Scantinel Unveils Next-Gen World-Leading FMCW LiDAR Photonic Scanner-Detector Chip based on Standard CMOS Technology

ULM, GERMANY, July 10, 2024 /EINPresswire.com/ -- Scantinel, a global leader in LiDAR (Light Detection and Ranging) sensor technology, reinforces its leading position in the high integration of photonic integrated circuits (PICs) with the introduction of its next generation Photonic Single Chip based on standard CMOS technology.

Next-Gen Photonic Scanner-Detector Chip

The next-generation PIC feature a fully integrated, massively parallel detector system for coherent LiDAR. The recently fabricated photonic chip, which includes both a scanner and detector system on a single chip, was successfully tested at Scantinel. It demonstrated a significant per-pixel improvement in signal-to-noise ratio of about 20dB compared to previous solid-state LiDAR scanners.

This scanner-detector chip is a fully integrated, automotive-ready device that serves for automotive LiDAR Samples. The Sample includes a photonic chip and a low-noise electronics board. Due to the SNR (Signal-to-Noise Ratio) improvements, the system has achieved a tenfold reduction in LiDAR power consumption, paving the way for faster pixel rates. Compared to market systems using proprietary technology or two-mirror scanners, this generation features a solid-state scanning and fully leverages the advantages of FMCW technology over existing Time of Light (TOF) LiDAR systems.

The PIC production is fully transferred to high-volume standard CMOS fabrication, indicating the advanced maturity of the technology being developed.

"We believe in the efficient integration of proven technology building blocks using CMOS fabrication in combination with hybrid-packaging processes to enable highly reliable single-chip photonic LiDAR sensors for the automotive market," says Vladimir Davydenko, Chief Scientist and Co-Founder of Scantinel. " Additionally, Scantinel's integrated FMCW laser technology showcases a 10kHz linewidth and 10dBm in-waveguide power, which are critical parameters for an integrated optical amplification system."

"With this new PIC generation, we are underlining our worldwide leading position in highly parallelized FMCW Photonic Single Chip LiDAR based on standard CMOS," says Dr. Michael Richter, CEO of Scantinel. The new samples will be available for customers in Q4 2024.

About Scantinel Photonics GmbH

Founded in 2019 and based in Ulm, Germany, Scantinel Photonics GmbH is a leading FMCW LiDAR company developing LiDAR technology for autonomous vehicles and robotics. Scantinel is supported by ZEISS Ventures, Scania Growth Capital, and Photon Ventures. For more information, visit www.scantinel.com.

Salma El Maliki (Ms.)
Scantinel Photonics
email us here
Visit us on social media:
LinkedIn