle-range radar and autonomous hunting drone, the key components of the C-UAS systems, as well as test flights of the target drones.

A small drone several hundred meters away which cannot be spotted by the human eye can be precisely detected by the radar. After the autonomous hunting drone captures the target, it is towed to a safe place and lowered to the ground. The whole process of the C-UAS solutions functions will be demonstrated on the field.



Short and Middle Range Radar

Low size, weight, and power, with an electronically scanned, phased array enabling 3D detection of targets. Flexibly scalable and installable for venues, infrastructure, cities and regions.



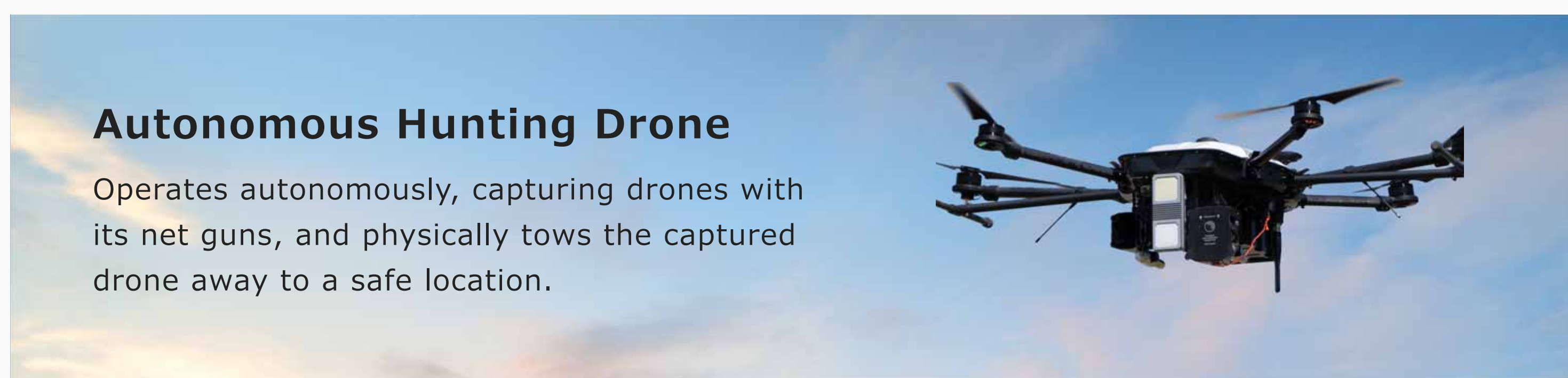
In the event of a suspicious drone intrusion, the target drone begins flight towards the facility from several hundred meters away. The medium-range radar quickly detects its arrival and alerts the operator.

The radar continues to detect the target drone without losing track, and the autonomous hunting drone is instructed to launch. The autonomous hunting drone launches rapidly towards the target drone through the occasional strong sea breeze. It autonomously tracks the target using its onboard short-range radar and closes in within range for capture.

Captured and towed to a safe location Successful completion of the scenario proves the effectiveness of the C-UAS solution

Upon receiving instructions to capture the target, the autonomous hunting drone moves closer to the target drone, fires a capture net, and successfully captures the target drone. The autonomous hunting drone then flies to a pre-determined point, safely releases the captured target, and returns to the departing and landing point.

The series of scenarios from detection, tracking and to capture were successfully completed, proving the effectiveness of C-UAS solutions and collecting a variety of data under close operating conditions. We will continue to conduct various evaluations and verifications, including demonstrations, to realize a safe and secure airspace.



Autonomous Hunting Drone

Operates autonomously, capturing drones with its net guns, and physically tows the captured drone away to a safe location.

Event information



Demonstration site	Fukushima Robot Test Field
Date	December, 2022
Venue	Minamisoma Reconstruction Industrial Park, 83 Shin Akanuma, Kayahama, Haramachi-ku, Minamisoma, Fukushima 975-0036, Japan

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