



HD Imaging Radar for Perception Across Every Environment



Arbe is redefining perception with ultra-high-definition 4D Imaging Radar built for autonomy, safety, and mission-critical reliability.

Ultra-high resolution, native false-alarm elimination, precise elevation and Doppler accuracy, and wide field of view combined to deliver continuous 360° environmental awareness in any terrain. Covering wide areas with dense, AI-ready detections, Arbe radar provides reliable perception across all environmental operating conditions, including RF-dense deployments.

From mobile platforms to fixed infrastructure, Arbe's radar for perception delivers a dependable, low-maintenance foundation for advanced autonomy and safety systems.

Arbe's Phoenix Radar

Ultra-high resolution imaging radar supports over 50,000 detections per frame with point cloud density unparalleled by any other radar solution on the market, revolutionizing radar processing and post-processing across mobile and stationary applications.

Proprietary RF Chipset

Delivers ultra-high resolution, enabling precise object separability from close proximity through extended range in one operating mode. Best-in-class channel isolation, low noise figure, and high transmit power support dense, ambiguity-free imaging in complex environments.

High-Density Radar Antenna

Industry's highest resolution achieved within a small form factor optimized for SWaP-C requirements. Enables high-performance perception with low power consumption.



Ultra-High Resolution & Separability

Precise detection in cluttered environments

Designed for Uptime

Low maintenance operation. No moving parts. No cleaning.



All-Weather Sensing

Perception accuracy despite darkness, glare, fog, rain, dust, clutter, and vibration.



Radar Processing Chip

Powers the processing of massive volumes of raw radar data in real time, supporting ultra-dense detections at high frame rates, including 20 FPS performance critical for safe human-machine interaction. Scales from high resolution to ultra-high resolution while maintaining efficient power consumption.

Out-of-the-Box Evaluation & Prototyping

Plug-and-play setup, ROS 2.0 support, and a dedicated sensor integration toolbox make it easy to quickly evaluate performance, build prototypes, and move from testing to deployment with minimal engineering effort.

Every Detail Matters

The Ultra-High-Definition Difference

AI-based perception algorithms perform real-time clustering, self-localization, and false-target filtering. Post-point cloud processing transforms radar returns into stable environmental awareness, supporting free-space mapping, GNSS-independent localization, and interference mitigation in RF-dense environments.



Phoenix Perception Radar:

Designed for flexible integration across platforms, Phoenix delivers detailed imaging enabled by native resolution supported by 2,304 virtual channels. A Phoenix sensor provides wide-area coverage, reducing system complexity and sensor nodes for 360 coverage.

0.7° Azimuth 0.9° Elevation	120° Azimuth 30° Elevation	0-300 m	20+ FPS	10 cm-80 cm	0.1 m/s	~0	100s
Ultra High Resolution	Wide Field of View	Flexible Range	Real Time	Native Range Resolution	Doppler Resolution	False Alarms	Objects Identified

Innovative to the Core

Unfailing Performance

Differentiates stationary and dynamic objects with high dynamic range, supports continuous tracking beyond direct line of sight, and enhances motion understanding through accurate Doppler measurement.

Redundancy and Data Diversity

Delivers depth, velocity, object orientation, and environmental structure that complement optical sensors and maintain perception when visibility is degraded.

Flexible Integration

Designed for adaptable deployment across various applications, Arbe radar supports a wide range of configurations and enables retrofitting of existing fleets, with no condensation, no frequent field calibration, and no ongoing field maintenance.

Real-Time Free Space Mapping

High resolution across range, azimuth, elevation, and Doppler supports reliable free-space mapping from close proximity through extended range in a single mode, supporting navigation, obstacle avoidance, and operation in GNSS-limited environments.

Uncompromising Safety

Precise sensing eliminates ambiguities and false alarms, preserving true positives while reducing nuisance alerts in complex and cluttered settings.

A Practical Path to Fewer Sensors

Wide field of view and full-range coverage in 360° enable greater area visibility with fewer sensors, supporting cost-optimized autonomy stacks and simplified system architectures.

Arbe (Nasdaq: ARBE) is a global leader in radar chipset solutions for perception, spearheading a radar revolution that enables safe, reliable autonomy and mission-critical sensing across industries. Arbe's ultra-high-definition imaging radar delivers 100 times more detail than conventional radar, providing the separability, accuracy, and robustness required for advanced autonomous systems and safety applications. The company empowers platform manufacturers, system integrators, and technology leaders across automotive, industrial, robotics, marine, defense, and infrastructure markets with advanced sensing and paradigm-changing perception. Arbe is based in Tel Aviv, Israel, with offices in China, Germany, and the United States.