

Presse Press

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Clear view for autonomous cars - Osram heralds new generation of infrared lasers for LiDAR

Special chip design takes wavelength stability of edge emitters to a new level

LiDAR is a key technology in the development of autonomous vehicles. In combination with radar and camera systems, it acts as the vision of the car that capture the surroundings. LiDAR, short for Light Detection and Ranging, uses infrared light to create a precise, three-dimensional map of the environment. The better this visual information, the easier it is for the downstream systems to use it. Up to now, the infrared lasers used for this purpose have deviations in wavelength stability of up to 40 nanometers as temperature in the component rises. As a result, the LiDAR system's "vision" was a bit blurred. A novel chip design from Osram now reduces the wavelength shift to just ten nanometers, enabling much clearer and sharper images of the surroundings.

Thanks to the newly developed chip design, edge-emitting lasers can match and even exceed the wavelength stability of VCSELs at operating temperatures of up to 125°C typical for automotive applications. This technological milestone in the development of infrared lasers allows the use of a much smaller wavelength filter on the detector - which significantly improves the signal-to-noise ratio. This technological advance has already been demonstrated in components with "triple-junctions," e.g. three light-emitting surfaces stacked one on top of the other. In future, it will be used in all Osram infrared lasers and offer enormous advantages to LiDAR system manufacturers.

Further information about LiDAR can be found [here](#). You are also welcome to contact our [technical support](#) colleagues.

Press contact:

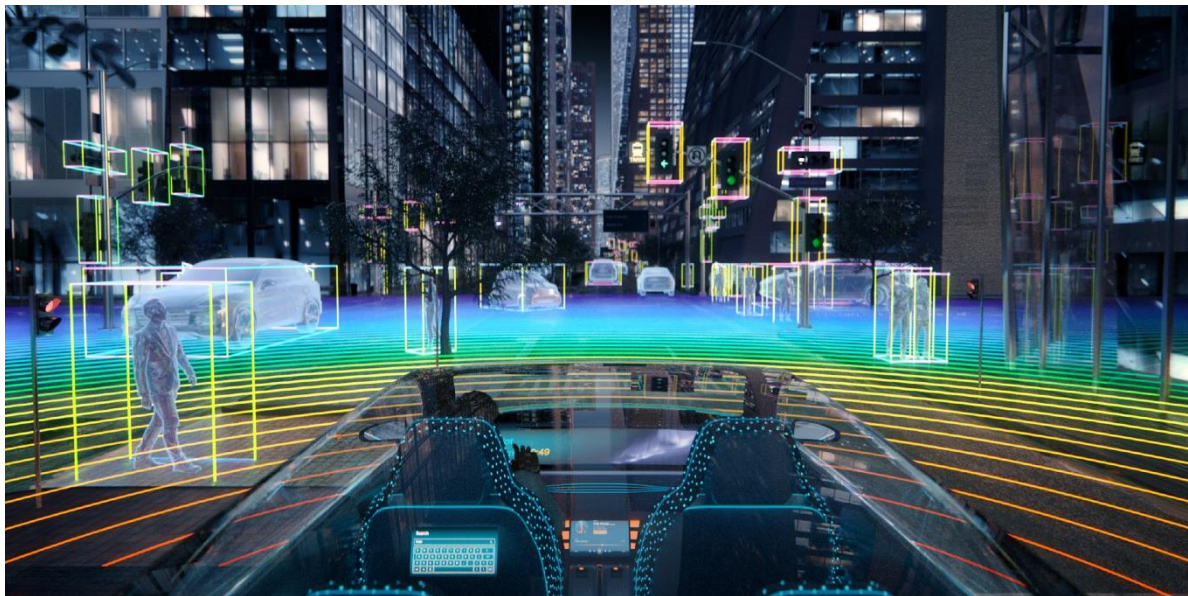
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Thanks to the new laser technology from Osram, LiDAR systems will "see" much more clearly in future.

Image: Osram

ABOUT OSRAM

OSRAM, based in Munich, is a leading global high-tech company with a history dating back more than 110 years. Primarily focused on semiconductor-based technologies, our products are used in highly diverse applications ranging from virtual reality to autonomous driving and from smartphones to smart and connected lighting solutions in buildings and cities. OSRAM uses the endless possibilities of light to improve the quality of life for individuals and communities. OSRAM's innovations enable people all over the world not only to see better, but also to communicate, travel, work and live better. OSRAM had approximately 21,000 employees worldwide as of end of fiscal 2020 (September 30) and generated revenue of around three billion euros from continuing activities. The company is listed on the stock exchanges in Frankfurt and Munich (ISIN: DE000LED4000; WKN: LED 400; trading symbol: OSR). Additional information can be found at www.osram.com.