



Safeguarding autonomy where others can't

As the provider of the most accurate and reliable vehicle positioning system, GPR works with automakers, Tier 1 suppliers, and autonomous vehicle companies to tackle some of the automotive industry's most common obstacles.

The first Ground Positioning Radar™ (GPR) technology specifically designed for autonomous navigation, GPR creates and tracks to a 3-D map of the road's unique subsurface signatures, enabling new levels of safety and performance for advanced driver assist systems (ADAS) and autonomous vehicle (AV) technology.

Reliability is lacking in today's ADAS vehicles

- **73%** of on-road issues encountered by today's Level 2 vehicles during active driving involve lane-keeping, which are experienced every 8 miles on average.¹
- **51%** of traffic fatalities are due to lane departure and could be mitigated with the mass adoption of improved ADAS or increased autonomy.²
- **80%** of drivers want vehicle safety systems to work better, including emergency braking and lane keeping assistance.³

Lidar, camera, and GPS can't function amid poor visibility, blocked signals, or when lane markers aren't clear. GPR's next generation radar - Aegis- is the only reliable solution.



How it works

Map

Integrated underneath the vehicle, GPR's Aegis sends low frequency pulses 2-3 meters into the ground to pick up reflections from below the road surface-- creating a detailed map that remains stable over time.

Localize

These measurements are then registered to the previously created map in real-time. Through this automated process, Aegis positions the vehicle based on the underground data.

Assist

Aegis feeds the resulting position directly into the vehicle's navigation system, which can then provide reliable and accurate driver assist capabilities including lane-keeping and automated parking, as well as providing localization for future autonomous capabilities.

Results

GPR can precisely and accurately position the vehicle within a few centimeters, regardless of poor weather and low visibility conditions, poor road markings, or other common pitfalls that challenge ADAS systems.

¹ Huetter, J. (2020, August 6). Level 2 ADAS averages 'some type of issue every 8 miles'. RDN Repairer Driven News.

² U.S. Department of Transportation Federal Highway Administration. (2021, April 5). Roadway Departure Safety. Federal Highway Administration.

³ Edmonds, E. (2021, February 25). Today's Vehicle Technology Must Walk So Self-Driving Cars Can Run. AAA Newsroom.

Lidar, camera, and GPS can't function amid poor visibility, blocked signals, or when lane markers aren't clear



GPS is inaccurate and routinely blocked



Lidar and camera-based systems require lane markings or objects that are easily obscured or change often



Lack of unique surface features renders optical positioning unreliable

GPR is the Only Reliable Solution

GPR provides automakers and automotive suppliers with the tools to deliver more reliable and secure automated and autonomous vehicle technology to their customers. With GPR, vehicles with Level 2+ autonomy capabilities equip their vehicles with an unmatched level of added protection that common vehicle sensors lack.



GPR Subterranean Map

Real Time Centimeter-Level Positioning

In addition to GPR's automotive applications, its GPR can be used in other industries, including:



Warehousing



Construction



Utilities



Mining



Agriculture



Rail

Safeguarding the autonomous driving experience

Contact us at gpr.com

+1 617-902-0318

General Inquiries: info@gpr.com
Media Inquiries: press@gpr.com

444 Somerville Ave, Somerville, Massachusetts 02143, US

