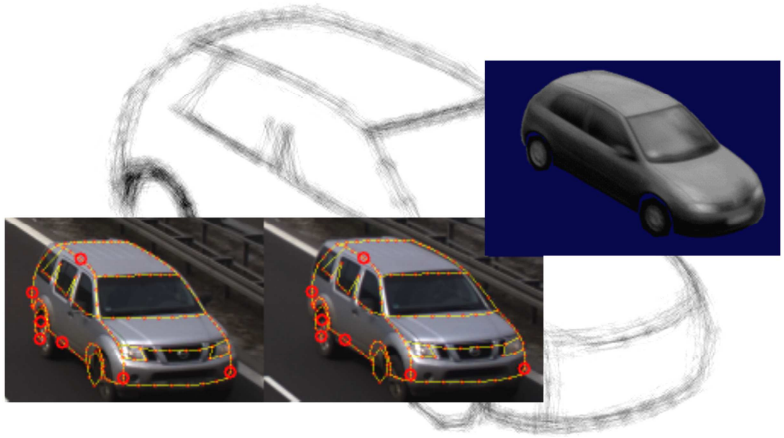
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Stereoscopic system for estimation of vehicle size



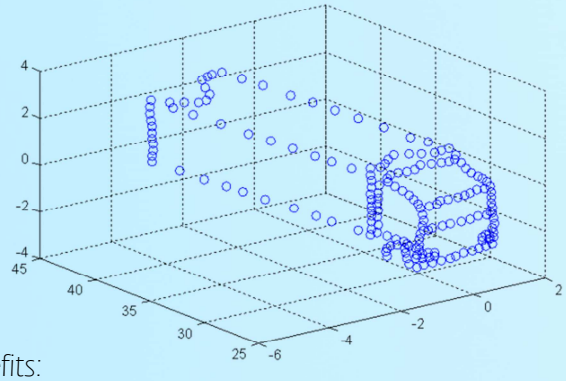
In different places it is important to ensure that vehicle size fits a certain limit. An example situation is detection of oversize vehicle violating restrictions. In this situation it is important to find every vehicle that fails to satisfy size requirements and take appropriate action. Another possible application of our system is automatic traffic analysis, where vehicles of the given type should be recognized and counted.

Those tasks can be delegated to human personnel which is expensive and prone to human errors. Thanks to our own technology these tasks can be automatically performed by an autonomous system. The automation of supervision tasks reduces costs of control, as well as a chance of human mistake or omission.

In case when an oversized vehicle is detected, an alarm is raised and an action can be taken like to change the traffic lights to redirect the vehicle or to inform appropriate authorities to stop it.

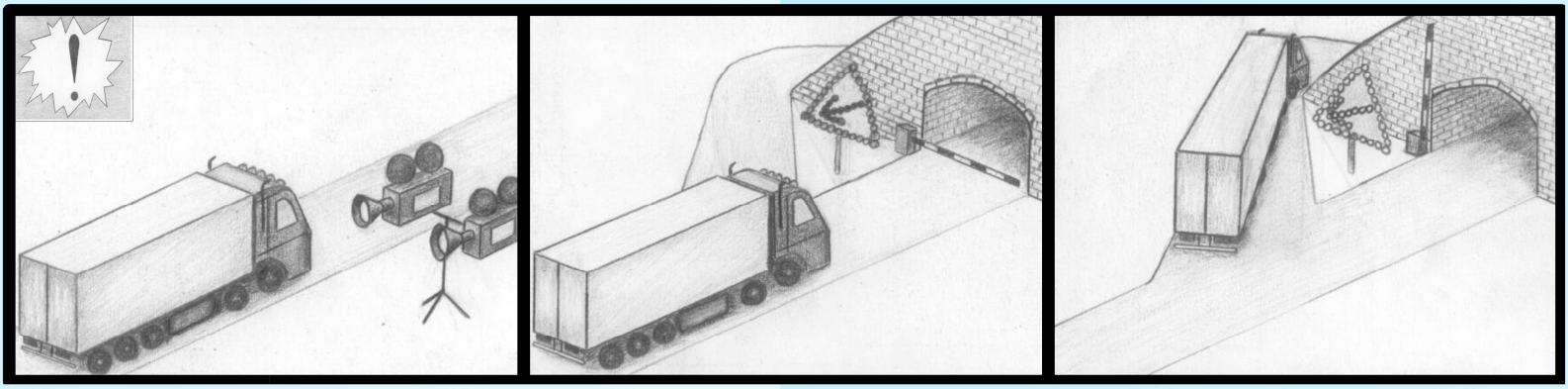
Technical Background:

- Semi-automatic system calibration
- Foreground objects extraction
- Automatic measurements of vehicle size
- Object type classification



Benefits:

- Automatic vehicle size estimation
- Vehicle classification
- Low cost
- Lightweight
- Easy to use and setup
- Off the shelf components
- Does not interfere with traffic
- No additional source of light



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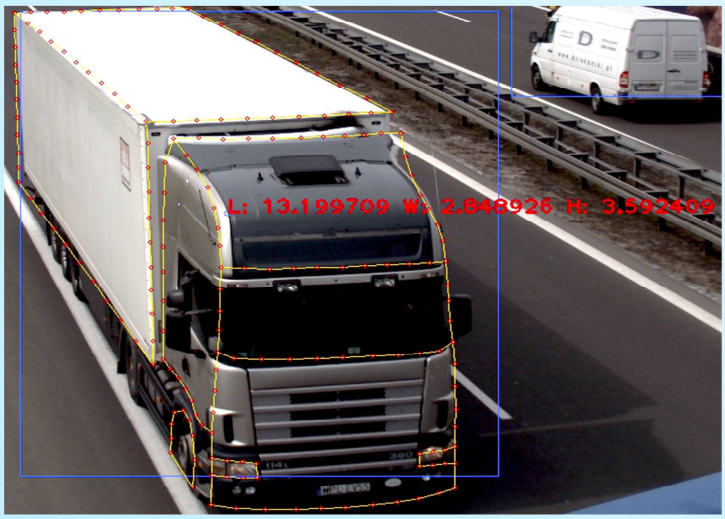
The sophisticated algorithms perform vehicle detection and parameter extraction on a stereoscopic image. For each vehicle its physical dimensions are calculated.



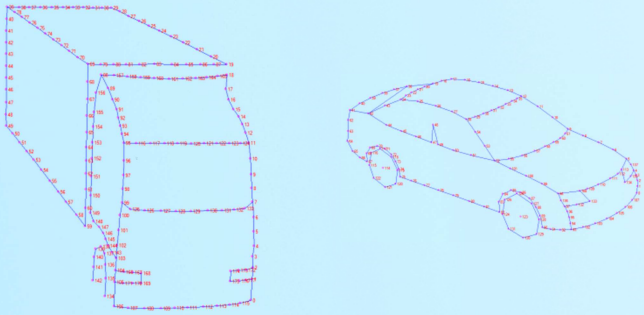
The system itself is very simple. It consists of a pair of cameras, rigidly connected to each other, forming a stereoscopic system. The data processing is done on a personal computer using dedicated software. This simple stereoscopic system, situated next to a road, allows to reliably detect all oversized vehicles.

The accuracy of measurements done by our system is sufficient for reliable operation, since the average error is in the range of 5%.

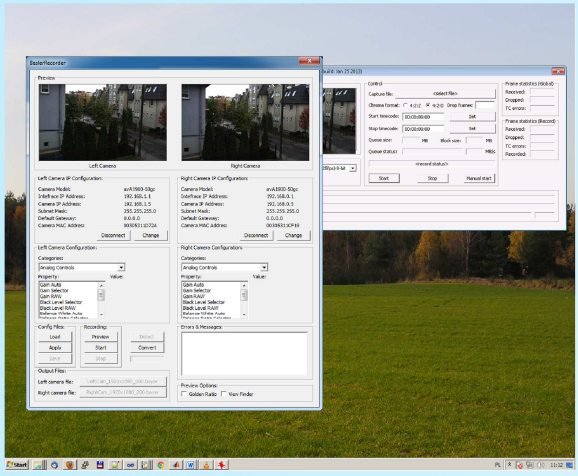
Average error [%]		
Length: 4.78	Width: 5.64	Height: 4.51



Vehicle detection, classification and measurement – all presented online as an overlay text.



Distinction between vehicle classes – the system implements model based classification of vehicles.



Easy to use PC based environment – easy control of each stage: from calibration, through acquisition to detection and alarms.

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