

OAK FusionGuard

Sovereign Canadian Multi-Domain Fusion Compliance Engine

An automated, AI-enabled compliance layer between multi-sensor ingestion and the fusion pipeline: it enforces a machine-readable classification/release policy on **every fused element** in-line at machine speed — so DND/CAF can safely *use* fused, multi-classification intelligence rather than withhold it.

0.973

mis-marking detection ROC AUC

7 / 7

reliable-AI assurance gates passed

10 / 10

ITSG-33 controls demonstrated (incl. SA-11)

~46,000/s

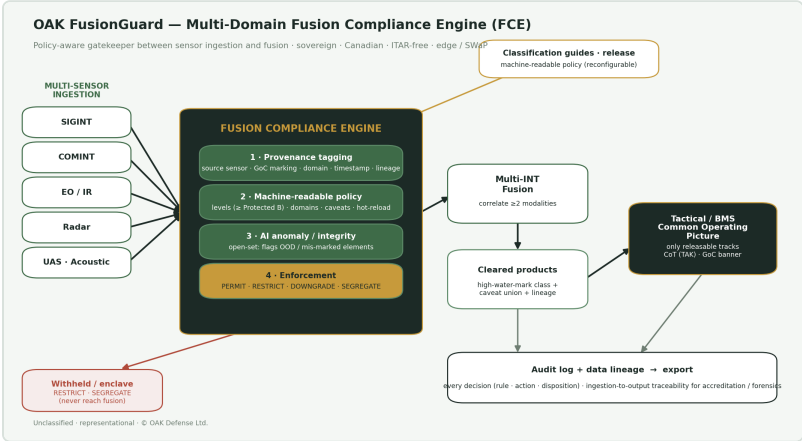
throughput · p99 ≈ 52 μs (audit on)

83

automated tests · CI (Ubuntu + Windows)

TRL 4 → 6

lab-validated → edge-deployable, ATO-ready



Capability at a glance

- Automatic, explainable enforcement per element — PERMIT · RESTRICT · DOWNGRADE · SEGREGATE — no human in the loop for predefined conditions.
- Open-set AI integrity gate with a distribution-free split-conformal false-flag guarantee; multi-axis model resists adversarial σ -spoofing.
- Coalition release algebra (audience = intersection of source authorities) and classification-by-aggregation (mosaic) escalation.
- STANAG 4774/4778 labelling + cryptographic binding; hash-chained, tamper-evident, HSM-signed audit with full ingestion→output lineage.
- 5 real ingest formats (CoT, Link 16, STANAG 4607 GMTI, NITF 2.1, STANAG 4609/MISB); cross-domain guard interface; multi-cell federation.
- Pure-software, edge-deployable (no GPU); ships its own synthetic multi-domain data generator — no government data required.