



Cepton Sets New Industry Benchmark with Next-Generation Flagship Automotive Lidar, Ultra

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World's slimmest lidar packs Cepton's groundbreaking MagnoSteer™ technology and proprietary ASIC chipset, enabling an unprecedented combination of 300 m range and 0.05° resolution at 12 W power consumption

SAN JOSE, Calif.--(BUSINESS WIRE)--Jan. 8, 2024-- Cepton, Inc. ("Cepton" or the "Company") (Nasdaq: CPTN), a Silicon Valley innovator of [high-performance lidar solutions](#), announced today the unveiling of its new flagship automotive lidar, [Ultra](#).

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20240108365365/en/>



Ultra is the world's slimmest adaptive, long-range lidar, designed based on real OEM requirements for next-generation consumer vehicle ADAS and automated driving capabilities. It boasts Cepton's latest innovation – MagnoSteer™ – to enable an unmatched combination of performance, power efficiency, and compactness:

- Maximum detection range: 300 m at 10% reflectivity
- Angular resolution: 0.05° x 0.05° within regions of interest (ROI)
- Field of view: 120° (H) x 25° (V) maximum, software definable
- Typical Power consumption: 12 W
- Data rate: up to 3.8 million points per second
- Size: 150 (W) x 24 (H) x 90 (D) mm

Ultra is the world's slimmest adaptive, long-range lidar, designed based on real OEM requirements for next-generation consumer vehicle ADAS and automated driving capabilities. © Cepton, Inc.

"With the introduction of Ultra, we are proud to reveal MagnoSteer, our next generation of lidar imaging technology," said Brunno Moretti, Senior Vice President of Product and Commercial Operations at Cepton. "MagnoSteer is a revolutionary beam steering mechanism with maximized field of view efficiency. This means that it minimizes the time, space and energy wasted within the architecture as it generates extremely dense point clouds, resulting in impressive data rate from an extremely small package. It is frictionless, automotive-grade and has an infinite mechanical life. It consumes less than half the power of typical scanning systems that deliver comparable performance, while taking up as little as one-fourth of the space.

"Powered by MagnoSteer, Ultra breaks the performance bottleneck of 905 nm lidars while taking advantage of a mature, mass-market-ready laser technology. With a 300 m detection range at 10% reflectivity, it can detect and locate a dark object, such as a black car, at a distance 50% further than what is typically required for automotive collision prevention systems to properly react. All of this is achieved without the need for fiber laser components, which are associated with high costs, low maturity, poor reliability and excessive power consumption for automotive applications. Ultra presents the ultimate solution that the automotive industry needs today: top-notch performance coupled with superior scalability."

Ultra is by far the smallest, slimmest high-performance automotive lidar on the market today. Similar performing lidar systems are typically triple the volume and double the height. With its extremely compact form factor and power efficiency, Ultra is designed for seamless integration into various locations on a vehicle without the need for an additional cooling system. It can be embedded behind the windshield and into the roofline, the headlamps and the fascia, enabling high-precision perception for various automotive use cases.

Ultra's software definable field of view and ROIs enable adaptive perception capabilities to help the vehicle stay focused on high-priority objects. The ROIs are dynamically tunable, creating real-time zones around key objects, such as vehicles and pedestrians, making them stand out against background objects that do not require as many data points. This increases the overall energy efficiency of the automotive perception system without compromising precision. The MagnoSteer architecture also enables more advanced perception capabilities within a single-sensor architecture in the future.

Ultra is enabled by Cepton's [proprietary ASIC chipset](#), which the company has invested in developing since 2019. Integrating advanced ASICs for both front-end signal processing and back-end point cloud processing, the chipset enhances the technical advantages of MagnoSteer to optimize lidar image quality while minimizing sensor footprint, power consumption and cost.

Dr. Jun Pei, CEO and Co-founder of Cepton, says: "Ultra stands as the epitome of innovation in automotive lidar, with an unprecedented combination of industry-leading performance, low power consumption and unrivaled compactness. By utilizing our experience in industrializing lidar for mass-market applications, we expect to reduce Ultra's development time by a third as compared to the past, thereby shortening time to market. Targeting a volume price point significantly lower than today's lidar prices, Ultra is poised to enhance vehicle safety across all levels of automation."

Cepton will be showcasing Ultra during [CES 2024](#), held from January 9th to 12th in Las Vegas, NV. Visit the Cepton team at Booth No. 4040, LVCC or submit a [meeting request form](#) to learn more.

About Cepton

Cepton is a Silicon Valley innovator of lidar-based solutions for automotive (ADAS/AV), smart cities, smart spaces and smart industrial applications. With its patented lidar technology, Cepton aims to take lidar mainstream and achieve a balanced approach to performance, cost and reliability, while enabling scalable and intelligent 3D perception solutions across industries.

Founded in 2016 and led by industry veterans with decades of collective experience across a wide range of advanced lidar and imaging technologies, Cepton is focused on the mass market commercialization of high performance, high quality lidar solutions. Cepton is headquartered in San Jose, CA and has a center of excellence facility in Troy, MI to provide local support to automotive customers in the Metro Detroit area. Cepton also has a presence in Germany to serve European customers. For more information, visit www.cepton.com and follow Cepton on [Twitter](#) and [LinkedIn](#).

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