Didi Autonomous Driving Partners with Raytron to Deploy Thermal Imaging in Next-Gen Robotaxi

Descrizione

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SHANGHAI, March 17, 2026 /PRNewswire/ â?? Didi Autonomous Driving has unveiled the R2, its next-generation mass-produced robotaxi co-developed with GAC Aion, featuring Raytronâ??s automotive thermal camera as a key component of its perception system. Integrated alongside a sophisticated suite of 33 sensors, Raytronâ??s thermal imaging helps complete a 360Â° blind-spot-free perception architecture, enabling the autonomous vehicle to maintain reliable detection even in low-light and adverse weather conditions.

Why Thermal Imaging Is Essential for L4 Autonomy?In the complex landscape of urban mobility, standard sensorsâ??such as cameras and LiDARâ??often encounter invisible barriers. Visible-light cameras can be compromised by the sudden glare of tunnel exits or oncoming high beams, while heavy fog, smoke, and dust can scatter LiDAR beams, significantly shrinking their effective detection range. By detecting long-wave infrared radiation rather than relying on reflected light, infrared thermal cameras can identify life signaturesâ??pedestrians, cyclists, and animalsâ??from hundreds of meters away, regardless of clothing color, camouflage, or total darkness.

Horus 640D: Raytronâ??s Breakthrough in Automotive Thermal ImagingPowered by Raytronâ??s Horus 640D, the robotaxi can see beyond the reach of headlights. The thermal module integrates a 12Î¼m 640Ã?512 automotive-grade infrared detector with a proprietary second-gen ASIC chip, making it a compact yet robust automotive sensor. Moreover, Raytronâ??s self-developed shutterless algorithm eliminates the jarring â??image freezeâ?• that once plagued thermal cameras. This infrared thermal module enables the Robotaxi to detect vulnerable road users (VRUs) up to 300 meters away, giving autonomous systems precious extra seconds to sense, think, and act safely.

â??In a real-world test in Yizhuang, dim lamplight left cameras blind to a drunk person lying by the road, while LiDAR captured only sparse, ambiguous points,â?• noted Zhang Bo, CEO of Didi Autonomous Driving. â??The infrared sensor identified the heat signature at 100 meters, allowing the vehicle to decelerate safely. It resolves rare but critical â??one-in-a-ten-million-mileâ?? risks.â?•

About RaytronRaytron is a global leader in multidimensional perception solutions, specializing in infrared, microwave, and laser sensing chips and systems. Its products serve ADAS, temperature measurement, security, outdoor night vision, and consumer electronics markets, advancing safe and intelligent mobility worldwide.

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Categoria

1. Comunicati

Tag

1. ImmediaPress

Data di creazione
Marzo 17, 2026
Autore
redazione