

BARAJA UNVEILS NEXT GENERATION LIDAR SENSING PLATFORM WITH INTERFERENCE IMMUNITY

JANUARY 6, 2020 -- LAS VEGAS -- At CES 2020, [Baraja](#), developer of Spectrum-Scan™ LiDAR, is unveiling its next-generation sensing platform with inherent interference immunity. Baraja LiDAR is the only system available today using randomly modulated continuous wave, technology that completely blocks interference from other LiDARs and environmental light sources.

“Sensor interference is one of the leading causes of disengagements for autonomous vehicles today and the issue will only continue to grow as more LiDAR-equipped vehicles hit the road,” said Baraja Co-Founder and CEO, Federico Collarte. “Interference risks leaving the vehicle with blind-spots, and driving blind is obviously unacceptable. Our experience developing technology in the telecom industry uniquely positions Baraja to address the problem of interference by encoding the light transmitted by our laser, using the same mature, volume-produced components that encode information for interference-free communications.”

Interference occurs when a LiDAR transmits laser light and picks up another source of light, from a different laser or environmental source, like bright sunlight, creating errors and uncertainty that manifest as vehicle blind spots. Today, this situation triggers the autonomous technology to disengage and hand over to the safe driver.

Baraja is addressing interference at the sensor level with its Spectrum-Scan™ technology, which forms the basis of its sensing platform. Spectrum-Scan™ works by rapidly switching the laser's wavelength and transmitting light through a prism, which diffracts each color of light in a different direction. When the light returns to the sensor, it is only processed if wavelength, angle, timing and encoding matches on all signals, insuring immunity to interference.

Baraja's Spectrum Scan™ technology has been architected for reliability in automotive environments. The modular design of the system, separating optics from electronics, dramatically increases reliability, with the next-generation sensor head meeting automotive temperature grades of -40 to +105C. Automotive reliability and accelerated lifetime testing has been performed on key components according to SAE standard J1211, which has yielded a computed MTBF of over forty years continuous operation, an order of magnitude greater than competing technologies.

Baraja's next-generation LiDAR has been designed to outperform first generation standards by increasing resolution by a factor of three and reducing unit height by a factor of three. Baraja's LiDAR platform operates at 1550 nm and exceeds the industry long-range sensing requirement of detecting a 10 percent reflectivity objects at >200 meters. The use of prisms and tuneable wavelength lasers gives the system an unprecedented ability to dynamically adjust resolution in key regions of interest, allowing it to mimic the abilities of a human eye by instantly changing areas of focus based on the situation.

“We’ve worked alongside our strategic partners to build a sensor tailored for high performance without sacrificing reliability, that can be customized based on the application,” said Baraja’s VP of Business Development, Nick Langdale-Smith. “Baraja’s modular platform allows us to rapidly iterate on package size and system performance, and we will continue to expand our suite of sensors in 2020 to provide our partners with more customized solutions.”

Please visit <https://www.baraja.com/product#immunity> for more information.

###

About Baraja Pty Ltd

Founded in 2016 and headquartered in Sydney, Baraja began its work on a breakthrough LiDAR technique in the garage of Founder & CEO Federico Collarte. Federico and his Co-Founder & CTO Cibby Pulikkaseril created an elegant solution to the complex problems facing legacy LiDAR systems that give vision to self-driving vehicles. Their Spectrum-Scan™ approach address scalability, reliability, vehicle integration and performance issues that legacy LiDAR technologies cannot. Baraja, backed by Sequoia China, Blackbird Ventures and Main Sequence Ventures’ CSIRO Innovation Fund, has over 100 employees and has offices in Sydney, San Francisco and Shanghai.