



Geo Sense

DRONE SENSING TECHNOLOGY



WHO WE ARE

Geo Sense Sdn. Bhd. is a Malaysian company with a Multimedia Super Corridor (MSC) and Teras Teraju High Performing Bumiputera Companies (TeraS) status. Geo Sense provides services in web Geographic Information System (GIS) development, supplying aerial imagery, geo data analysis and software development. Since 2008, Geo Sense has been involved and known as a large scale Unmanned Aerial Vehicle (UAV) mapping company. Geo Sense Dronelab facility provides full drone maintenance support, drone design, integration and fabrication. G-Wing VTOL Professional Mapping drone is one of its successful products, fully designed and developed at Geo Sense Dronelab Centre. With its Bumiputera status, Geo Sense is registered with the Ministry of Finance, Petronas, Tenaga Nasional Berhad (TNB), various government and Government-Linked Company (GLC) registered vendors.

WHAT WE OFFER

Our Expertise

- Services in operating drone system and supplying Unmanned Aerial Vehicles (UAV) high resolution aerial imagery
- Services in aerial video capturing
- Services in processing aerial images to produce high accuracy orthophoto mapping format
- Services in Geographic Information System (GIS) integration and development
- Services in image analysis including digitalization, for extraction property footprint, vegetation analysis, tree census, Normalized Difference Vegetation Index (NDVI) and other multispectrum analysis
- Provide Geographic Information System (GIS) web server facility and hosting services
- Services in design and development of web based enterprise application with online mapping or web Geographic Information System (GIS) integration
- Services in design and development of customized drone system
- Training services in image processing software such as Agisoft, pix4D, Geographic Information System (GIS) software and training in drone operation
- Project Management services

DRONE PLATFORM

A



Tinjau Kopter
 Total Weight 3 kg
 Max Endurance 30min
 Mapping Coverage
 AGL 122m : 30 ha : 5cm/pix
 AGL 200m : 50 ha : 7cm/pix
 AGL 300m : 100 ha : 8cm/pix

B



G-Wing VTOL FW
 Total Weight 2 kg
 Max Endurance 60min
 Mapping Coverage
 AGL 122m : 240 ha : 5cm/pix
 AGL 200m : 380 ha : 7cm/pix
 AGL 300m : 600 ha : 8cm/pix

C



Skywalker FW
 Total Weight 3 kg
 Max Endurance 60min
 Mapping Coverage
 AGL 122m : 250 ha : 5cm/pix
 AGL 200m : 380 ha : 7cm/pix
 AGL 300m : 600 ha : 8cm/pix

D



V-Sparrow Talon
 Total Weight 4 kg
 Max Endurance 90 min
 Mapping Coverage
 AGL 122m : 370 ha : 5cm/pix
 AGL 200m : 650 ha : 7cm/pix
 AGL 300m : 950 ha : 8cm/pix

*AGL (Above Ground Level)

**Coverage area varied by camera model and percentage of image overlap

SENSORS



Sony RXO



FLIR Duo Thermal



MAPIR (NDVI)



Garmin GPS



GPS/RTK/PPK

HOSTING & ANALYSIS



APPLICATION



RURAL MAPPING



AGRICULTURE



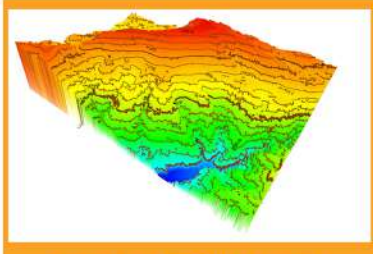
PLANTATION



LINEAR / CORRIDOR MAPPING



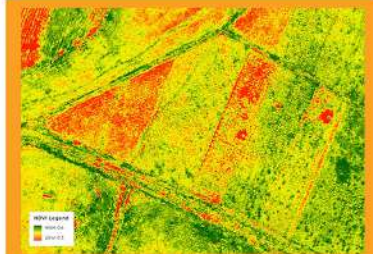
URBAN MAPPING



CONTOUR / TERRAIN MAPPING



TREE COUNTING



NDVI



CONSTRUCTION MONITORING



3D MODELLING



TOURISM MAPPING



INDUSTRIAL MAPPING

SOFTWARE DEVELOPMENT



PROPERTY MANAGEMENT INFORMATION SYSTEM (PROMIS)



FINANCE MANAGEMENT INFORMATION SYSTEM (FMIS)



WEB MAPPING / WEB GIS



ePerlesenan LGM

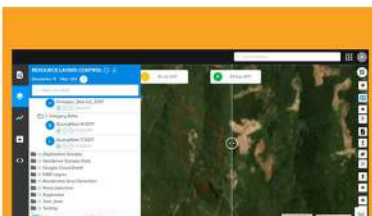
SMS Gateway



e-LICENSING



NATIONAL PARK SPECIES DATABASE SYSTEM



FORESTRY MONITORING SYSTEM



MAKE SENSE

TO YOUR GEO DATA



Call Us !

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Official Geo Sense Sdn Bhd

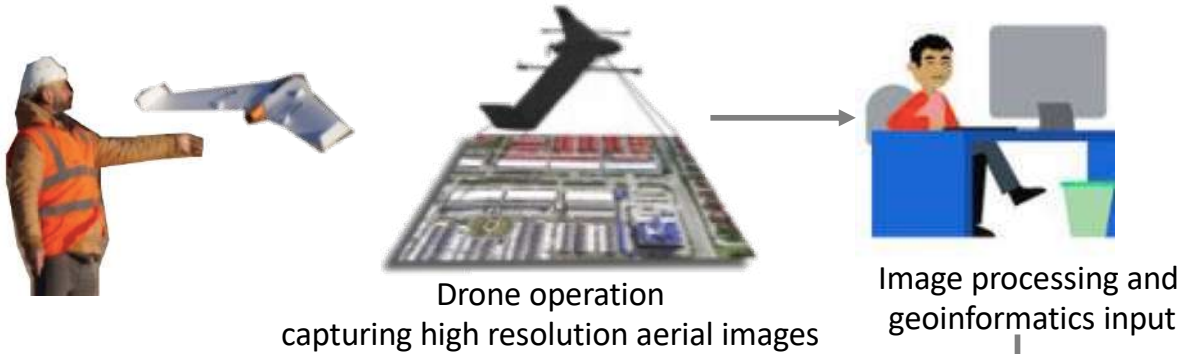
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GEO SENSE SDN. BHD.
DRONE SENSING TECHNOLOGY



Plantation Mapping & Analysis

Providing services in large area palm oil plantation
Mapping using drone, image processing and analysis



Plantation Mapping

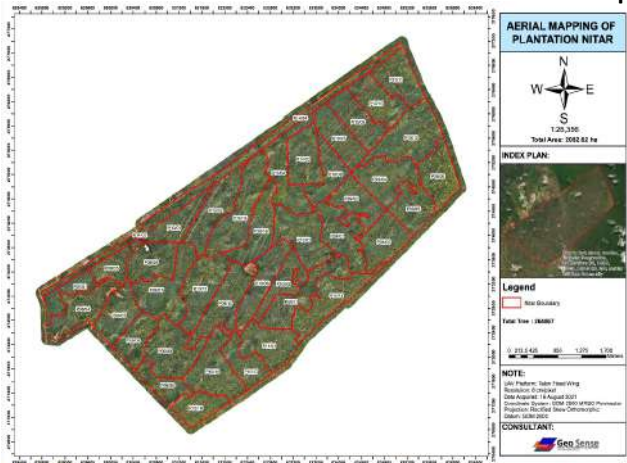


Integration
Geo analytics & reporting

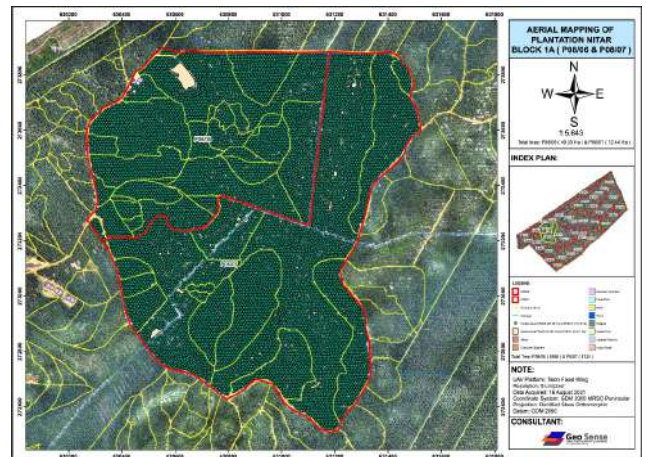


Update in existing Geographical information System (database) for sharing & collaboration

Sample Deliveries



Plantation Mapping & Digitalization



Detail Sub-Block Tree Counting

Block	Sub-Block	Area (Ha)	Tree Count	Tree Density (Trees/Ha)
P0006	P0006-01	10.00	1000	100
	P0006-02	10.00	1000	100
	P0006-03	10.00	1000	100
	P0006-04	10.00	1000	100
	P0006-05	10.00	1000	100
	P0006-06	10.00	1000	100
	P0006-07	10.00	1000	100
	P0006-08	10.00	1000	100
	P0006-09	10.00	1000	100
	P0006-10	10.00	1000	100
P0007	P0007-01	10.00	1000	100
	P0007-02	10.00	1000	100
	P0007-03	10.00	1000	100
	P0007-04	10.00	1000	100
	P0007-05	10.00	1000	100
	P0007-06	10.00	1000	100
	P0007-07	10.00	1000	100
	P0007-08	10.00	1000	100
	P0007-09	10.00	1000	100
	P0007-10	10.00	1000	100
Total		2082.82	208282	100

Reporting (Stand Per Ha. Etc)



Health Tree analysis (AI / ML)

TELECOMMUNICATION TOWER PROFILLING

Manual Inspection



Manual Inspection Operation
3~4 hours per inspection work

UAV Drone Inspection

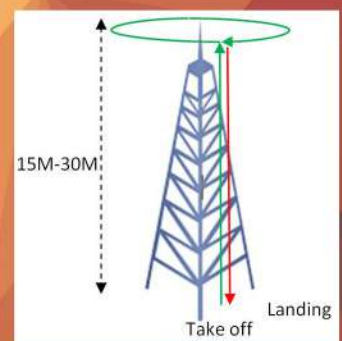
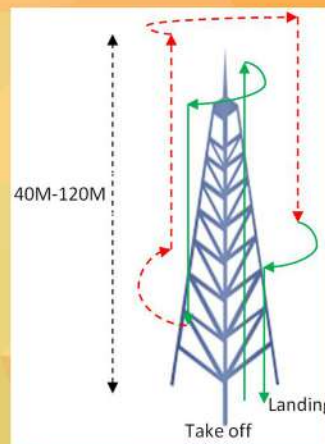


Drone Inspection Operation + Overall Tower Profiling
20 minute flight per inspection work

UAV Drone Technology



TinjauKopter Multirotor Survey Drone
With Onboard Autopilot

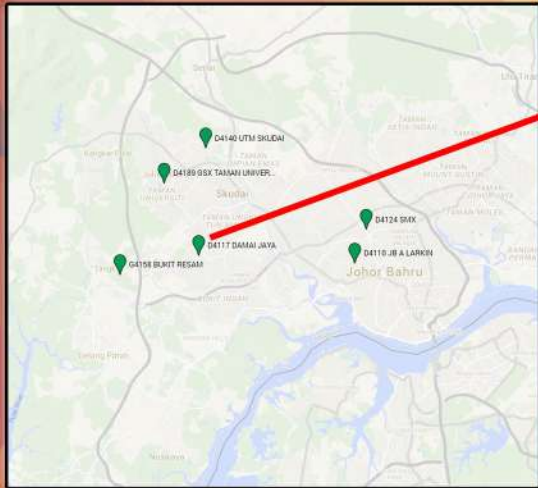


Fully Autonomous Flight Plan Controlled by
Onboard Autopilot System



TELECOMMUNICATION TOWER PROFILLING

Tower Location



Overall Tower Image



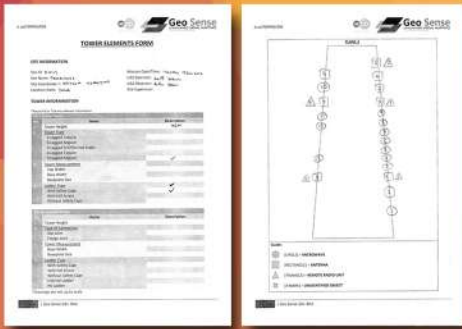
Site Pictures



High Resolution Video



Elements Identification



Reporting Forms



Tower Plan Layout



Site Condition Form



360 Degree Image View

Operation Certified by :



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Geo Sense Sdn. Bhd
Unmanned Aerial Mapping
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Services in supplying UAV imagery, digitalization, GIS integration, Web and Mobile GIS

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81300 Skudai, Johor
Malaysia

G-Wing VTOL

PROFESSIONAL MAPPING & SURVEYING DRONE SYSTEM

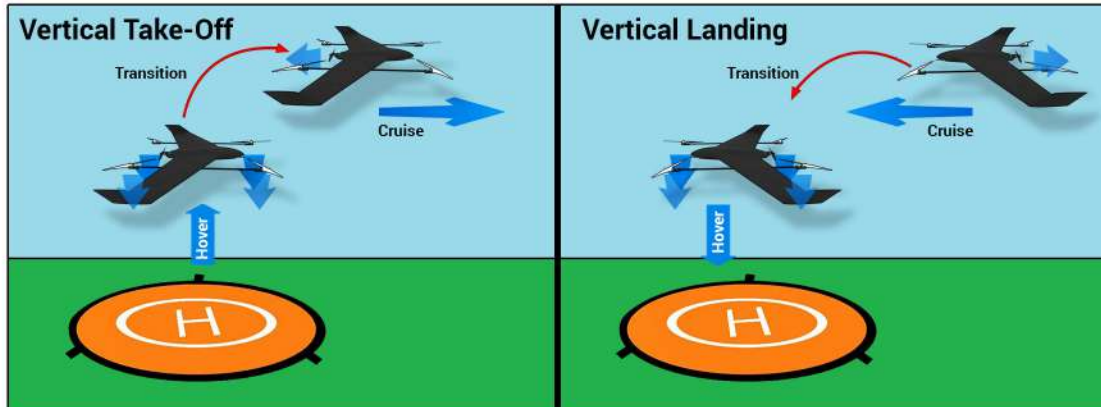
Next Level In Drone Mapping Productivity



RTK/PPK
GPS ready



VERTICAL TAKE-OFF AND LANDING FORWARD WING

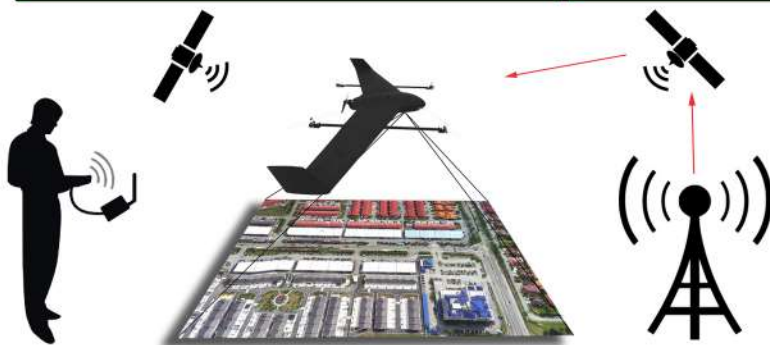


60 km travel distance**
60 minutes flight time**

COVERAGE AREA***

122m AGL	~230 ha
200m AGL	~360 ha
300m AGL	~540 ha

*AGL (Above Ground Level)
**Below 500m (1640 ft.) from mean sea level at 5m/s (18kph or 11mph) wind speed
***Coverage area varied by camera model and percentage of image overlap



G-STATION - User Friendly Flight Planning



<p>SENSOR</p>	<p>OPTIONS</p>
<p>IMAGE PROCESSING</p>	
<p>ANALYSIS & HOSTING</p>	

G-Wing is a modular lightweight vertical take-off and landing forward wing professional mapping and surveying drone platform. G-Wing designed and developed from years of experience in operating mapping drones. Risk of crash and lost in operating small drones are very high and eventually effect company productivity and profitability. VTOL reduces risks of hard landing during take-off and landing and provides extra fail-safe system during cruising mode. Adding extra drone lifespan, lower maintenance cost and maximizing the size of mapping coverage.

One of the main issues with typical hand launched fixed-wing drone is space requirement especially during take-off and landing, finding the right spot for drone launching and landing is time-consuming, directly effect productivity. With VTOL propulsion system, G-Wing can be launched and retrieved autonomously in a very tight area of 3m x 3m. Enable operation in constraint spaces such as in dense forest area, plantation, dense property footprint area (urban) and from the boat deck.

AIRCRAFT

Length	750 mm
Wingspan	1254 mm
Datalink Range	5 km (line-of-sight no interference)
MTOW	2 kg
Max. Payload Weight	200 g (including mounting system)

PAYLOAD OPTIONS

RGB Mapping	Sony RX0 (standard)
NDVI Mapping	MAPIR Multispectral
Thermal Imaging	FLIR Vue Series

PERFORMANCE

Cruise Speed	60 km/h (33 knots)
Wind Resistance (Cruise VTOL)	30 km/h (16 knots) 15 km/h (8 knots)
Travel Length	60 km
Max. Endurance	60 minutes

TELEMETRY

G-Station Frequency	433 Mhz 900 Mhz
Telemetry Coverage	5 km

APPLICATIONS

- Mapping
- Surveying
- Mining
- Plantation
- Forestry
- Agriculture



Box System

VTOL transitional algorithm is completely programmed by experience drone engineering team. Prior to commercialization, hundreds of flight hours were test-flown to improve the aircraft aerodynamic stability, efficiency, and performance. Reliable, durable and robust avionics firmware are chosen to make G-Wing as an impeccable drone for endurance mapping and surveying flight missions.

As in a fail-safe option, take-off and landing of G-Wing can be accomplished in two ways, manual radio transmitter control and autopilot assisted control. Flexiload system enable G-Wing user to change multiple options of payload between flights. The 200 grams limit of payload allow wide range of the camera to be mounted on the aircraft (Require compatible mounting bracket). G-Wing is designed with all the flexibility to maximize your drone mapping productivity while protecting the investment.

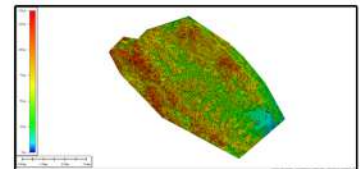


G-Wing VTOL for aerial mapping

GIS INTERGRATION



DSM (DIGITAL SURFACE MODEL)



WEB / MOBILE GIS



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