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iF FAMILY OF DRONES
QUALIFIED FOR SURVEY OF INDIA

RYNO

THE MAPPING MAESTRO

About

RYNO UAV is our micro category survey-grade drone with an advanced mapping payload and state-of-the-art PPK Module. With our extensive experience in building MIL SPEC drones, we have ensured that RYNO UAV offers category-defying performance even in the most demanding conditions.

0.6 Sq km
Area Coverage
with 80/60 overlap
at 60 m AGL

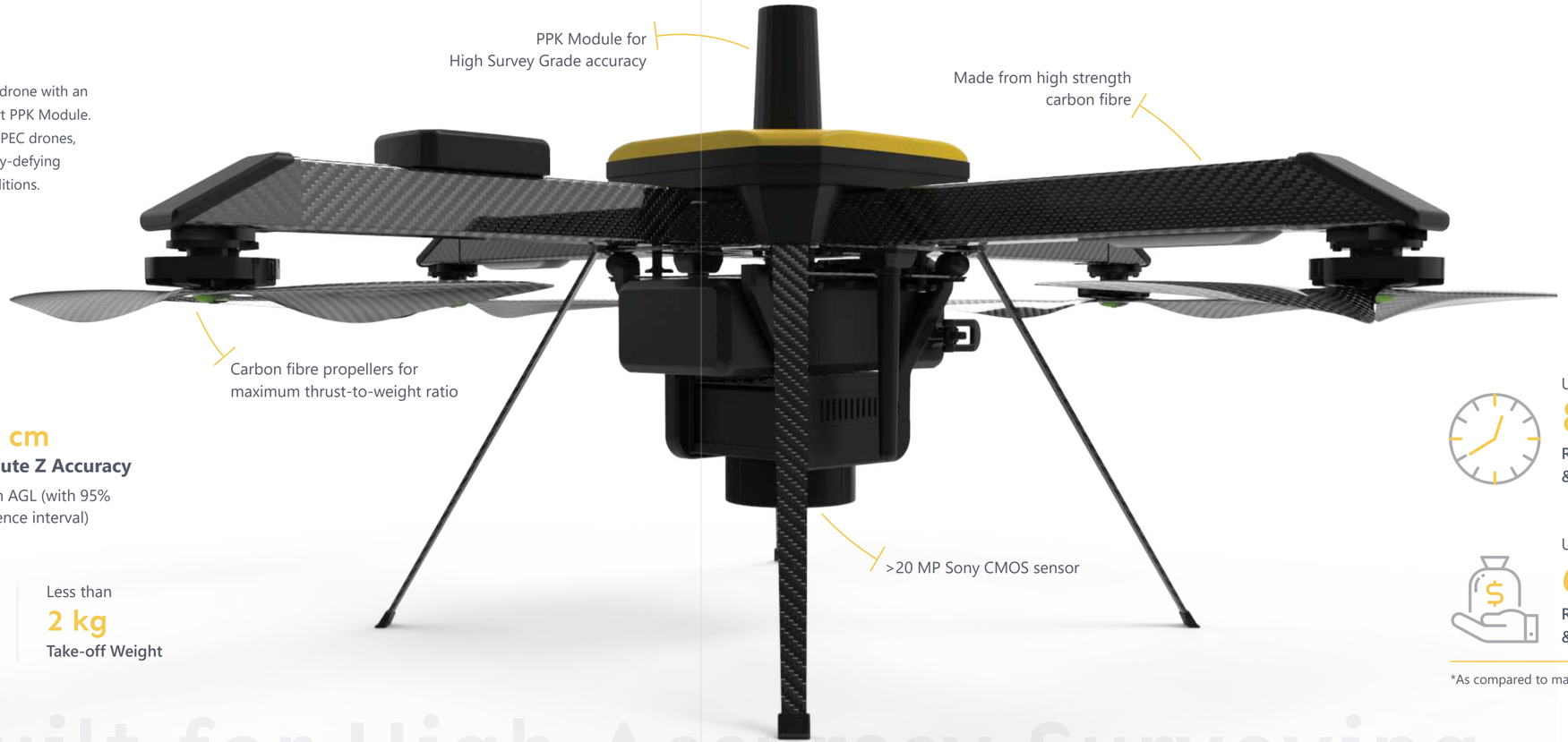
<10 cm
Absolute X, Y Accuracy
at 60 m AGL (with 95% confidence interval)

<20 cm
Absolute Z Accuracy
at 60 m AGL (with 95% confidence interval)

Up to
4 km
Operational Range

More than
40 min
Flight Time

Less than
2 kg
Take-off Weight



Up to
80%
Reduction in Surveying & Mapping Time

Up to
60%
Reduction in Surveying & Mapping Costs

*As compared to manual methods

Built for High Accuracy Surveying

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Payload

The combination of mapping payload with PPK module is a powerhouse in itself. It delivers accuracy that has never been seen before in this class.

>20 Megapixel Camera

APS-C CMOS Sony Sensor

64GB Storage (Expandable)

Ground Control Station

Our state-of-the-art GCS enables fully autonomous flight and provides a host of safety and security features.

- Terrain Avoidance to keep your RYNO safe
- Easy Takeoff/Landing ensures you concentrate on outcomes
- Flight Planning for predictable and repeatable mapping operations
- Geotagging software for accurate post-processing
- Live Display of Flight Parameters to keep you updated every step of the way
- Encrypted Communication for highest privacy
- Fail Safe Features for Comm Loss, Low Battery, High Winds, Temperature range violation

Tech Specs

India is a vast and diverse country. Frigid mountainous regions, hot deserts, humid plains, marine environment and wetlands with torrential rains, the country has regions that represent every weather pattern and terrain conditions. Proudly Made in India, RYNO UAV has been built to withstand these demanding conditions and deliver stellar performance. In fact, it is first micro category drone in the world that has passed the stringent technical qualification criteria laid down by the Survey of India.

Aerial Vehicle (AV) Characteristics	
UAV Weight with battery and max. payload	<2 Kg
Range of live transmission (LOS)	4 km (un-obstructed & interference free)
Typical Cruise Speed	10 m/s
Functional Temperature Range	-10°C to +50°C
Dust & Drizzle Resistance	IP53 rated
Deployment Time	<10 minutes
Packaging and Storage	Backpacks to carry all mission critical components
Regulatory Compliance	NPNT Ready - applicable for Indian airspace
Base Station Characteristics	
GNSS Grade	High accuracy L1 & L2 Frequency Band Enabled PPK
Mapping Performance at 60m AGL	
Ground Sampling Distance (GSD)	<3 cm
Typical X, Y accuracy	<5 cm
Typical Z accuracy	<10 cm
Absolute X, Y accuracy	<10 cm (with 95% confidence interval)
Absolute Z accuracy	<20 cm (with 95% confidence interval)
Ground Control Station (GCS) Software Features	
Terrain Avoidance	Detects and avoids natural terrain by using elevation data (where available)
Geo Tagging	
Communication link Characteristics	
Autonomous Flight Termination System or Return Home (RH) option	Return home triggered by land command on various fail safe features
Failsafe Features	
Multiple GPS on-board	For Redundancy
Auto-Return to Home and Land	On Communication Failure
Auto-Return to Home and Land	On Low Battery
Auto-Return to Home and Land	On exceeding Wind limit of the system
Auto-Return to Home and Land	On Battery Imbalance
Auto-Return to Home and Land	On exceeding Temperature limit of the system

Warranty - 12 months or 500 flights whichever is earlier.

Consistent and Reliable Performance

Features

SOI Quality

iF Family of Survey Grade Mapping Drones are Qualified by Survey of India for Swamitva Yojna

Superior Accuracy

<5 cm in X & Y - axis and **<10 cm in Z - axis Typical accuracy** with survey grade PPK Module

Robust Build Quality

RYNO airframe is built for over **2000 mapping operations**

Best-in-Class Area Coverage

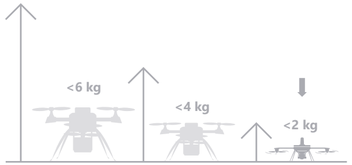
Fly **longer** and **farther** for quicker ROI

Terrain Avoidance

Safely conduct surveying operations in tough weather and terrain conditions

Compliant With Air Travel

With the rating less than 100 watt hrs, RYNO battery can be hand carried in flight for easy transportation

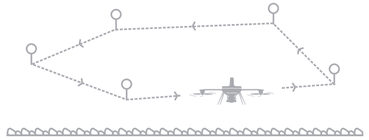


Man-portable

75% Lighter than Drones with Similar Performance

Quadcopter Configuration with VTOL

Conduct operations with **increased flexibility**, even **from smaller areas**



Waypoint Based Navigation

Tell Ryno where to go and let it take care of the rest

Less than 10 minutes Deployment Time

User-friendly assembly to conduct mapping operations faster

Minimal Training Requirements

No UAOP, Security Clearance or DGCA Training required*

**applicable in India only | under 60 m AGL*

NPNT Ready

Designed for NPNT standard

Every Single Time

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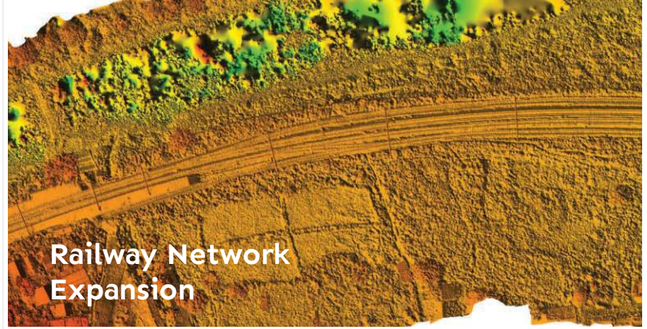
Applications

With its industry-leading hardware and micro category weight, RYNO UAV delivers unbeatable area coverage with centimeter level accuracy, no matter your experience level

Performer



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Industry Use Cases

With RYNO UAV, you are guaranteed to get unbeatable area coverage and centimeter-level accuracies in real-world conditions even in the most demanding conditions. The UAV is geared to build operational excellence across a wide range of use cases in multiple industries.

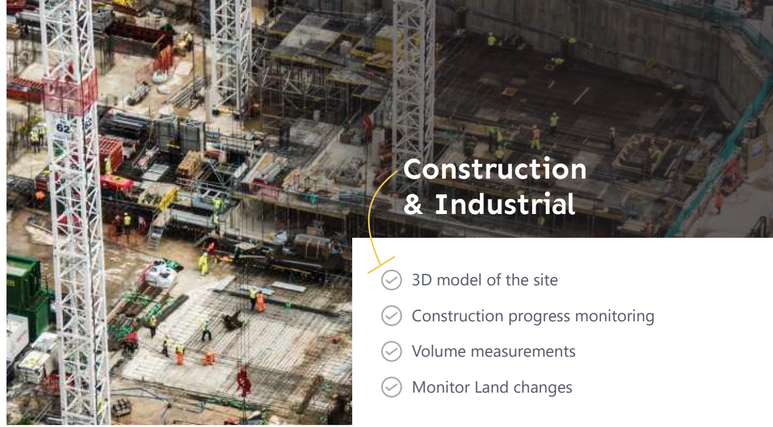
Boost Operations

Mining

- Pre Mining Survey
- Maintain Land Records
- 2D/3D models of mines
- Haul road planning
- Volumetric Estimations
- Calculate Slopes & Contours
- Determine changes before and after blast
- Tailing Dam Management

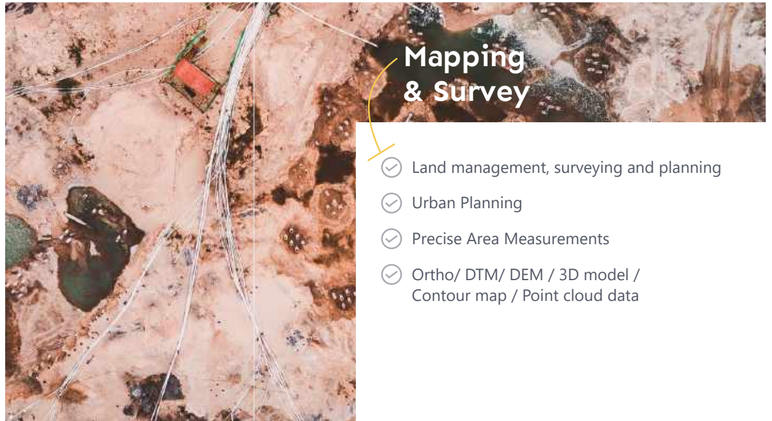
Forest

- Mapping Forests
- Sustainable forest planning management
- Assessing Area under forest plantations
- Loss estimation after manmade / natural disaster
- Mapping canopy gaps



Construction & Industrial

- 3D model of the site
- Construction progress monitoring
- Volume measurements
- Monitor Land changes



Mapping & Survey

- Land management, surveying and planning
- Urban Planning
- Precise Area Measurements
- Ortho/ DTM/ DEM / 3D model / Contour map / Point cloud data

Oil & Gas

- Pipeline laying projects
- Asset digitization for facility upgrade / expansion
- Change and threat detection around pipeline and ROU
- Environmental Surveys and optimize Civil Engineering efforts
- Facility and inventory management

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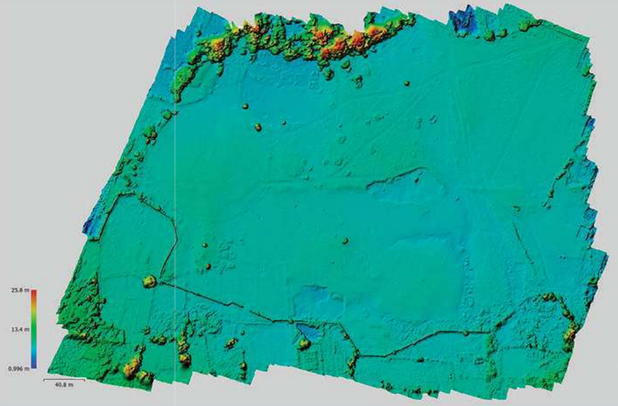
Real-world Outputs

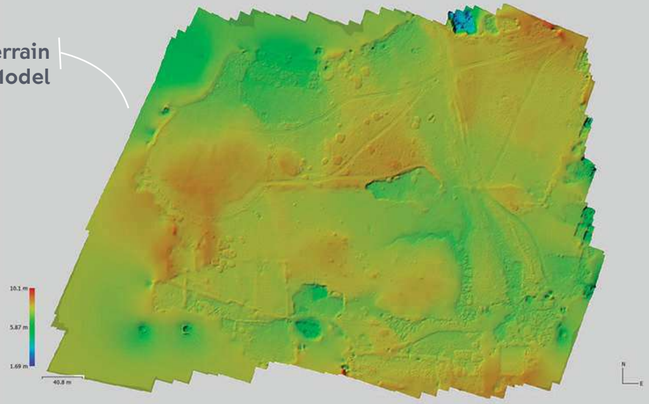
Our highly accurate and precise outputs are helping our customers across domains such as manufacturing, mining, oil & gas, railways, logistics, renewable energy and many more to build operational excellence

Orthomosaic Map

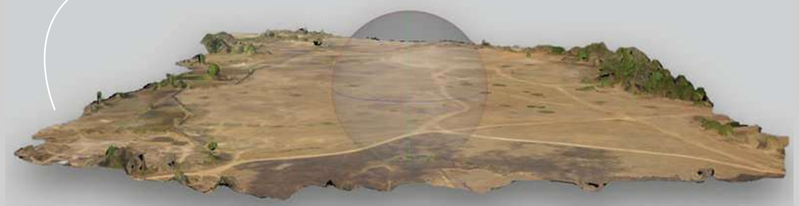


Digital Surface Model

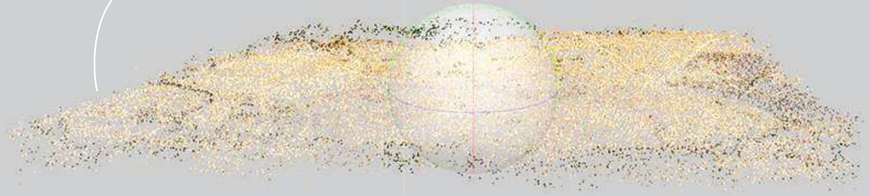
Digital Terrain Model



3d Model



3d Point cloud



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