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Press release

Automated Tire Screening for improved road safety

Kistler system automatically detects tire properties

Winterthur, May 2022

Automated Tire Screening (ATS) from Kistler offers a reliable and cost-effective system for real-time screening of tire properties without disrupting traffic flow. The quartz crystal sensors deliver accurate data on missing or under-inflated tires – and thus help to prevent accidents. The technology can be integrated into existing Weigh In Motion (WIM) sites equipped with Lineas sensors from Kistler, of which many have already been installed throughout the United States.

According to the National Highway Safety Association, 738 traffic fatalities were caused by tire-related car crashes in the United States in 2017. Next to the brakes, tires are the most important safety device on a vehicle. Incorrect tire pressure poses serious risks for drivers. The severity of this issue has prompted the US government to act, providing funding and grants through several programs.

Reliable information on tire conditions

Kistler has developed a simple solution that allows authorities to monitor the condition of tires on roads in real time: Automated Tire Screening. ATS can be added to any new or existing WIM sites that use Kistler technology. To screen for tire properties, a WIM system requires two additional Lineas quartz crystal sensors and a software update for Kistler's Data Logger. The sensors are installed in the pavement at an angle to the standard WIM sensors. This angle enables prolonged contact with the tires which is crucial when detecting any deviation from the measurement of the standard sensors. The system uses the deviations to differentiate between single, dual, and super single tires, as well as to detect insufficiently inflated, flat, missmatched or missing tires. Tests show that ATS reliably detects underinflated tires with a tire pressure of 50 percent or less compared to normal inflation. Roadside inspectors can automatically inspect all passing vehicles with the system pointing out which tires deviate from the norm. Consequently, they need only take action when the system reports unsafe tire conditions or overloaded vehicles.

Quartz technology for better road safety

The Lineas sensors at the heart of the Weigh In Motion technology support highway operators and authorities across the globe. They are used for a range of applications, such as traffic data collection, bridge protection, weight enforcement and weight-based toll collection. Installed in saw-cut or milled slots in concrete or asphalt roads, the unique maintenance-free quartz crystal strip sensors can collect

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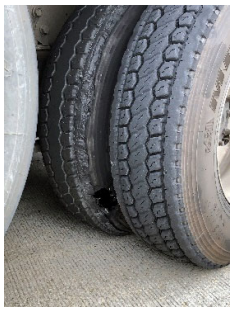
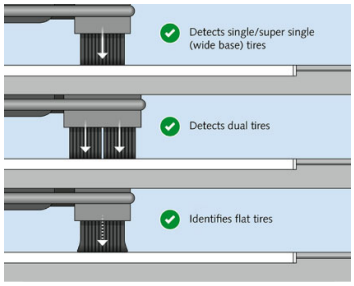
and process traffic data in real-time. With over 70,000 Lineas sensors already installed worldwide, the technology is internationally recognized as the solution of choice to protect road infrastructure, improve traffic safety, and collect toll fees. It offers a simple and effective strategy to monitor roads without disrupting traffic flow. With ATS, Kistler provides a low-cost upgrade for Weigh In Motion sites that further improves road safety.

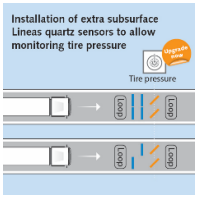
Image material (please name the Kistler group as picture source)



Unsafe tire conditions pose serious risks for the driver of the afflicted vehicle and other road users.



Automated Tire Screening from Kistler is able to differentiate between single, super single and dual tires. It also detects insufficiently inflated or missing tires.



The ATS consists of two additional Lineas quartz crystal sensors that are installed at an angle on an existing Weigh In Motion site.

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About the Kistler Group

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology. Cutting-edge technologies provide the basis for Kistler's modular solutions. Customers in industry and scientific research benefit from Kistler's experience as a development partner, enabling them to optimize their products and processes so as to secure sustainable competitive edge. Unique sensor technology from this owner-managed Swiss corporation helps to shape future innovations not only in automotive development and industrial automation but also in many newly emerging sectors. Drawing on our extensive application expertise, and always with an absolute commitment to quality, Kistler plays a key part in the ongoing development of the latest megatrends. The focus is on issues such as electrified drive technology, autonomous driving, emission reduction and Industry 4.0. Some 2,000 employees at more than 60 facilities across the globe are dedicated to the

development of new solutions, and they offer application-specific services at the local level. Ever since it was founded in 1959, the Kistler Group has grown hand-in-hand with its customers and in 2021, it posted sales of mCHF 411. About 7% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.

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