



**Counter UAS Upgrades for Better Accuracy  
in Dynamic Applications**

# Protection

Since their initiation into the market in 2015, OpenWorks Engineering has been seeking to revolutionize the industry of security. While many industries focus primarily on offensive strategies for Autonomous Unmanned Systems (AUS) protection, OpenWorks has pushed an innovative solution that revolutionizes the defensive playing field. In the beginning of 2018, Openworks began its partnership with Inertial Labs and entered testing phases for its most successful product line, SkyWall.



# SkyWall

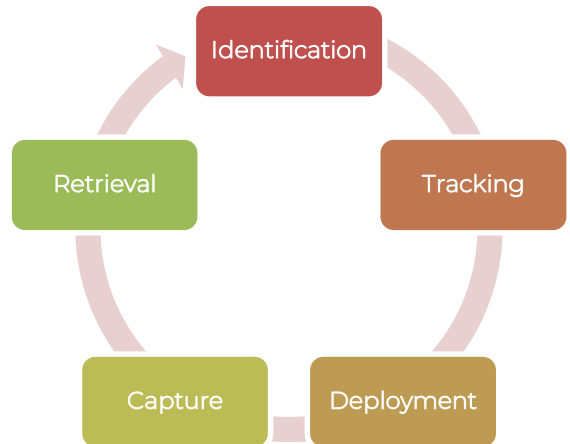
## Applications

SkyWall Auto Response is a defensive mobile drone capturing system that is commonly used amongst security agencies. Successful partnerships have been made within organizations such as: police forces, critical national infrastructure security (i.e. airports, power stations), VIP protection, public event security and armed forces. The new decade has already proven to be one that will have to provide safety from UAS. The SkyWall product line features options tailored for the security community to take advantage of such as: autonomous tracking, integration links, handheld/remote stations and complete solutions for both static and dynamic applications. The advances in autonomy have made it possible for agencies to easily put the safety of human lives as a top priority in the field of security.



## How does it work?

Once an unidentified aerial platform has entered restricted local air space, SkyWall responds by pneumatically launching a projectile containing a net towards the rogue UAS. This projectile deploys a net to capture the target UAS without damaging valuable elements. The projectile payload then releases a parachute automatically after releasing the capture net to allow the UAS to safely descend to the ground. This provides a proportionate response with a known outcome which is safe to use even in sensitive areas.



As shown above, the SkyWall Auto Response platform provides a complete solution for end-users. Inertial Labs has helped by providing the system with orientation and position data that allow the response vehicle to operate even in dynamic applications. The SkyWall Auto Response vehicle is photographed in the image below.



The SkyWall platform can be used as a standalone drone capturing system or be integrated with a drone detection and security system to offer a highly capable and easy to operate counter drone solution. A single SkyWall Auto Response system can protect a high-value asset or multiple systems can be networked and deployed to protect a large site.

SkyWall Auto Response launches a projectile up to the target drone after the system has autonomously acquired and tracked it using world leading edge AI technology. The launching system is hidden under covers to remain discrete until required, then it is automatically deployed.

## Integration made easy

SkyWall Auto Response can be integrated with an external detection system (such as radar) to provide an end-to-end solution. The detection system cues SkyWall to the approximate direction of the drone using GPS coordinates. The Inertial Labs Low-Cost Dual Antenna Inertial Navigation System (INS-DL) is used to locate and orientate the SkyWall to make sense of this GPS data. SkyWall starts to scan the target area with its EO/IR sensors and uses AI algorithms to identify the target drone from the video stream. SkyWall then tracks the drone automatically leaving the operator only to arm the system and press the trigger.

## Inertial Labs: The Trusted Name for Integration Solutions

As a leader in position and navigation solutions, Inertial Labs has become a trusted name for many companies that deal with major, and minor integrations for both static and dynamic platforms. With a knowledgeable team of engineers and research professionals, we enjoy taking the time to understand our partners projects and pride ourselves in being able to provide the best solution with extensive customer support.

The Inertial Labs INS-DL is the ideal navigation solution for applications that require centimeter level position accuracy on platforms where heading accuracy is of vital importance. Whether you are using a ground vehicle, marine vessel, or aerial platform, the INS-DL has configurations that are ideal for every application.



## INS-DL

- Affordable Price
- Available housing: OEM, IP67
- Configurations for: Marine, Land, Aerial

### Device Specifications

Position Accuracy (RTK)	1 cm + 1 ppm
Heading Accuracy (Dynamic)	0.08° (RMS)
Pitch/Roll Accuracy (Dynamic)	0.1° (RMS)
IMU Type	Industrial – Configurable Range(s)
Power Consumption	3 Watts
Weight	320 grams (IP67) 115 grams (OEM)
Size	120 x 50 x 53 mm (IP67) 85 x 47 x 36 mm (OEM)



## What Do You Think?

*Here at Inertial Labs, we care about our customers*

*satisfaction and want to continuously be able to provide solutions that are specifically tailored to problems that are occurring today, while vigorously developing products to tackle problems of tomorrow. Your opinion is always important to us whether you are a student, an entrepreneur or an industry heavyweight. Share with us your thoughts of our products, what you would like them to be able to achieve, or just say hello at [opinions@inertiallabs.com](mailto:opinions@inertiallabs.com)*



## About Inertial Labs Inc.

Established in 2001, Inertial Labs is a leader in position and orientation technologies for commercial, industrial, aerospace and defense applications. Inertial Labs has a worldwide distributor and representative network covering 20+ countries across 6 continents and a standard product line spanning from Inertial Measurement Units (IMU) to GPS-Aided Inertial Navigation Systems (INS). With application breadth on Land, Air, and Sea; Inertial Labs covers the gambit of inertial technologies and solutions.



Scan me!!!

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