GRYPHON

Ultra-High-Resolution Radar for Ground Autonomy

Detailed 4D perception for unmanned and autonomous ground platforms operating across unstructured terrain, degraded visibility, and environments where GNSS is unavailable.

Gryphon brings Arbe's ultra-high-resolution 4D imaging radar to ground autonomy. Purpose-built for unmanned and autonomous ground platforms, it serves as a core sensor in the perception stack, delivering perception-grade radar data for demanding off-road operation.

Applications

Defense and civilian operations: From tactical logistics and route assessment to mining, construction, agriculture, and ports.

Full autonomy: Perception for platforms operating unsupervised, individually or as a coordinated group.

Teleoperation: Environmental awareness for remote operators when video alone cannot provide a clear view.

Leader-follower convoy: Tracks and holds the vehicle ahead through the dust kicked up by the convoy.

Operator assistance: Obstacle and collision alerting for crewed platforms.

Detailed Enough to Drive On

Gryphon generates a point cloud dense enough to give the autonomy stack the spatial detail to understand terrain, nearby obstacles, and stationary hazards, not just raise alerts.

Stay Localized Without GNSS

Radar-based localization helps keep the platform positioned when GNSS is degraded or unavailable.

Know Where You Can Go

Gryphon provides the high-resolution radar data customers can use for free-space mapping, negativeobstacle detection, and overhead-clearance awareness.

Keep Perception Through Dust

Gryphon maintains detailed radar perception through dust and other degraded visual conditions, keeping the data usable for navigation when optical sensors are limited.

Inside Gryphon

Gryphon combines Arbe's proprietary RF technology, high-density antenna architecture, and real-time radar processing to turn raw radar returns into perception-grade 4D data.

Proprietary RF Front End

Arbe's automotive-grade transmitter and receiver chips drive a 48 Tx × 48 Rx antenna architecture with 2,304 virtual channels

Real-Time Processing

Arbe's radar processing chip handles massive volumes of raw radar data at 20 FPS.

Perception-Grade Output

High-frame-rate point clouds and 4D radar data enable tracking, mapping, and free-space processing.

0.7° Azimuth **0.9° Elevation** Ultra High Resolution	**120° Azimuth** **30° Elevation** Wide Field of View	**10–80 cm** Range Resolution	**0.1 m/s** Velocity Resolution
20 FPS Frame Rate	**135 × 103 × 46 mm** Dimensions	**25 W** Power Consumption	**1000BASE-T** Interface

Built for Off-Road Perception

Precision in Tight Quarters

Fine range resolution preserves the detail needed for close-range maneuvering and precise positioning around loading points, docks, forest trails, and other tight operating areas.

High Dynamic Range

Keeps smaller nearby obstacles distinguishable even beside large, highly reflective vehicles and machinery.

Stationary and Slow-Moving Detection

High spatial and range resolution detects slow-moving and fully stationary objects, such as a parked vehicle, a berm, or a dropped payload, without relying on Doppler.

Ruggedized for Vehicle-Mounted Operation

Solid-state hardware with no moving parts is designed for shock, vibration, dust, water ingress, and operating temperatures from -40°C to +70°C.

Production-Ready at Automotive Scale

Built on Arbe's production-proven automotive radar stack, from proprietary chipset and software to automotive-grade supply chain. Compact, solid-state hardware, flexible perception outputs, high-bandwidth networking, and evaluation tools support integration and deployment across diverse ground platforms and fleets.

About Arbe

Arbe (Nasdaq: ARBE) is a global leader in ultra-high-resolution radar solutions, delivering a complete radar technology stack from proprietary chipsets through real-time processing to AI-ready, perception-grade data. Developed and industrialized for automotive production, Arbe's radar technology provides a proven foundation for ground autonomy and other demanding applications.

Advance Ground Autonomy

Connect with our team to see how Gryphon's ultra-high-resolution 4D imaging radar brings detailed, reliable perception to unmanned and autonomous ground platforms.

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