

## **Baraja lifts curtain on Spectrum-Scan™ LiDAR for autonomous vehicles**

*New class of LiDAR solves scalability, performance issues plaguing existing systems that help driverless cars see*

**SAN FRANCISCO – July 12, 2018** – Baraja today publicly unveiled Spectrum-Scan™ LiDAR. Spectrum-Scan uses prism-like optics and shifting wavelengths of light to create powerful eyes for autonomous vehicles, giving those vehicles unprecedented data and clarity of vision, a requirement for safe, fully-autonomous driving.

Spectrum-Scan LiDAR (light detection and ranging) represents an entirely new category of LiDAR, pairing a wavelength-tuneable laser with prism-like optics. This innovation addresses the scalability, reliability and performance issues that have challenged automakers, rideshares and tech behemoths as they race toward a fully-autonomous future.

Spectrum-Scan technology enables Baraja LiDAR to deliver high performance and long range in a system built from simple industrialized components, which greatly improves automotive reliability versus competing technologies. With a flexible, modular design that simplifies integration into the vehicle, Baraja LiDAR allows autonomous vehicles to smartly control and adjust scan patterns in real-time to adapt to complex, dynamic road conditions.

“Our experience in the optical telecommunications field, in particular the knowledge gained from years of product development for high-reliability use-cases, inspired us to solve some of the biggest problems facing the current state of LiDAR,” said Federico Collarte, Baraja co-founder and CEO. “The unique perspective our team brings to the field has helped us create a novel way to give vision to autonomous vehicles.”

### **Solving the LiDAR challenge**

Traditional LiDAR scans the roadway by physically rotating lasers or using moving mirrors to steer the light using microelectromechanical systems (MEMS). These moving parts have unresolved reliability problems in vehicles due to constant vibration and shock. Delicate components fail or require costly over-engineering to house and protect.

These legacy scanning methods inject cost, reliability and performance issues, and contribute to the unwieldy appearance and vehicle integration difficulties of existing LiDAR solutions. These limitations have become a serious bottleneck to the mass deployment of self-driving cars.

Baraja’s compact, modular “eyes” connect via fiber optics and deliver the high level of performance demanded by the autonomous vehicle industry using off-the-shelf components—like optical-grade silica-glass found in every smartphone camera and telecom-grade lasers that power the internet. These components maximize automotive reliability and the ability to mass produce the technology for fleets while enabling long-term cost benefits.

### **Designed for reliability and scale**

In developing Spectrum-Scan LiDAR, Baraja designed for the end goal: building LiDAR that can realistically be integrated into vehicles. By addressing the need for high-volume scalability, manufacturability and reliability, Baraja has guided the product development with a design-for-manufacture (DFM) approach.

“After spending years in stealth, iterating behind closed doors with OEMs and other high-profile pioneers in the autonomous vehicle space, we are confident that we have built a high-performance LiDAR system, one that addresses many of the challenges facing the autonomous vehicle industry today,” said Cibby Pulikkaseril, Baraja co-founder and CTO. “Automakers and tech companies want to put fleets of safe and reliable autonomous vehicles on the road. Spectrum-Scan LiDAR will help them get there faster.”

Baraja is headquartered in Sydney, Australia, with offices in San Francisco and China. The company is currently expanding throughout Asia and Europe. Baraja is backed by funding from Sequoia China, Blackbird and other sought-after investors.

“When Baraja came to us with their unique approach to LiDAR, we immediately saw how differentiated their approach was,” said Steven Ji, partner at Sequoia China. “After seeing their technology in action, we could see how well they addressed the limitations of other products. Baraja’s technology will be critical to the entire autonomous vehicle industry.”

Baraja’s Spectrum-Scan LiDAR is available now. For more information, please visit [baraja.com](http://baraja.com).

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### **About Baraja**

Baraja Pty. Ltd. began its work on a breakthrough LiDAR technique in 2015 from the garage of CEO Federico Collarte in Sydney, Australia. It was there that Federico and co-founder and chief technology officer Cibby Pulikkaseril dreamed up 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 afflict incumbent LiDAR technologies. Baraja, backed by Sequoia China, Blackbird and other investors, has 60 employees and is based in Sydney, with offices in San Francisco and China. The company is expanding throughout Europe and Asia.