# The Building Blocks of the Best Radar Image Quality

## Truly Safe and Commercially Viable 4D Imaging Technology

Data captured by Arbe's long-range front, back and surround radars provides the building blocks for the industry's best radar image quality. Resolution higher than any radar on the market, elimination of false alarms and doppler ambiguities, and long range along with wide field of view powerfully combine to elevate L2+ and higher applications from a nice-to-have comfort solution to must-have safety features.
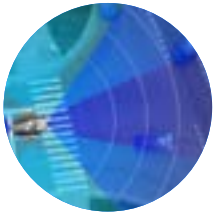
Safe execution of highway maneuvering and obstacle avoidance

Detailed and reliable image quality to detect vulnerable road users in challenging scenarios such as dense urban environments and at night
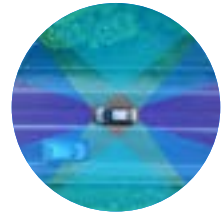
Free space mapping in all environmental conditions for autonomous decision making

Arbe's Radar Development Platform

The platform supports over 100,000 detections per frame with a point cloud density unparalleled by any other radar solution on the market, revolutionizing radar processing and post processing. The platform includes:

Proprietary RF Chipset

Provides best-in-class performance for channel isolation, sensitivity, and transmit power at the industry's lowest cost per channel. The chipset achieves higher resolution in both azimuth and elevation by two orders of magnitude, for reliable detection of the vehicle's surroundings at all times.

High-Density Radar Antenna

Delivers a radar form factor designed to fit automakers' current sizing and vehicle mounting specifications perfectly, while enabling optimal antenna design for automotive wavelength thanks to the high number of channels.

Radar Processing Chip

Powers the processing of massive amounts of raw data in real-time with unprecedented computational abilities. The processor scales from high resolution to ultra-high resolution to support the data generated from 2,304 virtual channels while maintaining low power consumption.

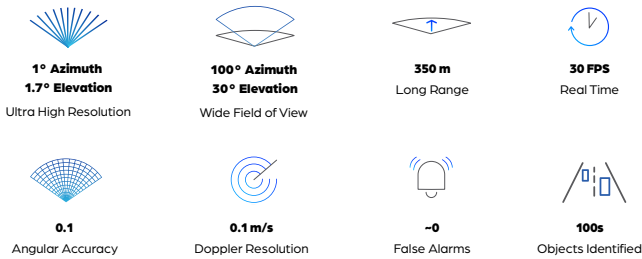### Proprietary Post-Processing Software Stack

Software Stack of AI-based perception algorithms performs real-time clustering, self-localization, false-target filtering, and classification. Post-processing the radar's data enables advanced 360° perception for a comprehensive understanding of the vehicle's surroundings.

Full Sensing Coverage for Every Position Around the Vehicle

Arbe's radar development platforms are based on two complementary radars that together offer a massive channel array, robust processing technology and advanced algorithms that achieve advanced sensing in every direction around the vehicle.
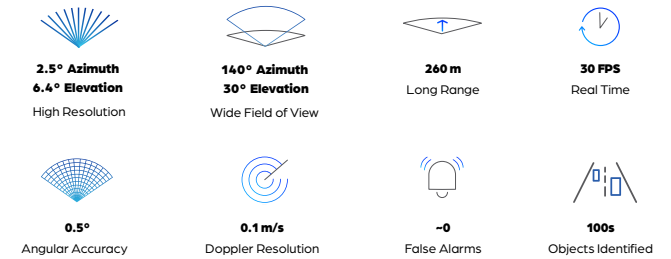
Phoenix Perception Radar

Easily installed behind the bumper or grille to maintain the integrity of the vehicle design, Phoenix delivers detailed imaging thanks to native resolution supported by 2,304 virtual channels.

1° Azimuth **1.7° Elevation** Ultra High Resolution	**100° Azimuth** **30° Elevation** Wide Field of View	**350 m** Long Range	**30 FPS** Real Time
0.1 Angular Accuracy	**0.1 m/s** Doppler Resolution	**~0** False Alarms	**100s** Objects Identified

Lynx Surround Imaging Radar

Designed primarily for corner and back installation, Lynx complements Phoenix to deliver a 360° view around the vehicle in high resolution and to long range.

2.5° Azimuth **6.4° Elevation** High Resolution	**140° Azimuth** **30° Elevation** Wide Field of View	**260 m** Long Range	**30 FPS** Real Time
0.5° Angular Accuracy	**0.1 m/s** Doppler Resolution	**~0** False Alarms	**100s** Objects Identified

Innovative to the Core

Unfailing Perception for Unfailing Performance

The first radar technology detailed enough to enhance perception algorithms, it differentiates between static and dynamic objects, allows continuous tracking of objects outside the line of sight, and predicts future movement direction based on object trajectory.

Achieving Free Space Mapping in Real Time

The only Imaging Radar with high resolution in all four dimensions – range, elevation, azimuth, and doppler – in long range in all environmental conditions for real-time, radar-based free space mapping.

Perfectly Positioned

Car makers can locate Arbe's systems in a variety of positions according to the unique interplay of the vehicle's size and number of sensors, for total design flexibility.

Elimination of Phantom Objects

No matter the speed, elevation, range, or surrounding weather and lighting conditions, Arbe's radars differentiate true threats from false alarms to ensure a safe road ahead.

Ensuring Redundancy and Diversity

Arbe's systems deliver highly detailed sensing in environmental conditions where optic sensors fail, making it a critical sensor for unfailing redundancy and uncompromised safety. It also provides critical sensing data diversity, offering depth, relative velocity, object orientation, and long range detection at levels optical sensors can't match.

The Future–Proofed Roadmap

Open to OEM algorithm — current or future — Arbe's radar solutions are designed to enable perception to evolve, and to power the rollout of software-defined features for existing and new customers without the need for additional hardware throughout the vehicle lifecycle.

Arbe (Nasdaq: ARBE), a global leader in Perception Radar Chipset Solutions, is spearheading a radar revolution, enabling truly safe driver-assist systems today while paving the way to full autonomous-driving. Arbe's imaging radar is 100 times more detailed than any other radar on the market and is a mandatory sensor for L2+ and higher autonomy. The company is empowering automakers, tier-1 suppliers, delivery robots, commercial and industrial vehicles, and a wide array of safety applications with advanced sensing and paradigm-changing perception. Arbe is based in Tel Aviv, Israel, and has offices in China, Germany and the United States.

Radar Revolution. **Delivered.**