

Boundary Guardian: Advanced Perimeter Security Solution



Rheinberry provides

- Business and Strategic Planning
- Partnering and Brokering to foster and deliver innovation
- Programme Recovery and Turnaround
- Implementation and Delivery

Introduction

Boundary Guardian offers cutting-edge perimeter intrusion detection by integrating multiple sensor technologies like visual, LIDAR, infrared, and thermal imaging. The system provides real-time situational awareness and response capabilities, ensuring maximum protection of sensitive facilities from potential threats such as intruders, drones, and vehicles.

Bringing AI driven sensor data fusion and proven experience from:




Key Features

- **Multi-Modal Sensor Integration:** Leverages a variety of sensors to detect, track, and re-identify targets, even after a tracking break.
- **AI-Powered Analysis:** Uses advanced AI algorithms for object identification and behavioural analysis, ensuring accurate detection of potential threats.
- **Autonomous Robotics:** Incorporates Boston Dynamics' Spot robots to provide flexible, mobile security patrols, including active threat engagement and verbal communication.

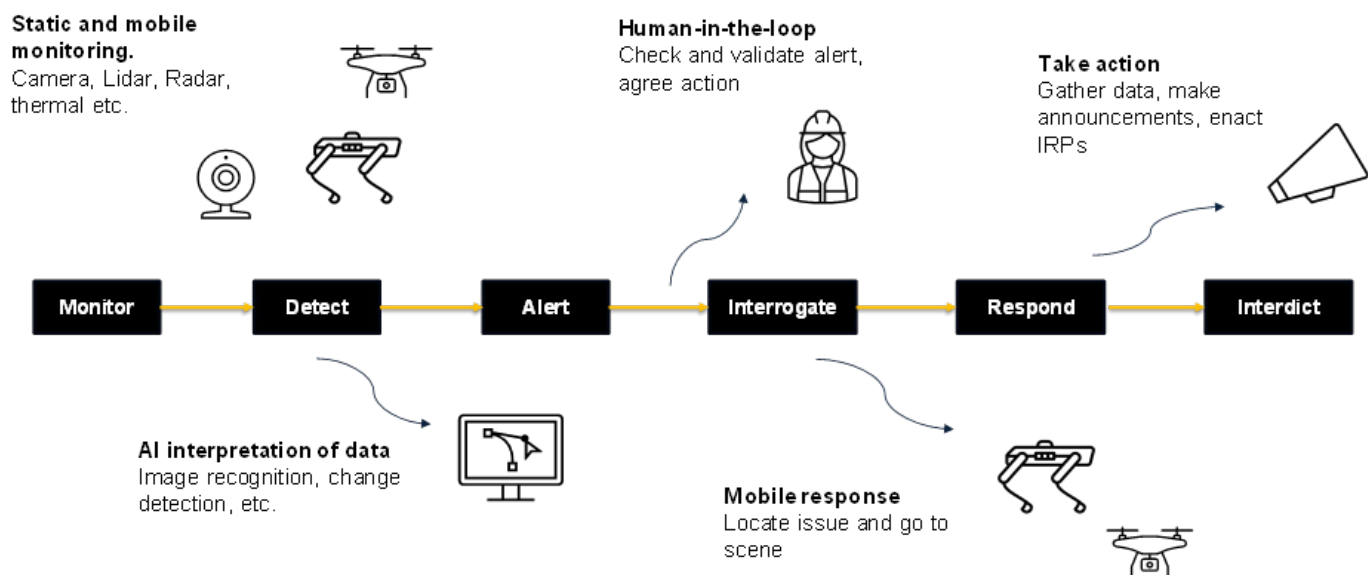
How it Works

Boundary Guardian uses a modular system architecture, which includes:

- **LIDAR & PTZ Cameras:** For comprehensive perimeter surveillance.
- **AI Interpretation:** To distinguish between human, animal, and vehicle activity, reducing false alarms.
- **Autonomous Response:** Spot robots can autonomously approach threats and interact using onboard sound systems.
- **Scalable & Customizable:** Can be adapted for various environments, including military bases, critical infrastructure, and crowded civilian areas like airports and stadiums.

Rheinberry has been an ACI Gold World Business Partner since 2022 and is a member of the Facilitation Committee, Regional Airports Forum and Cybersecurity Committee.

Autonomous Site Security Vision



Operational Scenarios

A subject is detected near a perimeter fence. Boundary Guardian tracks the subject using LIDAR and optical sensors. If the subject's behaviour becomes suspicious (e.g., attempting to breach the fence), the system raises the threat level and dispatches a Spot robot to intervene. The system allows for both autonomous actions and human oversight, with supervisors able to take control at any time.

Dual-Use Potential

Boundary Guardian is equally effective in defence and civilian environments, enhancing security for public utilities, transport hubs, festivals, and smart cities. Its ability to track and re-identify individuals without biometric data is a key advantage in civilian settings, ensuring privacy while maintaining security.

Potential Applications

- Military Bases
- Airports & Critical Infrastructure
- Crowded Public Spaces
- Policing & Law Enforcement

Proven Technology

- **Situate Technology:** Advanced LIDAR-based perimeter surveillance.
- **NexuSec:** Non-biometric re-identification technology for tracking individuals through visual and infrared data.
- **SAPIENT Open Architecture:** Enables seamless integration of new sensor technologies, ensuring long-term flexibility and scalability.

Key Benefits

- **Reduced Human Risk:** Automation reduces the need for human intervention in dangerous situations.
- **Efficient & Scalable:** Capable of covering large areas with minimal sensor installations.
- **Real-Time Adaptive Responses:** Smart sensors and AI algorithms enable instant adaptation to changing threat levels.

Why Choose Boundary Guardian?

Boundary Guardian provides unmatched perimeter protection by combining smart sensors, AI-powered detection, and autonomous robotic patrols. Flexible, scalable, and ready for deployment in both military and civilian sectors, it's the next generation of perimeter security. Contact info@rheinberry.com for a demo.