FOR IMMEDIATE RELEASE

# Voyant Photonics Launches Affordable CARBON LiDAR, With FMCW LiDAR Sensor on a Chip

## *Compact LiDAR-on-Chip Now Available for Order, Highlighting Innovation at CES 2025*

**New York City, December 30, 2024 -** Voyant Photonics is pleased to announce availability of “CARBON” FMCW LiDAR sensor, featuring the world’s first truly effective and affordable LiDAR on a chip with solid state beam steering. Carbon’s highly integrated silicon photonic chip is fingernail-sized and provides high-resolution, millimetre precision, object detection and static/dynamic segmentation up to 200m – All that, at a fraction of the cost of current best in class LiDAR makers.

Voyant has achieved this exceptional performance and affordability by integrating optics on a LiDAR photonic integrated circuit (PIC). This low-cost 4D LiDAR sensor was developed to revolutionize machine perception capabilities in industrial, robotics and security applications.

### Instantly Identify Any Moving Object on the Scene

Carbon uses Frequency Modulated Continuous Wave (FMCW) Technology. Unlike Time of Flight LiDAR, FMCW enables instant velocity at each point on top of traditional distance, reflectivity and intensity measurement. This provides ‘4D’ capability: providing high-fidelity point cloud data with unparalleled accuracy, to give applications a true real-time view of their environment, up to 20 times per second. Instant velocity also enables vehicle ego-positioning capabilities which is extremely efficient in GPS denied environments and potentially making a high-end inertial measurement unit (IMU) substitutable.

### Works in Any Weather Condition, Immune to Retroreflective Objects

Voyant’s Carbon outperforms best-in-class Time of Flight (ToF) LiDAR in operating through dust, fog, rain, and snow, and being immune to sunlight interference – most notably at sunrise and sunset. The technology is also invulnerable to highly-reflective objects, particularly retroreflectors (such as street signs, traffic cones, and safety vests), that suffer from blooming, blinding legacy time of flight Lidars.

Despite weighing just 250g, the compact size Carbon is robust, with IP67 dust and water protection, and strong shock and vibration endurance. In addition, the low power required by FMCW laser technology ensures eye safety.

### High-Resolution, Wide-Angle and Long Range

Carbon’s high resolution of native 128 lines per frame provides camera-level resolution, and coupled with instant velocity measurement, enables highly accurate detection and tracking of moving objects up to 200m away. The field of view is 45° vertical and 90° horizontal. Maximum detectable radial velocity is 63 m/s (140 mph). The sensor’s software-defined LiDAR (SDL) allows customers to modify frame rate and adjust field of view during operation, to focus on a zone of interest when and where it is needed and make any small object detectable and classifiable.

### Available to Order Now

Voyant will attend CES 2025 and demonstrate Carbon at booth #3175 in the LVCC, West Hall Vehicle – Tech and Advanced Mobility section. For appointments contact CES@voyantphotonics.com.

Voyant’s groundbreaking Carbon LiDAR is available for order now, at US$1,490 for single units, with volume pricing available, and a two-year warranty. For more details, please visit [https://www.voyantphotonics.com](https://www.voyantphotonics.com/)

### About Voyant Photonics

Voyant Photonics, a pioneering innovator in sensors, has developed and brought to market unique chip-scale LiDAR sensing technology. Voyant creates LiDAR-on-a-chip solutions for 3D sensing, providing competitive performance at disruptive price, size, weight and power. Voyant uses patented nano-optic approaches to provide a range of imaging sensors for a variety of applications including autonomous vehicles, drones, robotics and factory automation. Founded in 2018 by researchers from Cornell and Columbia universities, Voyant has raised over $20m in funding to date. Voyant is based in New York City. <https://voyantphotonics.com/>