

CASE STUDY

PROTECTING CONVOYS: 360° THERMAL SURVEILLANCE ON-THE-MOVE

> Challenges:

Situational awareness beyond the windshield

In modern military operations, convoy protection is more critical and complex than ever. Whether navigating hostile terrain or urban environments, armed forces must counter a wide spectrum of threats: improvised explosive devices (IEDs), ambushes, and fast-moving aerial drones, snipers, or assailants positioned on rooftops. In such scenarios, success relies on continuous, real-time situational awareness—not just from the driver's seat but across the full operational bubble.

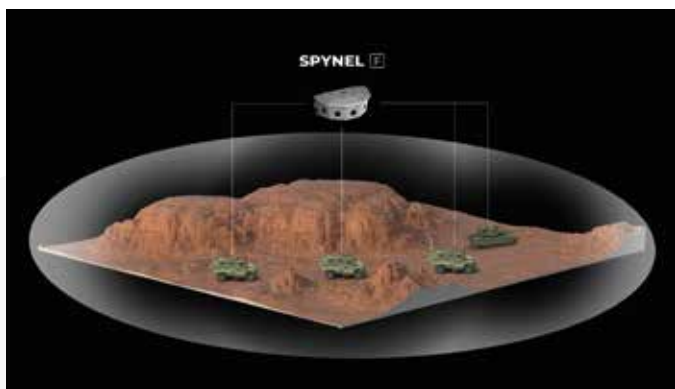


> Solution:

SPYNEL-F - Real-time, AI-powered 360° surveillance for mobile operations

To meet the evolving demands of modern military operations, the SPYNEL-F panoramic thermal imaging system delivers unmatched, real-time surveillance directly from moving military vehicles. Engineered for mobility and rugged terrain, SPYNEL-F offers continuous 360° thermal imaging—even in complete darkness, through smoke or fog—ensuring all-condition operational awareness.

SPYNEL-F is modular and scalable: it can be deployed with 2, 3, or 4 panoramic imaging modules positioned around the vehicle to ensure full 360° coverage with no blind spots. Each module can be customized with one or more infrared sensors, depending on mission needs. The CYCLOPE software seamlessly stitches all data into a unified panoramic thermal image, enabling intuitive monitoring and AI-driven threat detection.



Its compact, shock-resistant design, with no moving parts, guarantees durability and performance on both manned and unmanned vehicles. The system is quick to deploy and simple to integrate on existing platforms, making it an ideal upgrade.



SPYNEL-F module

Integrated with CYCLOPE software and GAIA artificial intelligence, SPYNEL-F autonomously detects, classifies, and tracks a wide range of threats—from ground targets to low-flying drones, or elevated threats in urban areas. Its high frame-rate imaging and wide vertical field of view ensure the detection of close-proximity ground activity as well as elevated threats, such as rooftop attackers. Fully passive and stealth-compatible, it emits no electro-magnetic wave, preserving operational secrecy. Scalable and easily adaptable, SPYNEL-F enhances mission agility across diverse scenarios, from small reconnaissance teams to large convoy operations.

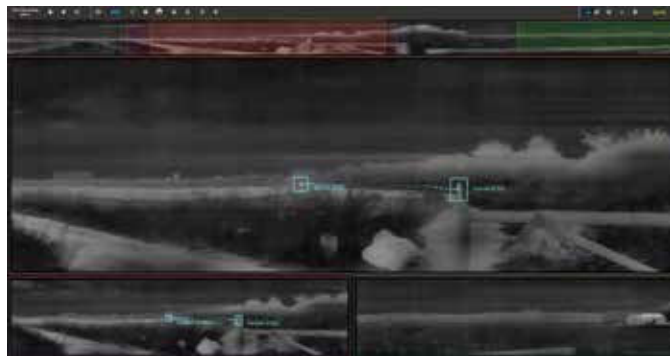
Whether monitoring a roadside, scanning for drones, or assisting with vehicle manoeuvring, SPYNEL-F ensures maximum situational awareness without compromising stealth or mobility.

> Conclusion

Convoy protection starts here !

With SPYNEL-F, tactical units gain a force multiplier: continuous thermal surveillance, even while moving, that enhances protection, coordination, and mission success. Its lightweight, modular design makes it easy to integrate, adapt, and scale across vehicle fleets. Stealth-compatible, AI-driven, and built for the harshest operational conditions, SPYNEL-F gives your convoy the eyes it needs, everywhere, at all times.

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Cyclope GUI for Armored Vehicle



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