

Wireless from the Road to the Back Office

Estonia Relies on Multilane-capable Speed Measurement

Task

The road from Tallinn to Tartu is one of the busiest roads in Estonia. The number of accidents due to speeding is correspondingly high. The Estonian Road Traffic Authority aims to remedy this situation. Consequently, a total of 16 speed measuring systems have been installed along the road at particularly hazardous locations. The measuring systems need to fulfill the following requirements: they need to provide speed measurements over several lanes, even if several vehicles are in the field of vision; they need to manage different speed limits for passenger cars and trucks; the license plates need to be read automatically because the processing of violations must take place in a largely automated fashion.

Benefit

The Estonian safety system integrator Alarmtec provides the ideal solution with PoliScan^{speed} systems from VITRONIC. The multi-lane speed enforcement systems do not suffer from any of the typical limitations for radar technology such as bent beam reflections, etc. Thanks to LIDAR technology, PoliScan^{speed} measures several vehicles over several lanes simultaneously at any location and clearly associates violations. In this respect, it is inconsequential whether these vehicles travel closely behind/adjacent to one another, overtake other vehicles or change lanes. In addition, PoliScan^{speed} classifies vehicles in accordance with their size and, therefore, makes it possible to track vehicles at different speed limits. Furthermore, the PoliScan^{speed} case data of all devices is made available centrally by means of a VITRONIC backoffice solution. The automated license plate reading contributes to reducing the amount of work, and to preventing possible misentries.



16 PoliScan^{speed} systems are installed along one road.

Implementation

The 16 systems have been installed on road sections with only one lane in each direction. However, they also detect the speed of overtaking vehicles, including sharp images of the drivers in the second lane. The PoliScan^{speed} systems are installed in a dual-purpose housing and positioned about 4 meters from the edge of the road.

Each PoliScan^{speed} system stores all cases in an encoded and electronically encrypted fashion. The original data files are automatically sent to the backoffice via a wireless connection. Each original data file contains the overview image with the driver and the license plate, as well as all case data. It is encoded and signed in a tamper-proof fashion and archived as evidence in unchanged form.

Prior to additional processing, each individual case is prepared by means of the evaluation software PoliScan^{office}.

The license plate is read in a fully automated fashion and made available in the required format together with the case data.