



**DRONEHAB
AUSTRALIA**

CAPABILITY STATEMENT · 2026

UAV Asset Inspection

Close-visual, radiometric thermal and LiDAR inspection of structures and plant — no one at height, no shutdown for access, every finding located and rated in a defect register.

POWER & UTILITIES · WIND · MINING · PIPELINES & TANKS · CIVIL & BUILDINGS · TELECOMS

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Inspect from the air. Act from a register.

Dronehab inspects structures and plant with a 100-megapixel medium-format camera, a 34× optical zoom camera, a radiometric thermal sensor and LiDAR, and returns a located, rated defect register rather than a hard drive of photographs.

Whatever is inspected today by elevated work platform, rope access, scaffold or shutdown can usually be inspected faster from the air, with no one at height and the asset kept in service. Findings are measured where they can be — temperature, dimension, clearance — located to asset and component, rated for severity, and handed over in the format your maintenance system already uses.

100MP MEDIUM-FORMAT INSPECTION CAMERA	34× OPTICAL ZOOM	1280×1024 RADIOMETRIC THERMAL	0 PEOPLE AT HEIGHT
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NO ONE AT HEIGHT

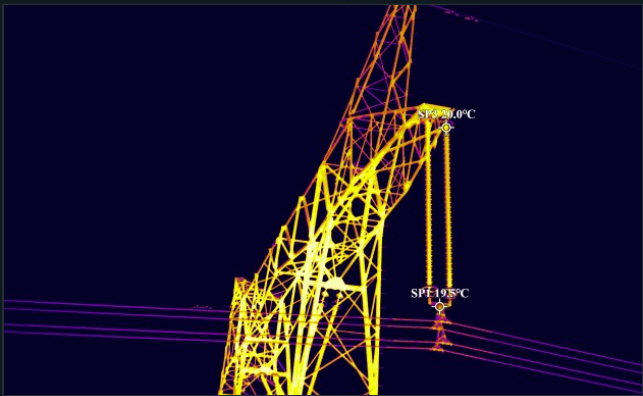
The inspection pass replaces the EWP, the rope team and the scaffold. The residual risk sits with the aircraft, flown at a planned standoff and never in contact with the asset.

ASSET STAYS IN SERVICE

A conveyor, an energised line or a flare stack can be inspected while operating, because nothing touches it. Isolation is only needed where your own rules require it.

REGISTER, NOT PHOTOS

Every finding is located, measured where possible, rated and given a recommended action — so the output is a work list, not a review task.



RADIOMETRIC THERMAL CAPTURE — TRANSMISSION
STRUCTURE



DRONEHAB MATRICE 400 ON TASK



DRONEHAB CREW AND ENTERPRISE UAV ON SITE

What we inspect



Powerlines, towers & substations

Insulators, conductors, fittings and dampers; tower steel, bolts and foundations; thermal on joints, clamps and substation plant — all from outside the exclusion zone set by the network operator.



Wind turbines

Blade leading-edge erosion, lightning damage, cracking and surface defects, with the rotor parked and blades positioned by your operator; nacelle, hub and tower condition; thermal on blade structure and drivetrain housing.



Mine fixed plant & conveyors

CHPP structures, conveyor gantries, transfer towers, bins and stackers: structural steel, idlers and belt edge by zoom, hot bearings and motors by thermal — flown while the plant is running.



Mine mobile plant

Dragline booms, lacings and masts; shovel and excavator booms; dozer and loader pins, bearings and hydraulics — thermal for friction heat, zoom for cracks, bolts and wear, without putting a fitter on the boom.



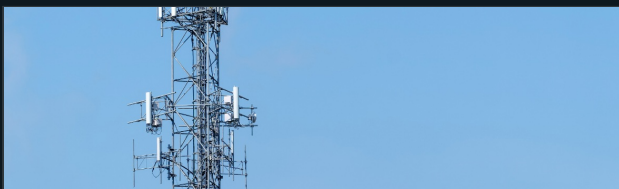
Pipelines, tanks & stacks

Corridor condition, supports, coatings and leak indicators; tank shell and roof plate; flare stacks and chimneys at height without a shutdown or a climb.



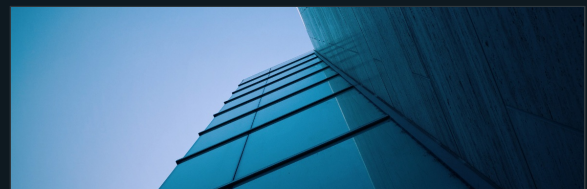
Bridges & civil structures

Deck soffits, bearings, piers and abutments; culverts, retaining walls, dam faces and spillways — cracking, spalling, scour, seepage and vegetation.



Telecoms towers

Antenna, mount and feeder condition; structural members, bolts and guy attachments; corrosion, bird damage and unauthorised equipment.



Buildings, roofs & facades

Roof sheeting, flashings, gutters and rooftop plant; facade cracking, sealant and glazing; thermal for moisture ingress and insulation failure.

If it is currently inspected at height, over water, or only during a shutdown, it is a candidate. If it is not on this list, ask. Photography illustrates the asset classes; credits on the final page.

METHOD

From flight to work order

01

Scope

Asset list, drawings, prior reports and the defects you care about. Standoff, exclusion zones and load state agreed with the owner.

02

Capture

Planned passes at the agreed standoff: 100 MP and zoom for surface detail, thermal under load, LiDAR where geometry matters. Every frame geotagged.

03

Analyse

Frames reviewed component by component. Defects measured where possible — ΔT, dimension, clearance — and rated for severity.

04

Report

Register, evidence pack, model and recommended actions issued. Baseline kept for the next campaign.



PRIMARY INSPECTION CAMERA

Phase One iXM-100 · RSM 80 mm

100 MP medium-format, 11,664 × 8,750 px on a 43.9 × 32.9 mm BSI sensor. 83 dB dynamic range, leaf shutter to 1/2500 s, 3 fps. A whole structure face in a handful of frames at sub-millimetre detail, with sunlit and shadowed steel held in one exposure. The same frames build the photogrammetric 3D model of the asset.

SENSORS — WHAT EACH ONE IS FOR

Zoom RGB	34× optical, 33–809 mm equivalent, up to 400× hybrid. Surface cracking, corrosion, fastener condition, wear and coating breakdown, read from standoff at hand-held detail.
Radiometric thermal	1280×1024, ≤50 mK, temperature in every pixel. Hot joints and clamps, bearing and pin friction heat, motor and gearbox temperature, moisture ingress — measured as ΔT, not judged by colour.
LiDAR	Zenmuse L3, ±10 mm ranging accuracy. Structural geometry, deflection and clearance; an as-is 3D model so a finding sits on the structure, not just in a photo.
Laser rangefinder	3–3,000 m. Standoff distance held and logged; every finding coordinated to the asset.

IXM-100 · 10 M STANDOFF

0.5 mm/px · 5.5 × 4.1 m frame

Hairline cracks, weld toes, bolt markings.

20 M STANDOFF

0.9 mm/px · 11 × 8 m frame

A tower face or conveyor bay per frame at cable-tie detail.

50 M STANDOFF

2.4 mm/px · 27 × 21 m frame

Whole-asset coverage at paint-chip detail. 80 mm RSM lens, 3.76 μm pixels.

STANDOFF

Standoff distances set with the asset owner; the aircraft never contacts the asset.

CONTROLS

Job-specific SWMS, exclusion zones, spotters where required. Mine-inducted crews, CASA ReOC operations.

LOAD & CONDITIONS

Thermal flown with plant under load, conditions logged — a hot bearing is a hot bearing, not a sunny afternoon.

DELIVERABLES

A defect register, not a hard drive

Defect register	CSV / XLSX ready for CMMS import — asset, component, finding, measurement, severity, recommended action and evidence reference per record
Evidence pack	Zoom and thermal frames per finding, annotated and located; radiometric files retained for re-analysis
Model & orthos	LiDAR or photogrammetric 3D model of the structure where scoped; georeferenced orthomosaics for linear and area assets
Report	PDF with scope, conditions, equipment, method, findings by asset and severity, and limitations

ID	ASSET · COMPONENT	FINDING	MEASURE	SEV.	ACTION
D-0027	CV-03 · gantry bay 14 · idler	Elevated bearing temperature	ΔT 31.4 °C	3	Priority inspection / replace idler
D-0031	Tower T-118 · leg C, waist	Corrosion, section loss suspected	—	2	Close inspection / thickness test
D-0040	TK-2 · roof plate, NE quadrant	Coating breakdown, pitting	~0.4 m ²	2	Monitor / recoat at next outage

Sample register format — example values only.

SEVERITY

1 Record No defect or cosmetic only. Logged for the baseline.	2 Monitor Defect present, no immediate action. Re-inspect next campaign.	3 Plan Schedule repair or close inspection within the maintenance window.	4 Act Safety or operational risk. Immediate referral to the asset owner.
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Mapped to your own asset-management scale where you have one. Findings are reported as observations and suspected causes; root cause is confirmed by the close inspection the register directs.

WHAT WE NEED FROM YOU

Asset data	Asset list with IDs, drawings or models, and prior inspection reports where they exist
Access & rules	Site access and inductions, exclusion zones and standoff distances, and an owner's contact for Severity 4 findings on the day
Load state	Plant running for thermal where your rules permit; rotor parked and blades positioned for turbines

Certified, registered, site-ready

AERIAL PLATFORMS

DJI Matrice 400 — primary

- Phase One iXM-100 — 100 MP medium-format, RSM 80 mm
- Zenmuse H30T — 34× optical zoom, 1280×1024 radiometric thermal, laser rangefinder
- Zenmuse L3 LiDAR — ±10 mm ranging, 100 MP RGB

DJI Matrice 4T — rapid and confined sites

- 640×512 radiometric thermal, 48 MP zoom

RTK positioning on both platforms

PROCESSING

Radiometric R-JPEG analysis

Photogrammetric and LiDAR 3D models

GIS referencing to asset register

Defect register and field layers

Baseline-to-campaign comparison

SAME CONTRACTOR

Survey, as-built and LiDAR

Solar PV thermography

Thermal fauna detection

Vegetation mapping and weed control

One mobilisation, one coordinate framework

CASA REOC HOLDER

ARN 1210588

CHIEF REMOTE PILOT · REPL HOLDER

ARN 1210579

ENGINEERING REGISTRATION

RPEQ, in-house

SAFETY RECORD

Zero recordable injuries since May 2023

SITE READINESS

Mine-induced crews

ICN GATEWAY

Business ID 1890843

SUPPLIER SYSTEMS

Avetta · Pegasus / Onsite Track Easy

DATA HANDLING

Commercial-in-confidence

APPROVED VENDOR & SUPPLIER

BHP



Registered / approved supplier to the organisations above.

ENQUIRIES

Director

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Locations

Mackay QLD · Brisbane QLD · Gold Coast QLD · Sydney NSW

Asset photography is illustrative of the asset classes and is not Dronehab project imagery. Via Wikimedia Commons: High voltage switchgear, Novoklimov (CC0) · Wind turbine at the CSIRO Energy Centre, Nick Pitsas, CSIRO (CC BY 3.0) · Conveyor carrying load onto a storage pile, CSIRO (CC BY 3.0) · Dragline, Luminant Energy Kosse lignite mine, Roy Luck (CC BY 2.0) · Section of the Perth-Kalgoorlie water supply pipeline, Willem van Aken, CSIRO (CC BY 3.0) · Tinaroo Dam discharge, Jack Bain (CC BY 4.0) · Cellular telephone tower, Knoxville, David Ratledge (CC BY 4.0) · Glass building corner, Jonathan Simcoe (CC0). Thermal, aircraft and crew imagery © Dronehab Pty Ltd. iXM-100 product imagery © Phase One A/S, reproduced from phaseone.com.