

# 10th **Safety Gala** **Albania**

TIRANA INTERNATIONAL SAFETY CONFERENCE

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**ERM****C**

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MANAGEMENT FORCE Group

RISK MANAGEMENT & EHSS CONSULTANCY SERVICES



**SAFETY SYNERGY**

Competence, Growth & Sharing

# Safety Takes Flight: Harnessing Drones for Risk Prevention and Addressing the Emerging Safety Threat of Unauthorized Flights



Evangelos Tzitzis  
Co-Founder & Managing Director  
AEGEAN ROBOTICS

# Who We Are



Founded in 2023

Focused on transforming asset management with advanced drone and robotic technologies



Core Services

Infrastructure inspections • Safety & security aerial operations • Anti-drone solutions.



Sectors We Serve

Maritime • Industrial • Utilities • Renewables • Energy • Oil & Gas



Our Expertise

Highly experienced drone operations & robotics team with pioneering projects in Greece & abroad (Albania, Kosovo).



# The Growing Role of Drones in Modern Industrial Safety

- Reduce worker exposure in hazardous areas
- Provide remote access to hard-to-reach locations
- Deliver high-resolution visual & sensor data
- Enable faster, data-driven safety decisions
- Improve early risk detection and incident prevention



- **High-altitude asset monitoring**
- **Emissions and leak detection**
- **Surveillance of port terminals**
- **Cement factories asset inspection**
- **Confined space inspections**
- **Anti-drone defense**



# Close-Up Inspections in Confined Space with indoor drones

- Collision-tolerant drones like ELIOS 3
- Equipped with LIDAR, real time mapping, thermal sensors and AI analytics
- Operate in tanks, silos, chimneys, boilers

Industries:

Oil & Gas, Cement, Chemical, Power Plants,  
Chemical Maritime





# Detection and classification

Drone + AI + LiDAR + RGB = Smart Spatial Awareness

- ❑ AI detects and classifies objects in real time from drone-captured LiDAR data
- ❑ Enables precise mapping, monitoring, and decision-making in complex environments
- ❑ Ideal for infrastructure, construction, and safety operations



# High-Altitude & Hard-to-Reach Inspections

- Free-flight drones & drone-in-a-box solutions
- Scheduled autonomous flights
- Cranes, exhaust stacks, flare stacks
- Power grids







Video ID 75430

Timestamp 02:53

Anomaly Emission

Description Tank 6 – Emission from side vent

# AI & OGI Cameras for Emission Leak Detection

- Optical Gas Imaging (OGI) with AI
- Methane, VOCs, CO2 detection
- Real-time alerting of leaks

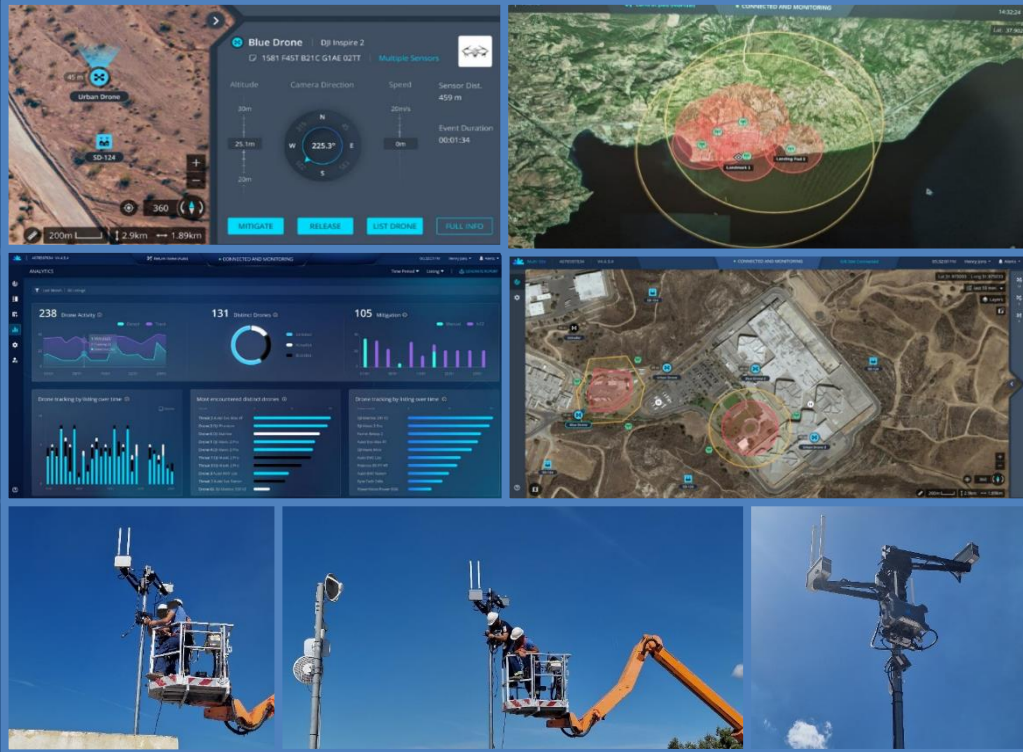
# Port Terminal Safety & Infrastructure Monitoring

- Structural integrity of cranes, loading systems
- AI detects rust, mechanical wear, instability
- Smart drone patrols with AI for real-time operational compliance



# Mitigating Drone Threats to Critical Infrastructure

- Protocol analysis / Control Take-over anti-drone systems
- Detects, identifies, tracks, and mitigates malicious or recklessly operated commercial drones (DIY included)
- Protect airports, port and LNG terminals, refineries, power stations





# What Lies Ahead for Drone Technology in Enhancing Safety & Risk Mitigation



- **Autonomous Inspections:**  
Drones will perform routine and high-risk inspections on their own, reducing human exposure
- **AI-Driven Awareness**  
Advanced sensors, LiDAR, thermal and gas detection, combined with AI, will identify hazards instantly
- **Real-Time Edge Analytics**  
Onboard processing will deliver immediate insights and anomaly alerts—even in disconnected environments
- **Connected Infrastructure**  
Integration with digital twins and IoT will support predictive maintenance and smarter decision-making
- **Coordinated Fleets**  
Multi-drone operations will cover large industrial and energy sites faster and more efficiently
- **Advance Anti-Drone Protection**  
Counter-UAV systems will become essential for securing airspace and protecting critical infrastructure as drone traffic grows

# Key Takeaways

- Drones are transforming industrial safety
- AI drones delivers faster, smarter risk insights
- A safer and smarter future of safety has already begun

# Thank you



[www.aegeanrobotics.com](http://www.aegeanrobotics.com)