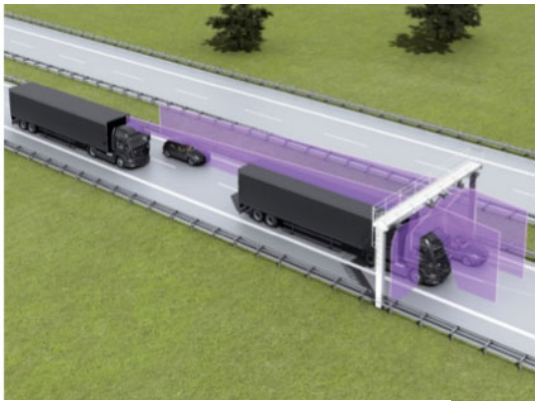
German sensor technology supplier Sick have launched a lidar-based vehicle measurement system that enables highly accurate 3D profiling of vehicles across multiple lanes in free-flowing traffic.

The Sick Free Flow Profiler is a versatile system suitable for vehicle tolling and classification applications, especially useful in operations such as optimal weight loading of ferries or trains and for verifying vehicle dimensions to maximise revenue recovery. Sick 2D lidar sensors are set up to scan traffic at a high frequency and measure vehicle length, width and height automatically—in any weather conditions.



Typically three Sick sensors would be mounted on a gantry, but the system can also be enlarged to encompass multiple lanes or adapted with varying sensor layouts to obtain the required information for monitoring purposes. With ranges up to 40 metres, the system profiles all vehicle types from heavy road transport to passenger cars, towed vehicles, and motorcycles. Vehicle measurements are processed in the Sick Traffic Controller unit to produce a highly accurate 3D model of each vehicle. The system captures vehicle dimensions, vehicle type, driving direction, and lane assignment. Options to integrate vehicle classification, axle count, and detection of overheated vehicle parts can be added to meet specific local operator conditions and requirements. Capable of accurately profiling vehicles at speeds from 0 to 120 km/h, it can be integrated with other traffic management monitoring systems as well.