Defence Swarm

RXO co.,LTD.



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Company Introduction



PARK SOON JEONG Chairman

Mobile.	+82-10-5832-3825
Email.	rxoworld0225@rxoworld.com
Fax.	+82-62-233-1003



- Address. 2 Dosicheomdan 6-ro, Nam-gu, Gwangju, Korea

www.rxoworld.com

RXOWORLD | RXO Co., Ltd | RXO R&D AI Lab | RXO GROUP Co., Ltd. RXO Thailand | RXO Mexico | RXO Phillipine | RXO Serbia | RXO Vietnam | RXO Hong Kong | RXO Indonesia | RXO America | RXO China | RXO Poland | RXO Dubai |RXO Kazakhstan | RXO Malaysia | RXO Indonesia | RXO China | RXO Azerbaijan | RXO Brunei

- Company : RXO Co.,Ltd
- Address : 2 Dosicheomdan 6-ro, Nam-gu,

Gwangju, Korea

- E-mail : rxoworld0225@rxoworld.com
- Vision : A huge multi-national corporation

deploying global strategies RXOWORLD \$2,941,

334,427,450

Project Introduction



This is a drone project where swarm drones perform tasks such as interception, defense, and escort. The mothership deploys interceptor drones to carry out various missions, and its AI is capable of making autonomous decisions.

Swarm Drone



Swarm Drones

Swarm drones equipped with AI operate through the mothership, executing the operator's commands. The mothership autonomously analyzes the situation and assists in optimizing mission execution based on the given orders.

The operator does not control each drone individually but can command multiple interceptor drones through the mothership.

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AI-Based Control System

AI-Based Control System Introduction



Object Detection Function

Through cameras, the system detects the real-time positions of interceptor drones and performs tasks such as target tracking and recognition.

Autonomous Unit Control

The mothership automatically controls subordinate units, adjusting their positions to prevent collisions. It manages their movement paths and coordinates autonomously.



AI-Based Control System Introduction



Unit Scheduler

The mothership identifies the nearest available drone to carry out the operator's objective and automatically assigns the mission to that unit. It then fills the vacant position to maintain a seamless defensive posture.

> Emergency Protocol and Semi-Autonomous Control

In the event of disrupted communication with the operator, emergency protocols enable the system to safely return drones either immediately or after completing their mission. This semi-autonomous control ensures the safe recovery of assets.



Al-Based Control System Introduction



AI-Based Obstacle Path Prediction

Using an AI-powered path prediction system, the drones can anticipate obstacles along the target's projected route, enhancing maneuverability in dynamic environments.

Environment Sensor-Based Flight Path Adjustment

By combining real-time environmental data with meteorological information, the system generates optimal flight paths, improving swarm survivability and energy efficiency.





ATTACK & DEFENCE

Introduction of Attack & Deffence



Interceptor Drone Operation

Interceptor drones are deployed through the mothership to neutralize threats, protecting targets with optimal costefficiency through effective methods.

Reconnaissance and Evasion Function

To ensure the safety of the entire swarm, reconnaissance and evasion capabilities are integrated. The autonomous AI defense system detects and avoids threats such as jamming or physical interception, minimizing potential damage to the swarm.



Introduction of Attack & Deffence



Flight Trajectory Prediction

Through the mothership, AI predicts flight trajectories to enable efficient target detection and interception operations.

Confidentiality Preservation Function

In the event of a potential drone capture, the system protects sensitive information by initiating self-destruction or complete data wipe, thereby preventing intelligence leaks and minimizing asset loss.



Introduction of Attack & Deffence



Mothership Protection Function

An AI system utilizes interceptor drones to autonomously defend the most critical asset—the mothership—ensuring constant protection and optimal operational status at the core of the swarm.

Air Recharging Capability

RXO's proprietary technology enables aerial recharging of the mothership's battery, significantly extending mission endurance and flight time for continuous operations.





Scout Function

Scout Function Introduction



AI-Based 3D Mapping

Utilizing video footage, the system reconstructs a 3D terrain map based on visual data. This enhances the depth and precision of intelligence gathering for operational use.

Friend-or-Foe Identification Accuracy 99%

Through video-based AI, the system distinguishes between friendly and hostile forces by analyzing features such as facial recognition and military uniforms, enabling accurate identification and precise target discrimination.



