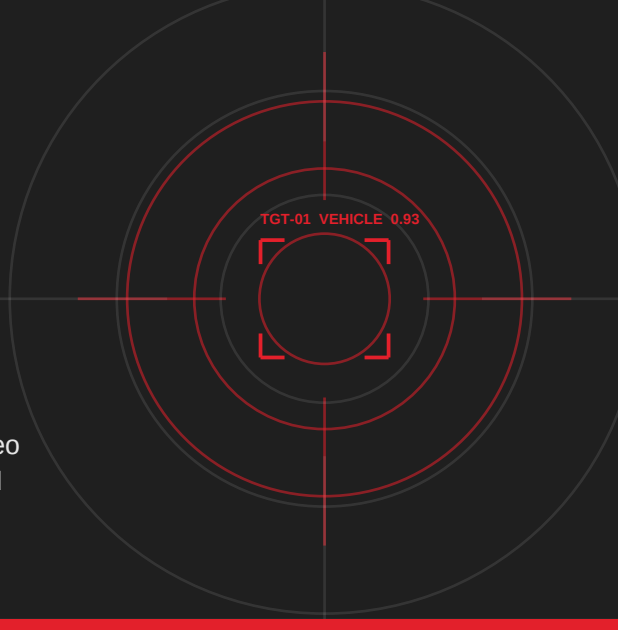
MYK VISION

South Korea | EO/IR Imaging Systems for Defence

See through the dark.
Decide in real time.

Edge-deployed infrared video analytics that turns raw thermal and EO video into detected, tracked and classified targets, on the platform, with no cloud dependency.

ISR · COUNTER-UAS · BORDER & PERIMETER · MARITIME · UAV PAYLOADS



From raw pixels to actionable intelligence

Operators and autonomous platforms are drowning in video. MYK Vision's software-first stack sits between the sensor and the decision-maker: it cleans up the thermal image, finds what matters, follows it, tells you what it is, and hands the result to your GCS or mission computer with frame-synchronous metadata. It is modular, hardware-agnostic where practical, and designed to keep working when the link and the network do not.

THE PROCESSING PIPELINE

1 Capture
720p to 4K
EO + IR, multi-channel

2 IR Processing
Dead-pixel fix, NUC, calibration

3 Enhancement
CLAHE, denoise, scintillation mitigation

4 Detect & Track
Multi-target, re-acquisition

5 AiTR
People, vehicles, drones, vessels

6 Display & Data
Overlays, KLV/MISB, API output

Core capabilities

Detection & Tracking — CORE

Real-time detection from moving or stationary platforms. Mission-selectable models, not a single fixed algorithm. Simultaneous multi-target tracks with motion prediction, re-acquisition after loss and long-duration persistence.

Aided Target Recognition — CORE

Detections are routed to the right classifier. Vehicle type and colour, fixed- vs rotary-wing drones, and an expandable class library for defence-specific categories as datasets mature.

Infrared Image Processing — CORE + R&D

Dead-pixel removal and non-uniformity correction for thermal sensors. Software-based calibration workflows that aim to reduce reliance on a separate external correction board, and absolute-amplitude IR snapshots where sensor data permits.

Image Enhancement — CORE + R&D

Selectable CLAHE, local-contrast and histogram methods. Real-time denoising tuned to preserve small-target detail on embedded hardware, plus atmospheric scintillation mitigation.

Operator Display — CORE

Configurable overlays for boxes, track IDs, class, confidence, coordinates and telemetry. Digital zoom with a quality/performance trade-off you control, and configurable false-colour palettes for thermal imagery.

Metadata & Interoperability — CORE

Frame-synchronous KLV with MISB-compliant handling. Documented metadata APIs and standard network interfaces for GCS, VMS and mission systems, so integration does not mean a custom connector per customer.

MYK VISION

Built for the mission. Built to integrate.

What it recognises

Target classes, expandable as datasets mature

People

Detection of persons as the base capability.

Attributes such as armed / unarmed, uniform type and posture are advanced R&D, image quality permitting.

DETECT: CORE · ATTRIBUTES: R&D

Vehicles

Type (sedan, SUV, truck) and colour from day one.

Architecture allows customer-defined defence classes, e.g. military trucks and armoured vehicles.

CORE

Drones

Fixed-wing vs rotary-wing classification.

Class library extends as drone datasets mature, supporting counter-UAS workflows.

CORE

Vessels

Naval vs civilian categories.

Expandable vessel taxonomy for maritime surveillance.

R&D

Engineered for speed and determinism

7–12 ms	110–250 ms	720p–4K	2×2 px
Telemetry latency	**Glass-to-glass latency**	**Video input**	**Small-object detection**
benchmark class	benchmark class	multi-channel	R&D target

These are engineering targets, not guarantees. Latency is measured module-by-module and glass-to-glass on the proposed hardware, with worst-case and percentile figures documented. Small-object detection depends on sensor resolution, range, contrast, atmospherics and training data.

Integrates with what you already fly

Video & transport

- H.264 / H.265 (MPEG-4 under evaluation)
- UDP, TCP, RTSP and multicast
- 720p, 1080p and 4K input
- Simultaneous EO and IR channels

Data & integration

- Frame-synchronous KLV / MISB metadata
- Documented metadata and control APIs
- Modular SDK: detect, track, enhance, encode
- GCS, VMS and mission-system interfaces

Edge deployment

- Runs on compact, power-efficient edge compute
- Fully offline during mission execution
- Hardware-abstracted, not locked to one GPU vendor
- Embedded Linux as the initial target

Resilient by design

- Recovers gracefully from video dropouts, malformed or late packets and temporary sensor interruptions.
- Secure software supply chain, authenticated updates, access control and secure configuration for defence deployments.
- Single-channel first, with architecture ready for multi-channel expansion.
- Reports CPU / GPU / NPU use, memory and power on target hardware, so you can size the platform.

Proven before it is delivered

- Detection precision, recall and FPS on an agreed test dataset
- Multi-target tracking, re-acquisition and persistence on agreed sequences
- Module-level and glass-to-glass latency against agreed thresholds
- Sustained stable operation on selected embedded hardware
- Live integration with one payload and one GCS or mission app

MISSION APPLICATIONS

Persistent ISR · Counter-UAS detection & tracking · Border & perimeter surveillance · Maritime & coastal watch · UAV payload analytics · GCS & mission-computer integration

Evaluate it on your sensors, your platform, your missions.

Talk to MYK Vision about a pilot integration and acceptance demonstration.

Figures are design targets subject to validation on target hardware under agreed test conditions. Capabilities marked R&D are in development.