

# MARQUES™

A V I A T I O N



Next generation multi-mission multi-payload UAS

**MA** THOR SolarLight UAS

[www.marquesaviation.com](http://www.marquesaviation.com)



## MA THOR SolarLight UAS

### MULTI-MISSION DIVERSE-PAYLOAD VEHICLE

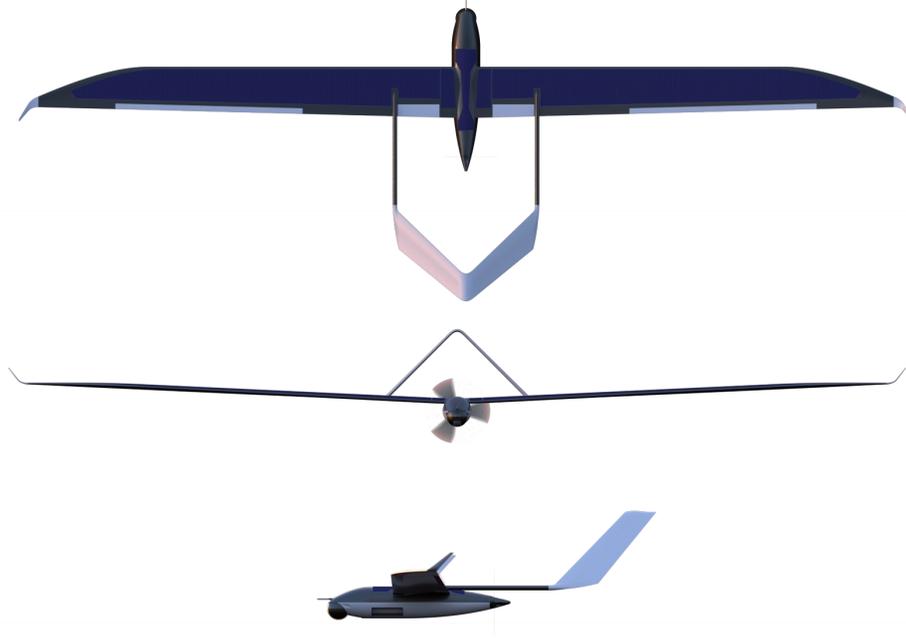
The MA THOR is a versatile vehicle used in missions as diverse as city reconstruction mapping, remote sensing and mapping, land and maritime border patrol, sea and land search and rescue, long endurance military intelligence, reconnaissance, targeting, surveillance of oil and gas installations, inspection of natural disasters, precision agriculture, and fire fighting.

The vehicle accommodates a variety of payloads: Electro optical and infrared cameras, gyro stabilized daylight and low light cameras, laser designator, range finder, miniature aperture radar, radar altimeter, automatic video tracker, nuclear biochemical sensors, meteorological appliances, laser detector tracker.



### ADVANCED AERODYNAMICS

The MA THOR UAV utilizes enhanced aerodynamics and flight stability for missions in the most demanding flight conditions.



## SPECIFICATIONS

- Ultra-lightweight carbon-fibre aircraft
- Wingspan of 10 m covered with solar panels
- Aircraft weight of 110 kg
- Flight by day using solar power
- Amorphous silicon arrays no thicker than sheets of paper
- Flight at night powered by rechargeable lithium-sulphur batteries
- Batteries recharged during the day flight using solar power
- Hybrid solar-fuel cells propulsion system
- Supports persistent surveillance operations
- Platform for communications relay in support of operations
- Cruise speed: 80 km/h
- Max. climb rate: 150 m/min
- Ceiling: 15,000 m
- Operation radius: 150 km, 5,000 km with SATCOM
- Endurance: Several days
- Takeoff distance: 10 m launched
- Wingspan: 10 m
- MTOW: 110 kg
- Max. payload weight: 40 kg
- Robust datalink; Comms link

## CONFIGURATION

### HYBRID SOLAR-ELECTRIC-HYDROGEN TECHNOLOGY

The lightweight, solar-powered MA THOR SolarLight can loiter above regions under surveillance for several days. The platform uses a triple hybrid propulsion system that provides the aircraft with extreme endurance and capability to operate at low, medium and extreme high altitude in diverse geographical latitudes. The SolarLight is an ultra-lightweight carbon-fibre aircraft with a wingspan of 10 m and MTOW of 110 kg.

### AERODYNAMICS

Enhanced aerodynamics and flight stability. The wings use a high-lift airfoil, have an aspect ratio of 10, and are fitted with wing fences, Hoerner tip, Fowler flaps (max. deflection 30°), Gurney flaps, and vortex generators. The wings feature 5° dihedral, 5° geometric washout, 5° taper, and sweepback.

## INVESTORS & SALES

MARQUES AVIATION LTD welcomes international investors for the MA THOR UAS program.

Contact our representatives to discuss your UAS requirements.



**MARQUES** AVIATION

**MARQUES**<sup>TM</sup>  
A V I A T I O N

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