

APTIV UNVEILS GEN 8 RADARS TO POWER THE FUTURE OF ADAS

- Gen 8 Radars Offer Market Leading Range, Resolution and Object Detection Across a Broad Range of Driving and Parking Scenarios
- Rich Radar Data Combined with ML Applications Expand Range of Driving Solutions Across All-Weather and Lighting Conditions

SCHAFFHAUSEN, Switzerland — Aptiv PLC (NYSE: APTV), a global technology company focused on enabling a safer, greener, and more connected future, today announced its most advanced radar technology to date—engineered to meet the evolving demands of future advanced driver-assistance systems (ADAS). Powered by Aptiv’s proprietary antenna and silicon design, the Gen 8 radars deliver the class-leading performance and high-resolution sensing needed to support AI- and machine learning–driven ADAS capabilities.

Aptiv’s Gen 8 radars unlock new possibilities for hands-free driving in complex urban environments, delivering advanced perception with greater cost efficiency. Both front-facing and corner radar units represent a significant leap forward in how vehicles sense and interpret their surroundings, providing reliable performance even in the most challenging real-world conditions.

The same core IP that powers Aptiv’s Gen 8 radars, also drives the newly launched Aptiv PULSE Sensor- a compact, versatile solution that combines radar and camera data to enhance perception around the entire vehicle. By integrating ultra short-range technology with a surround-view camera, PULSE can replace up to four ultrasonic sensors, improving detection accuracy while reducing system complexity and cost for automakers. Its precision and adaptability make it also ideal for multiple short-range sensing applications, including drones and industrial robotics.

“Aptiv pioneered radar technology in production vehicles more than two decades ago, and today, we’re once again setting the pace,” said Javed Khan, Executive Vice President and President of Software, Advanced Safety and User Experience, Aptiv. “Our Gen 8 Radars mark a major step forward in the journey toward intelligent, software-defined vehicles—delivering all-weather reliability, 4D perception, and deep environmental awareness that enable global automakers to safely and cost-effectively scale to higher levels of automation.”

Expanding the Perception Portfolio

Backed by over 25 years in radar technology expertise, Aptiv's Gen 8 radars combine proprietary software and hardware intellectual property (IP), introducing significant improvements in performance for a broader range of driving solutions across challenging weather and lighting conditions.

The Gen 8 radars enable new driving scenarios—such as Navigation on Autopilot (NOA)—even in complex, cluttered environments like urban streets and parking structures, thanks to its significantly expanded field of view.

Key Gen 8 radars features include:

- **Forward Radar:** Provides long-range detection beyond 300 meters with ultra-fine 4D angular resolution, enabling enhanced classification of over- and under-drivable static objects. This next-generation system delivers a 30% performance boost and doubles the vertical field of view compared to its predecessor.
- **Dual-Mode Corner Radar:** Enhances the previous generation's industry-leading range performance by increasing the vertical field of view's (FOV) resolution, delivering improved capability in close-range, low-speed scenarios such as frontal automatic emergency braking (AEB), automated parking, and object avoidance. Compared to the prior generation, horizontal discrimination improved by 25 percent and vertical discrimination is now possible thanks to cutting-edge sensing technology.

Built for the Real-World Performance

Aptiv's GEN 8 radars set a new standard in ADAS technology, delivering enhanced detection, precision, and adaptability. Designed for real-world driving performance, they offer smarter, safer, and more scalable solutions such as

- **Step-Change in Detection Count:** The system delivers over 40% improvement in object detection compared to prior generations, enabling the identification of more objects with richer sensor feedback.
- **Increased Channel Count:** The base configuration of GEN 8 radars doubles the number of channels versus its predecessor, enhancing detection and object classification sensitivity while flexibly delivering premium radar performance with minimal design changes.

- **Over- and Under-Drivable Static Objects:** Superior 4D angular resolution enables radar-only classification of over- and under-drivable static objects, supporting radar-exclusive target detection for advanced cruise control features.
- **Superior Accuracy for Target Detection and Tracking:** Advanced discrimination capabilities and a low error rate—even in high dynamic range and low signal-to-noise ratio (SNR) environments—enable the detection and tracking of targets that were previously missed.
- **Wider Array for Improved Detection Across the Full Field of View:** A leading channel count enables outstanding measurement performance across both the vertical and horizontal fields of view, supporting broader and more precise object detection.
- **Real-Time Drivable Space Estimation:** Accurately maps open lanes, obstacles, and road debris at highway speeds, significantly enhancing situational awareness and driving safety.
- **Supports AI-Powered Systems:** Delivers continuous, high-quality sensor data to machine learning models, enabling smarter, more adaptive decision-making across all driving conditions and scenarios.

Together, these solutions underscore Aptiv's commitment to shaping a software-defined future—leveraging AI, machine learning, and sensor fusion to deliver scalable, efficient technologies that can extend beyond automotive to support cross-industries applications.

For more information visit Aptiv's [media site](#).

About Aptiv

Aptiv is a global technology company that develops safer, greener, and more connected solutions enabling a more sustainable future. Learn more at aptiv.com.