Trinity™ Tactical Cameras

Fully integrated, easy to swap and well protected

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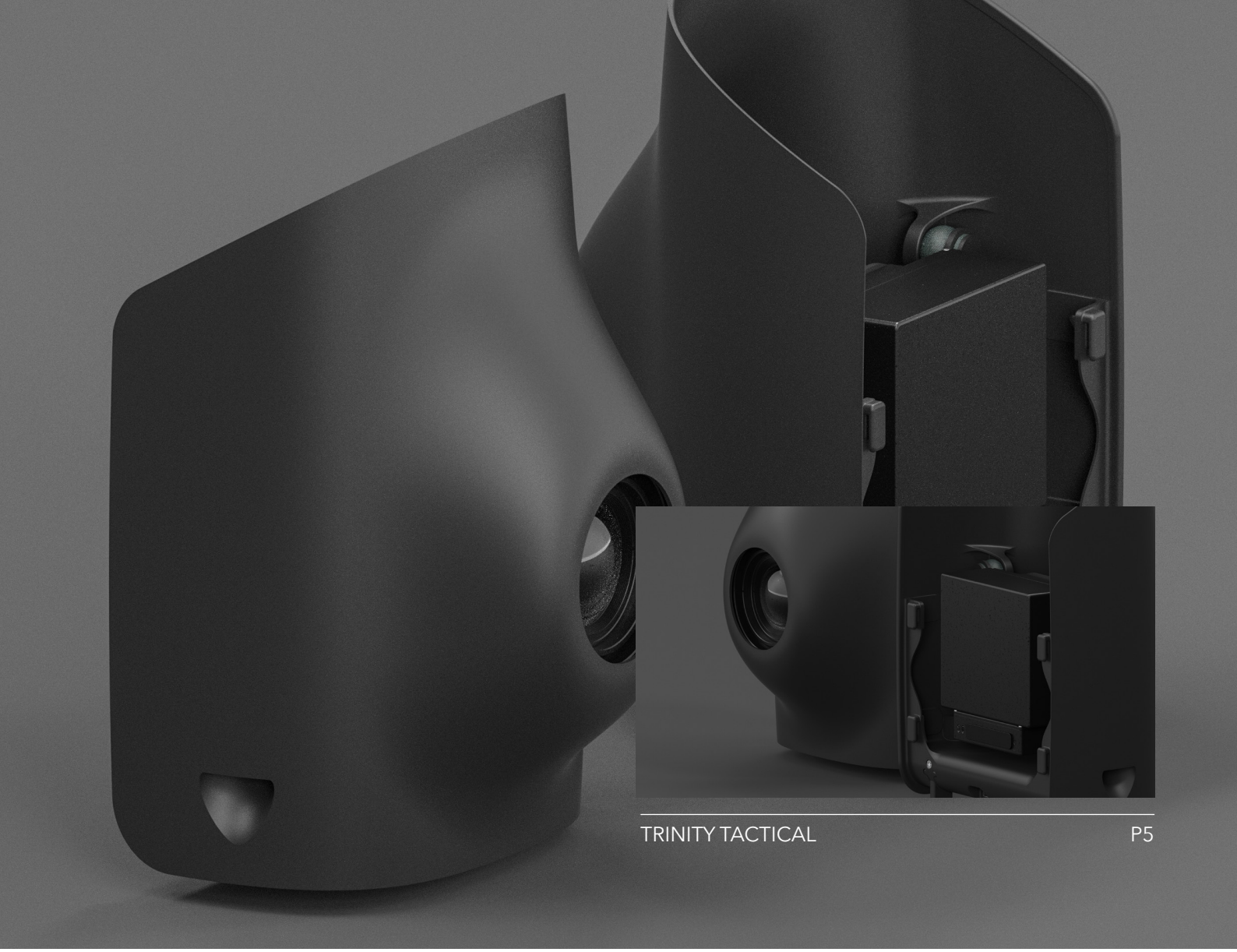


TRINITY TACTICAL P5

Phase One P5

Medium Format RGB Camera

The Phase One P5 is the revolutionary flagship 128 MP Medium Format camera that transcends its role as a mere camera – it's a survey-grade instrument set to redefine the way you capture.

Achieve exceptional results, down to 0.3/0.8 cm RMS XY/Z* absolute accuracy, making your data impeccably trustworthy. When paired with the Trinity platform, the P5 swiftly covers large areas with survey-grade precision, significantly reducing time and costs compared to conventional methods. The electronic global shutter, combined with metrically calibrated lense and sensor, reduces the necessity for extensive software corrections caused by pixel distortion, ensuring the preservation of high-quality data.

**Using high precision PPK and accurate ground control points.*

Phase One P5 Technical Specifications

	Sensor Resolution	128 MP
	Sensor Type	CMOS
	Sensor Size	Medium Format
	Shutter Type	Electronic Global Shutter
	Dynamic Range	80 dB
	Max Frame Rate	4 fps
	Storage	CF Express Card up to 2TB
	Lens Options	80 mm (HFOV: 32° VFOV: 23) 35 mm (HFOV: 66° VFOV: 49)
80 mm Option	**GSD @60 m**	0.26 cm/px
	GSD @120 m	0.52 cm/px
	Coverage @60 m AGL	67 ha (0.26 cm/px GSD, 70% overlap)
	Coverage @120 m AGL	135 ha (0.51 cm/px GSD, 70% overlap)
35 mm Option	**GSD @60 m**	0.59 cm/px
	GSD @120 m	1.18 cm/px
	Coverage @60 m AGL	154 ha (0.59 cm/px GSD, 70% overlap)
	Coverage @120 m AG	309 ha (1.18 cm/px GSD, 70% overlap)

Sample Data

FLIGHT ALTITUDE
60 m | 197 ft. AGL

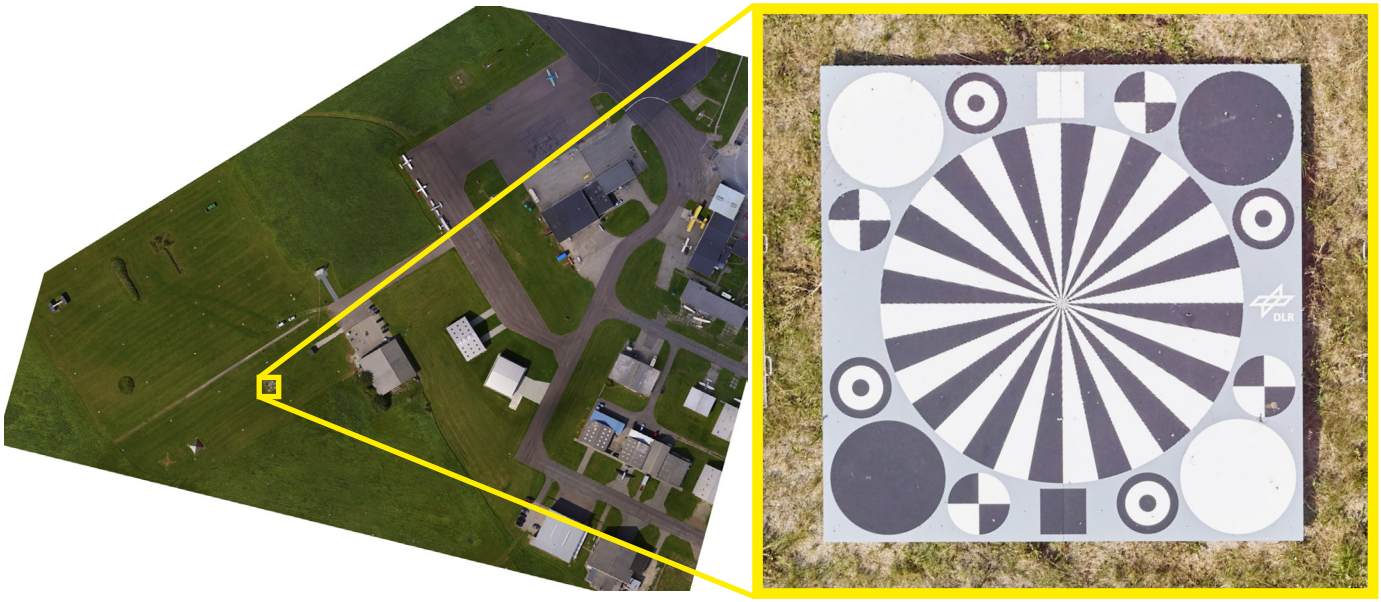
GSD
0.26 cm/px

AREA
14 ha

FLIGHT SPEED
18 m/s

IMAGES
1804

FLIGHT TIME
12.40 min



TRINITY TACTICAL SONY ILX-LR1

Sony ILX-LR1
RGB Camera

The SONY ILX-LR1 camera, with its cutting-edge high-accuracy capabilities and expansive coverage, seamlessly integrates into Quantum Systems drones and allows direct camera control, while delivering exceptional image quality.

ⓘ

The camera harnesses advanced sensor technology and processing power, resulting in a compact and lightweight solution that elevates project efficiency. Additionally, users have the flexibility to customize settings to suit any mission, reducing data load and streamlining workflows, while maintaining image quality. This makes it an ideal choice for mapping missions.

Sony ILX-LR1
Technical Specifications

Sensor Resolution	61.0 MP (9504 x 6336 px)
GSD @100 m AGL	1.57 cm/px
GSD @120 m AGL	1.88 cm/px
Coverage @120 m AGL	491 ha (1.88 cm/px GSD, 70% overlap)
Coverage with 0.7 cm/px GSD	184 ha (@45 m AGL, 70% overlap)
Sensor type	Exmor R CMOS
Sensor format	35 mm full frame
Sensor size	35.7 x 23.8 mm
Lens	f=24 mm, F2.8
Payload weight (ready to fly)	600 g

Sample Data

FLIGHT ALTITUDE
100m | 328 ft. AGL

GSD
1.57 cm/px

AREA
60 ha

OVERLAP
79%

FLIGHT SPEED
17 m/s

IMAGES
973

FLIGHT TIME
17 min

Qube 640

LiDAR Scanner

The Qube 640 is a LiDAR sensor with a 176° FOV, integrated colorization through an 8 MP camera, enhanced vegetation penetration and vertical scanning.

The Qube 640 is co-developed with YellowScan for Trinity Pro and Tactical drones. It features a selectable FOV (field of view) of up to 176°. Combined with Trinity's capabilities, it enables 32 km corridor scanning with one single flight. At 120° FOV, it improves productivity by 50% compared to its predecessor, the Qube 240.

The sensor ensures improved vegetation penetration, detailing foliage and trunks, and facilitates vertical scanning applications with reduced outer edge mismatches, thanks to the new IMU. An integrated 8 MP RGB camera enables LiDAR capture and colorization in the same flight.

Qube 640
Technical Specifications

Scanner	Hesai XT32M2X
GNSS Inertial Solution	SBG Quanta Micro
Integrated Camera	8 MP (for colorization purposes)
Laser Range	300 m
Precision [1, 3]	3 cm
Accuracy [2, 3]	2.5 cm
Scanner FOV	176° x 40.3°
Shots per Second	640 000 points/sec
Echoes per Shot	Up to 3
Center Point Density @100 m	34 -100 points/sqm
Max. Data Points generated [4]	1 920 000 points/sec

[1] Precision, also called reproducibility or repeatability, accounts for the variation in successive measurements taken on the same target.
[2] Accuracy is the degree of conformity of a measured position to its actual (true) value.
[3] 1 sigma @ 50 m, Nadir.
[4] Triple Echo.

Sample Data

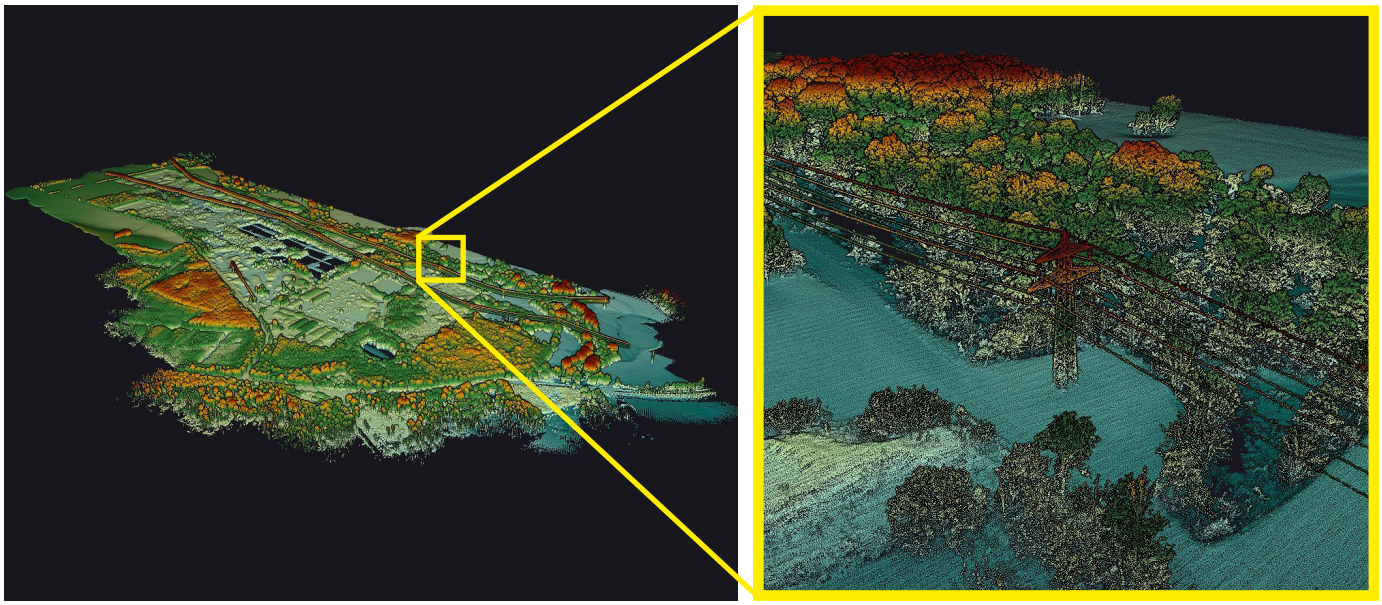
FLIGHT ALTITUDE
75 m | 246 ft. AGL

FOV
120°

FLIGHT TIME
42 min

FLIGHT SPEED
18 m/s

AREA
170 ha



TRINITY TACTICAL OBLIQUE D2M

Oblique D2M

Five-lens RGB Camera

The Oblique D2M is a powerful oblique imaging system consisting of five high-resolution multidirectional cameras, making it the ideal tool for large scale 3D photogrammetry.

ⓘ

A fast trigger interval along with custom high-speed storage provides class-leading time efficiency without compromising data quality. The payload combines four oblique and one NADIR camera to capture complex geometries with ease. This ensures remarkable detail even on slanted surfaces and makes Oblique D2M destined for 3D mesh generation of high-rise areas, industrial environments, archaeological sites and alike.

Oblique D2M Technical Specifications

GSD	1.50 cm @100m AGL
Cameras	1 x NADIR, 4 x oblique
Sensor Resolution	26 MP (6252 x 4168 px)
Total Resolution	130 MP
Trigger Interval	≥ 0.8 seconds
Sensor Type	CMOS
Sensor Format	APS-C
Sensor Size	23.5 x 15.6 mm
Focal Length	25 mm NADIR, 35 mm (oblique)
Payload Weight RTF	833.7 g
Flight Time	60 minutes
Storage	High speed data storage device (640 GB)

Sample Data

FLIGHT ALTITUDE
120 m | 393 ft AGL

FLIGHT SPEED
17 m/s

GSD
1.8 cm/px

Enhancing Tactical Operations with Trinity Tactical Sensors

The Trinity Tactical system features advanced RGB and LiDAR sensors for military and security operations that require high-resolution GIS mapping in disconnected environments. These sensors capture detailed terrain data to support route planning, identify safe paths, and assess potential hazards.

In battle damage assessment, they provide precise imagery for evaluating damage to infrastructure and equipment. For reconnaissance, they facilitate landing zone evaluations and line-of-sight analysis. By delivering accurate geospatial intelligence, Trinity Tactical sensors are vital for operations requiring detailed situational awareness.


UAV
OPERATOR

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