



### PAYLOAD OPTION FOR DEFENCE AND HOMELAND SECURITY

Category	Payload	Use/Functionality
<b>Electro-Optical / Infrared</b>	EO/IR Camera Systems (Day/Night + Thermal Imaging)	Real-time visual and night surveillance
<b>Radar Systems</b>	Ground Surveillance Radar (GSR)	Detect movement in forests and terrain
	Doppler Radar / Perimeter Intrusion Radar	Monitor camp and asset perimeters
<b>Communication Support</b>	VHF/UHF/HF Communication Repeaters	Extend radio communication range
	Mobile Network Relay (LTE/5G Nodes)	Provide network in blackout/disaster zones
<b>SIGINT/ELINT</b>	Signal Intelligence (SIGINT) Modules	Intercept enemy communications
	Electronic Intelligence (ELINT)	Detect hostile radar systems
<b>RF Jamming &amp; Countermeasure</b>	RF Jammers / Drone Jammers	Disrupt drones or enemy comm links
<b>Environmental Monitoring</b>	Weather Sensors / Wind Profilers / Air Quality Sensors	Monitor climate and air in field deployments
<b>Emergency Support</b>	Public Address (PA) Systems / Beacon Lights	Announce, alert, or signal crowds
<b>LIDAR</b>	Light Detection and Ranging (LIDAR)	Terrain mapping and profiling

# “THE THIRD EYE IN THE SKY”

## Aerostat & Airship Technology



### AERIAL SURVEILLANCE AND COMMUNICATION



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## ABOUT US

**Empyreal Galaxy** is a modern airship and aerostat manufacturing company that is specialised in the design, development and production of airships and aerostats for various industries, including military, scientific research, and commercial operations. With a team of experienced engineers, designers, and technicians, we utilise the latest technology and innovative materials to produce top-quality airships and aerostats that meet high standards of performance, safety and durability.

Empyreal Galaxy, headquartered in Mumbai with an innovation lab in Nashik (Maharashtra), fully embraces the significance of self-reliance and indigenization in the aerospace sector. In line with our commitment to the **"Make in India"** initiative, we source 80% of our raw materials and components from Indian manufacturers and suppliers.



## OUR MISSION

Our mission is to apply advanced AI, ML, and IoT technologies in the development of modern airships, serving critical national security needs and contributing to sustained economic progress.

### OUR CORE VALUES



## AEROSTAT

An **Aerostat** is a **lighter-than-air aerial platform** that remains aloft using buoyant gases such as helium and anchored to the ground or a fixed structure with **high-strength tethers**, it provides a stable and elevated vantage point for carrying **surveillance, communication, and reconnaissance** payloads over extended durations.

## AIRSHIP

An **Airship** is a **self-powered, lighter-than-air aircraft** that achieves lift using helium or hydrogen gas. Equipped with its **own propulsion and steering systems**, an airship can navigate freely through the air. Its ability to hover, maneuver, and operate for extended durations makes it ideal for diverse applications such as **surveillance, cargo transportation, precision agriculture, and environmental monitoring**.

## AEROSTAT - KEY FEATURES & SPECIFICATIONS

Features	Specification
Altitude Range	Up to 5000 meters AGL (Customisable)
Payload Capacity	Up to 5000 kg (Customisable)
Endurance	15+ days continuous operation (Customisable)
Operational Wind Resistance	Up to 50 knots (Customisable)
Launch Time	3-4 hours
Power Options	Ground power / onboard batteries / hybrid options
Ground Control	Integrated Winch, Tethered Data & Power Systems, Trailer / Ground mounting
Safety Features	Emergency Rapid Deflation Device (ERDD) / Lightning Protection

## AEROSTAT APPLICATION ACROSS INDUSTRIES

Sector	Application
<b>Defence</b>	Persistent surveillance, Border security, Radar elevation, RF/ELINT platforms
<b>Telecom</b>	Temporary cell tower, 6G test platforms, Emergency communication relays
<b>Disaster Relief</b>	Communication restoration, flood area surveillance, public announcement systems
<b>Forestry</b>	Anti-poaching, forest fire detection, illegal logging monitoring
<b>Urban Policing</b>	Crowd control, riot surveillance, aerial patrolling
<b>Maritime</b>	Port surveillance, sea-lane security, piracy monitoring
<b>Agriculture</b>	Crop health imaging, precision farming support
<b>Environmental</b>	Weather data collection