COMMERCIAL IN CONFIDENCE

LC60 AI

SWIRSAT

Vertically Integrated Space-Tech Co.

Supported by the Australian Space Agency & Government of Western Australia

GOVERNMENT OF WESTERN AUSTRALIA

Invest & Trade WESTERN AUSTRALIA

GOVERNMENT OF WESTERN AUSTRALIA

Department of Jobs, Tourism, Science and Innovation

Q1 2027
Launch 1st two satellites

Multiple times per day revisit
Revisit with end state of 18 satellites

4m / 8m
SWIR Res.

LC60 AI Executive Summary

2016

Downstream

Agri
(Yield, Resource optimization, Soil Health)

Environmental

Malaysian Govt (125,000 Farmers)

W. Australian Govt

LC60 AI Executive Summary

2023 ISI Grants	Fully funded by ASA and WA Govt	2 SWIR SAT Launch Q1 2027
2026 Closing large investment round	18 SWIR SAT 2030	100 SWIR SAT 2035

LC60 AI

WHY SWIRTSAT

Our vision is to provide sub meter resolution SWIR data at scale

SWIR Data has tremendous application in Defence

Modern ISR is Failing at the Critical Moment

Three converging threats undermine decision confidence across the intelligence cycle

01 Structural Gaps

Most high-quality SWIR capability is tied to national systems with restricted sharing models.

Zero

commercially available persistent SWIR constellations

02 Atmospheric Obscuration

Conventional optical data is routinely degraded by smoke, haze, coastal humidity, dust, and post-event debris — precisely the conditions during and after military activity. It imagery fails to deliver reliable situational awareness.

~40%

of collection windows degraded in high-priority theatres

03 Concealment & Deception

Camouflage and terrain masking are designed to undermine interpretation and induce false confidence.

3–5×

cost increase when ISR cueing degrades

LC60 AI SWIR Changes the Equation

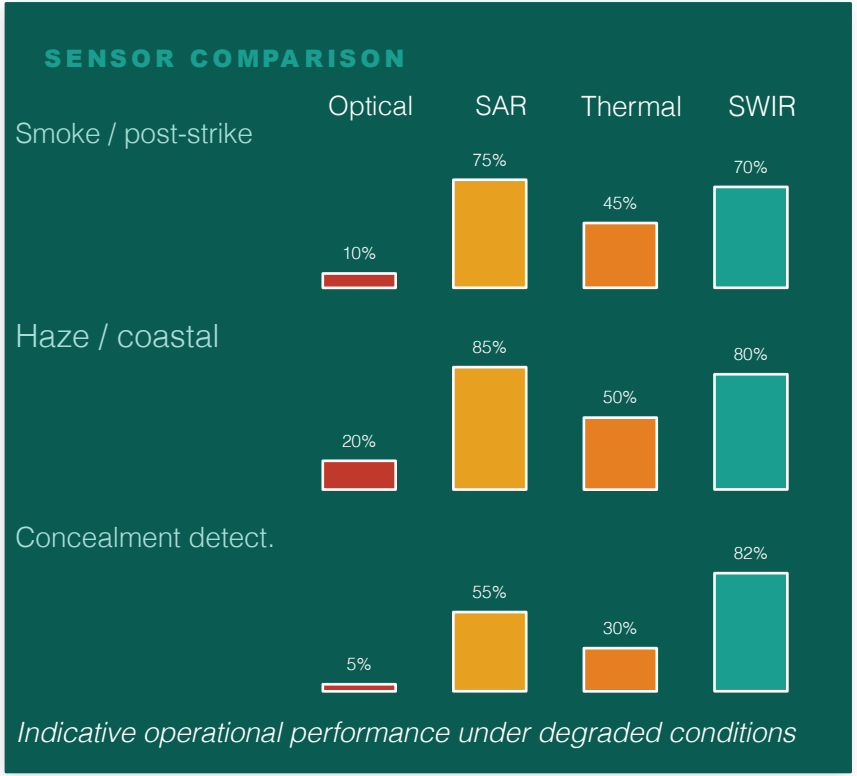
Operating beyond visible spectrum limitations — material discrimination where optical fails

SWIR OPERATES AT 1000–1750nm

Reduced atmospheric scattering
SWIR is less affected by haze, smoke, coastal moisture and aerosols — extending the effective collection window when VNIR fails.

Material composition sensing
SWIR responds to material properties and moisture content, enabling discrimination of camouflage, disturbed soil, and surface anomalies invisible to optical sensors.

Confirmation & discrimination
SWIR does not replace optical, SAR or thermal, but it acts as a decision-support layer confirming and discriminating where they introduce uncertainty.



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SWIRSAT

Microsat
100kg
LEO -500Km altitude
Inclination of 30-40deg
Optical and SWIR Sensors

LC60 AI SWIRSAT — Mission Architecture

Purpose-built for operational ISR — not adapted from commercial applications

SPATIAL RESOLUTION

1.5m VNIR (native) / 0.75m Super HD
8m SWIR (native) / 4m Super HD

SPECTRAL COVERAGE

8 VNIR bands (450-900nm)
4 SWIR bands (1000–1750nm) wavelength range

REVISIT RATE

4–7 days globally (SWIRSAT-1 & 2)
Daily global revisit at 18+ satellites

ON-ORBIT ANALYTICS

Edge computing AI — reduces data latency
Improves ISR cueing timeliness

DATA PRODUCTS

Level 1B / 1C / 2A (CEOS ARD) / 3G
GeoTIFF + STAC delivery, PED-ready

GOVERNANCE

Australian-owned, Launch from India
Sovereign data delivery options

SWIRSAT-1 & 2: Fully funded · Q1 2027 launch · Supported by Australian Space Agency & Government of Western Australia · Constellation scales to 18+ satellites

LC60 AI India Story

Sovereign 1st launch from India Q1 2027

With Skyroot Aerospace

Downlinked data through NSIL Ground Stations

Data available through NSIL portals

For Defence , Govt and Commercial players – first & only Co. in India

For next Gen Sats, BUS & Platform players from India

LC60 AI

Network Centric Operations

Let's look at where does our satellite fall in NCO

LC60 AI Network Centric Operations

Satellites acts as eyes in the sky

Modern defence operations are no longer platform-centric; they are data-centric. The true advantage lies in integrating different satellite data.

No single satellite sensor can solve all defence problems. True operational intelligence comes from interoperable multi-sensor fusion.

Maritime Domain Awareness

Maritime Domain Awareness

Vessel detection & classification under sea mist. Wake signature enhancement. AIS-dark vessel confirmation. Grey-zone maritime attribution.

Problem Statement - Vessel detection & classification

The Navy wants to:

- Detect vessels
- Classify vessel types
- Track suspicious movement
- Monitor vessels under:
  - sea mist
  - haze
  - smoke
  - night conditions
- Detect dark ships or abnormal maritime activity

No single sensor can do all of this.

LC60 AI Maritime Domain Awareness

Maritime Monitoring (Visual)
Wakes rapidly dissipate into background noise, limiting confidence in detection and behavioural analysis.

Grey-zone Activity Detection (SWIR)
SWIR highlights persistent wake signatures and movement patterns, supporting improved tracking, loitering detection, and intent assessment.

LC60 AI Five Mission Domains — One Integrated Capability

Maritime Domain Awareness

	Useful For	Limitations
Optical	Visual confirmation -Ship shape and structure identification	Fails in: Clouds, Night, Sea haze, Smoke
Multispectral	Detect Ocean colour changes and Surface disturbances	Still affected by weather, cloud cover
SAR	Helps in ship detection in clouds/night Detecting dark ships	Harder to classify vessel visually
SWIR	Highlights Wake signatures Detects concealed vessels Detects Heat/material anomalies	

*A ship detected by **SAR**, visually confirmed through **optical imagery**, behaviorally analysed using **multispectral data**, and spectrally enhanced through **SWIR** creates a far more reliable operational picture than any standalone sensor*

Maritime Domain Awareness — GIUK Gap & Baltic Sea

India now has a growing ecosystem of specialised space startups—in optical, SAR, Hyperspectral, SWIR, analytics and AI.

Hyperspectral

Optical + SAR

Optical + SWIR

Real value lies when all 3 of us collaborate enabling interoperability across these capabilities to build sovereign, network-centric intelligence systems

"The next generation of defence intelligence will come from interoperable networks. *LC60 aims to become part of that interoperable space intelligence ecosystem in India where SWIR complements SAR, optical and other sensor networks to enable a unified defence intelligence*"

LC60 AI Five Mission Domains — One Integrated Capability

Maritime Domain Awareness

Vessel detection & classification under sea mist. Wake signature enhancement. AIS-dark vessel confirmation. Grey-zone maritime attribution.

Counter-Concealment & Deception

Detection of camouflage netting, decoys, and terrain masking. Material discrimination that defeats multispectral concealment measures.

Missile Infrastructure I&W

Indications & Warning for missile staging activity. Soil disturbance, logistics signatures, and supply corridor detection invisible to optical ISR.

Post-Strike Battle Damage Assessment

BDA through smoke, dust and debris within 2–4 hours of a strike. Compresses intelligence decision cycle by 24–72 hours vs optical-only workflows.

Infrastructure Change Detection

High-revisit baseline monitoring of critical infrastructure, borders, and sensitive facilities. Early detection of low-signature ground disturbance and concealed activity.

Thank you

Maritime Domain Awareness — GIUK Gap & Baltic Sea

Persistent grey-zone maritime surveillance where optical ISR routinely fails

THE OPERATIONAL CHALLENGE

- Persistent sea mist, coastal humidity and aerosol loading routinely degrade VNIR imagery over the GIUK Gap and Baltic littoral zones.
- Adversary vessels operate with AIS disabled or spoofed. RF SIGINT and SAR establish presence — but visual confirmation of identity, cargo, and intent is lost.
- Grey-zone activity deliberately exploits collection windows and known ISR persistence gaps, including periods of atmospheric obscuration.
- Without a reliable confirmation layer, ISR cueing cycles lengthen, airborne platform use increases, and tactical risk grows.

SWIRSAT CAPABILITY RESPONSE

Sustained performance under obscuration
SWIR extends effective collection window under coastal humidity, sea mist and aerosol loading where VNIR systems fail.

Wake signature enhancement
Persistent wake signatures and movement patterns remain visible in SWIR, enabling tracking, loitering detection and intent assessment.

AIS-dark confirmation
When fused with RF and SAR, SWIRSAT provides the surface-level visual confirmation required to close critical attribution gaps.

Persistent coverage
4–7 day revisit (scaling to daily) over priority maritime AOIs — enabling time-series pattern-of-life analysis.

Missile Infrastructure I&W and Post-Strike BDA

Pre-strike indications & warning and post-strike damage assessment — both phases addressed

PRE-STRIKE

Indications & Warning

- SWIR detects material composition anomalies, soil moisture disturbance, and terrain changes consistent with missile staging activity.
- Supply route and logistics corridor signatures detectable through vegetation cover — invisible to optical ISR.
- Enables probabilistic threat zone construction when fused with optical, SAR and SIGINT data.
- High-revisit temporal analysis builds pattern-of-life baselines, flagging incremental low-signature changes.

2–4 hrs

BDA collection possible after strike event

POST-STRIKE

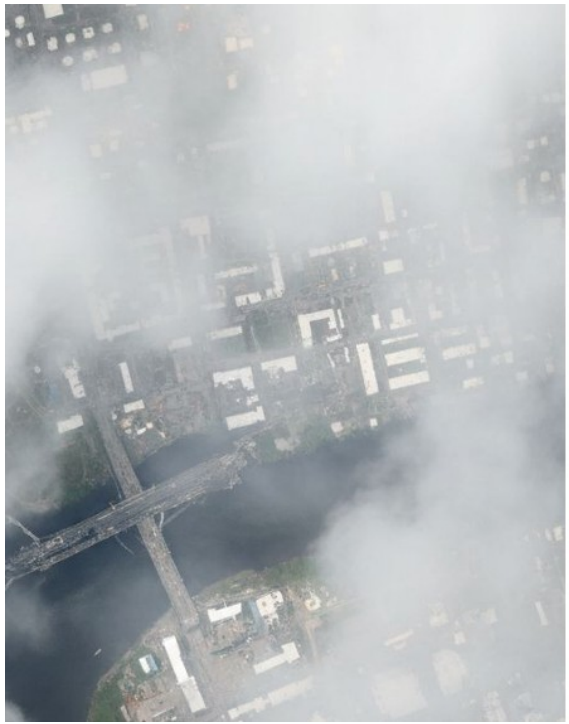
Battle Damage Assessment

- SWIR bands 1572–1650nm provide consistent smoke and debris penetration at obscuration levels where optical collection is fully denied.
- BDA collection initiable within 2–4 hours of a strike, vs 24–72 hour window for optical-only workflows.
- Detects structural damage, fire residue, and surface disruption through post-strike atmospheric contamination.
- Compresses intelligence decision cycle, enabling faster re-tasking and escalation assessment.

24–72 hrs

saved vs optical-only BDA in typical post-strike conditions

Missile Infrastructure I&W and Post-Strike BDA



Post-strike Monitoring (Visual)

Post Strike Assessment (SWIR)

LC60 AI Counter-Concealment and Deception Detection

SWIR defeats concealment techniques specifically designed to defeat optical ISR

HOW ADVERSARIES EXPLOIT OPTICAL LIMITATIONS

Multispectral camouflage netting
Purpose-built netting matches VNIR spectral reflectance of surrounding vegetation, making equipment invisible to optical and standard multispectral sensors.

Decoy deployment
Decoys positioned alongside real assets create false targets that overload ISR analyst workflows and induce misallocation of higher-resolution collection assets.

Terrain and infrastructure masking
Assets positioned under bridges, within building shadows, or against cliff faces exploit the geometric limitations of nadir-pointing optical systems.

Deliberate pattern-of-life disruption
Irregular movement schedules and dispersal patterns designed to prevent temporal analysis from establishing reliable baselines.

SWIRSAT COUNTER-CONCEALMENT RESPONSE

Material composition discrimination
SWIR responds to actual material properties, not surface appearance. Camouflage netting — regardless of colour or texture — has a distinct SWIR spectral signature from natural vegetation.

Sub-canopy and shadow penetration
SWIR's sensitivity to material moisture and composition enables detection of assets partially concealed by vegetation or positioned in shadowed areas.

Confident target verification
SWIR data provides the confirmation layer to distinguish real assets from decoys based on material spectral properties, not visual appearance.

Temporal baseline discrimination
High-revisit SWIR time-series analysis detects subtle surface disturbance and material changes that reveal activity patterns regardless of visual concealment.

LC60 AI Counter-Concealment and Deception Detection

Conventional optical imagery captures surface appearance but provides limited material discrimination; camouflaged vehicles and compacted tracks remain visually integrated with surrounding terrain

Shortwave Infrared enhanced sensing enhances material reflectance contrast, revealing synthetic camouflage, concealed vehicle masses, disturbed soil, and compacted mobility corridors not distinguishable invisible spectrum imagery

LC60 AI Infrastructure Monitoring and Change Detection

Persistent SWIR coverage reveals what optical ISR misses — early, consistently, at scale

Critical National Infrastructure

- SWIR detects surface disturbance, moisture anomalies, and material changes around energy infrastructure, pipelines, and communications nodes weeks before they become visible optically.
- Perimeter surveillance of sensitive facilities — unauthorised access routes, disturbed ground, and construction activity detectable through SWIR material discrimination.

Border Surveillance

- Supply routes and access corridors obscured by terrain or vegetation remain detectable through SWIR-derived surface and moisture signatures.
- Underground construction, tunnelling activity, and sub-surface disturbance produce surface moisture and soil compaction signatures visible in SWIR.

Logistics & Supply Route Monitoring

- Compacted soil, vehicle track signatures, and ground disturbance linked to logistics activity detectable through SWIR surface condition analysis.
- High-revisit time-series enables pattern-of-life analysis of supply corridor usage — identifying activity surges that indicate operational preparation.

Restricted Zone Monitoring

- SWIR baseline establishment over restricted and sensitive areas enables rapid detection of any surface change — construction, excavation, or equipment staging.
- Persistent monitoring at 4–7 day revisit (scaling to daily) ensures no significant change escapes detection between optical collection windows.

LC60 AI

SECTION 04

Sovereignty & Governance

The difference between intelligence you receive and intelligence you own

Built for Allied Data Governance from Day One

Sovereignty, security and interoperability — not retrofitted, but architected

Sovereign Data Delivery

Controlled access, encrypted data transfer, and protected processing environments. Direct downlink to customer-designated ground stations at no additional cost. Processing scripts deployable on customer-controlled infrastructure — data never leaves your environment.

Allied Ownership & Contracting

Australian-owned programme with US contracting entity — supporting compliance with allied defence acquisition frameworks, Five Eyes data governance expectations, and AUKUS Pillar II alignment. Singapore jurisdiction available for ASEAN contexts.

Sovereign Tasking Rights

Priority tasking rights over customer-designated AOIs. Customer-directed scheduling ensures national priorities are served without dependence on third-party commercial tasking queues.

ISR Pipeline Interoperability

Analytics-ready data delivery aligned to established PED exploitation pipelines. Enables cross-cueing and correlation with optical, SAR and thermal assets. MAJIIC2 / standard GIS format compliance. STAC JSON metadata.

thanks

LC60 AI Executive Summary

The strategic case in one page

STRUCTURAL CAP. GAP

Space-based SWIR is widely acknowledged as operationally critical — yet systematically unavailable at allied scale.

Q1 2027 LAUNCH

SWIRSAT-1 & 2 fully funded. First sovereign-aligned commercial SWIR constellation designed for NATO ISR integration.

5 MISSION USE CASES

Maritime domain awareness, counter-concealment, missile I&W, post-strike BDA, and infrastructure change detection.

EARLY ACCESS NOW OPEN

Pre-order framework secures capacity, locks pricing, and enables early operational evaluation ahead of full deployment.

THE PROBLEM

Modern ISR operates in degraded, denied and deceptive environments. Conventional optical and multispectral imagery fails under smoke, haze, camouflage and grey-zone conditions — precisely where decision confidence matters most.

THE SOLUTION

SWIRSAT delivers persistent, sovereign-aligned SWIR sensing as a confirmation and discrimination layer, augmenting optical, SAR and thermal ISR without replacing them. Designed for integration into existing NATO PED workflows.

THE PATHWAY

Study contracts available now using proxy SWIR data. Pre-order framework locks capacity and pricing ahead of Q1 2027 launch. US Entity operational, CAGE registration in progress, aligned to NCIA/NSPA procurement frameworks.

LC60 AI — LatConnect 60 — Programme Credentials

Post-revenue, government-backed, vertically integrated — not a concept, a programme

ASA
Australian Space Agency
Funding Support

WA Gov
WA Government
Backing

Q1 2027
SWIRSAT-1 & 2
Fully Funded & Scheduled

Post-Rev
Revenue-Generating
Platform Businesses

AU + US
Sovereign Ownership
US Entity Established

5-Eyes
US Entity + AUKUS
Aligned Governance

EXISTING GOVERNMENT & COMMERCIAL CONTRACTS

Government of Western Australia — 900,000 km² mapping programme (CaptureWA panel) · BERNAS Malaysia — 125,000 farmer AG60 deployment · Multi-year O&G methane monitoring contracts

Traditional warfare:
- Systems work independently
- Information moves slowly
- Decisions are fragmented

In Network-centric operations:
- Everything is connected
- Data flows in real time
- Faster decisions and coordinated action

Satellites become:
Eyes in the sky
Communication backbone
Real-time intelligence layer
Your SWIRSAT constellation fits directly into this.

Example
A satellite detects a suspicious vessel.

That information is instantly shared with:
- Navy command center
- Maritime patrol aircraft
- Coastal radar
- Drones
- Naval ships

Everyone sees the **same operational picture**.