

CASE STUDY

Eyes in the sky: Optimising a steelworks' security perimeter

CORPS
— Est. 1859 —
SECURITY

SDG
SECURITY DRONE GROUP

Setting the scene...

A multinational steel-making company's sprawling facility presents unique security challenges that traditional methods struggle to address. With manufacturing plants, warehouses, and corporate offices spread across a vast industrial site, Corps Security identified an opportunity to revolutionise protection through cutting-edge drone technology.

In March 2025, Corps Security partnered with Security Drone Group (SDG) to conduct a comprehensive 24-hour trial, evaluating the latest drone systems for enhanced surveillance capabilities at this critical national infrastructure site.

Security challenges

The steelworks facility faced several security vulnerabilities that proved tricky for conventional approaches:

- Extensive perimeter areas impossible to cover with static CCTV systems
- High-value assets including valuable scrap materials in areas without camera coverage
- Elevated structures requiring regular inspection, including rooftops and jetty loaders
- Low visibility in critical areas during night shifts



Cutting-edge drone deployment

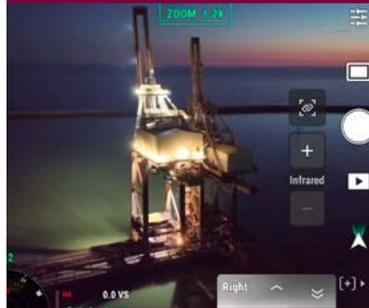
Following a detailed site assessment, Corps Security deployed the advanced DJI Dock 3 and M4TD drone system featuring sophisticated AI capabilities.

The implementation included:

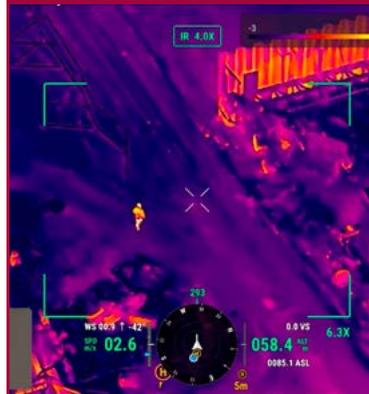
- Integration with existing security infrastructure (CCTV, access control, alarm systems)
- AI-powered smart tracking technology to identify and follow people, vehicles and boats
- Specialised day/night operations enhanced by thermal imaging
- Automated patrol routes with pre-programmed response protocols
- Weatherproof capabilities with operational capacity in wind speeds up to 26mph
- Six directional sensors to detect and avoid obstacles
- Maximum operational radius of 10km, covering the entire facility



During busy periods, the drone flies at a minimum height of 52 meters, making it barely noticeable while maintaining comprehensive surveillance coverage. The system includes an impressive 28x digital zoom camera that allows security personnel to observe fine details from a significant distance.



500%
PATROL
COVERAGE
INCREASE



45
SECOND
RESPONSE
TIME



Transformative results

The drone security system delivered immediate and measurable improvements. . .

Enhanced coverage: Expanded security coverage of up to 500% compared to traditional security patrols, which dramatically improved response times and monitoring capabilities across the entire site. During the trial, the system identified several test subjects in areas that would have been virtually impossible to monitor with traditional methods, particularly in zones containing valuable scrap materials that had previously been vulnerable to theft.

Rapid response: When triggered, drones deployed to alarm locations within just 45 seconds, providing real-time visual intelligence to security personnel.

Improved safety: Security staff noted significant improvements to personal safety. As one security officer stated:

“This technique of surveillance improves our visibility and makes patrolling much safer, particularly at night.”

Advanced capabilities: Beyond standard security functions, the drone system showcased several other valuable applications:

Roof inspections: Preprogrammed flight paths capture comprehensive roof imagery uploaded directly to cloud storage for assessment.

Stockpile measurements: 3D point cloud technology enables precise volume calculations with 10mm accuracy.

Thermal detection: Night-time thermal imaging identifies unauthorised personnel in sensitive areas.



Night shift excellence

The system proved particularly valuable during night shifts, when traditional security methods are most challenged. Here's how...

- Superior illumination with drone cameras providing visibility well beyond the 15-20m limit of vehicle headlights
- Thermal imaging technology effectively monitoring areas containing valuable materials
- Significantly reduced risk to security personnel during potentially dangerous situations
- Enhanced visibility of jetty loaders, furnaces, and other critical infrastructure

The drone's thermal capabilities proved indispensable after sunset, with the trial demonstrating minimal bird activity during night operations – this dramatically reduced collision risks while maximising surveillance effectiveness.

Security personnel reported that the system fundamentally transformed their night patrol capabilities, with the thermal imaging technology providing clear visibility in previously problematic areas.



Keen to hear more about how drone surveillance can improve your security?



Optimising success

Following the successful trial, Corps Security and the multinational steel-making company are exploring full implementation with several improvement recommendations:

1. Theft reduction metrics: Implementation of specific tracking metrics to measure reduction in theft incidents, particularly in areas containing high-value scrap materials.

2. Cost-benefit analysis: Development of a detailed ROI timeline demonstrating long-term value against initial investment.

About Corps Security and Security Drone Group

Corps Security, founded in 1859, is committed to delivering innovative security solutions with social value at their core. As a Certified Social Enterprise, Corps combines cutting-edge technology with expert personnel to protect critical infrastructure across the UK.

Security Drone Group specialises in developing advanced aerial security systems for high-value industrial applications, focusing on AI-driven solutions that enhance traditional security approaches.

📍 We're here to help.

E. drones@corpssecurity.co.uk
 W. www.corpssecurity.co.uk