

Press release

Measurement accuracy meets improved robustness

Kistler presents new digital Weigh In Motion system at Intertraffic

Winterthur, February 2020

Kistler is presenting its new Weigh In Motion (WIM) system KiTraffic Digital to the public at Intertraffic 2020 (Amsterdam 21-24 April, booth 10.308). It is the first system of its kind without an induction loop: the sensor itself registers when a vehicle needs to be measured. This reduces installation efforts and increases the reliability of the WIM site. With an accuracy of +/- two percent, KiTraffic Digital is the most accurate Weigh In Motion system to date.

The entirely new sensor used in KiTraffic Digital incorporates multiple quartz crystals that autonomously deliver data via a digital interface. This allows for the individual calibration of each crystal. Mechanical irregularities therefore do not impact on the accuracy of the measurement. The digital signal is also very robust against noise (e.g. from high voltage power lines), which allows robust signal transmission. Sophisticated algorithms calculate the wheel, axle and total weight of the vehicle. KiTraffic Digital works independently of almost all external factors, such as driving maneuvers or road conditions, which further improves the accuracy of the measurements.

Improved robustness and simplified installation

Reducing the hardware in a measuring chain reduces the likelihood of component failure or uncertainties. The quartz WIM sensors themselves are generally extremely robust and maintenance free; the reliability of the system depends on the operation availability of the electronics. The new Weigh In Motion System does not require induction loops and works with only one robust cable per sensor. The same ethernet cable that transmits the digital signal from the WIM sensors also provides them with power. This simplifies the installation and improves the overall robustness of the system.

Finding the ideal spot for the WIM site

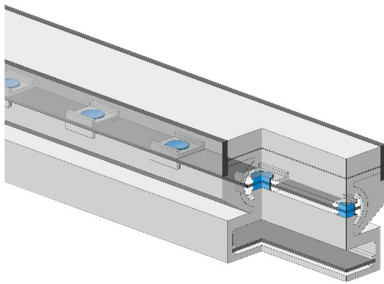
Road surface, underground structure and geometry have a significant influence on the accuracy and robustness of Weigh In Motion systems. A new service offered by Kistler, the Structural Road Analysis (SRA), identifies the ideal location for a planned WIM installation on any given road, improving measurement quality and ensuring the longest possible lifespan for the WIM installation. As part of this service, Kistler evaluates the geometry of the site and the road itself. Next, the road surface and deeper underground structure are measured using advanced methods to detect even minor irregularities. Road engineers at Kistler consolidate and process the assembled data with the help of

a specialized simulation software to find the ideal spot for the installation. Following this in-depth road and pavement inspection, the generated data can also be taken into account to calibrate the KiTraffic Digital sensors more precisely.

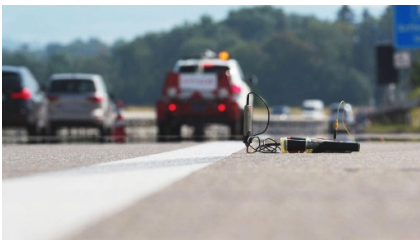
Image material (please name the Kistler group as picture source)



In addition to its high measuring accuracy, KiTraffic Digital stands out for its robustness and durability



Individual processing and calibration of each quartz crystal inside the sensor enables unparalleled WIM accuracy



With Kistler's Structural Road Analysis service, it is easy to find the ideal location for a planned WIM 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 2,200 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 2019, it posted sales of CHF 466 million. About 7% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.