



Passenger cars, buses, trucks, industrial & commercial vehicles

Meet visual standards – quickly and conveniently

YOUR BUSINESS FIRST

Digital compliance testing saves time and money

Standards define the visual values for vehicles. Testing for compliance is carried out with mirrors and cameras while driving or maneuvering. The limit values of the individual standards are strictly regulated, as are the compliance testing procedures. So it makes sense if your development processes are standard-compliant right from the start.

Visual standards apply right around the vehicle – to the front, to the sides and to the rear. Structures like cables, lifting platforms, water tanks and wide fenders, bodywork & exhaust systems can interfere with vision, endangering compliance with standards. RAMSIS displays the visual fields geometrically in the CAD model, facilitating standard-compliant development by performing checks and corrections on the digital vehicle model. RAMSIS visual standards comprise a large number of common visual standards (for detailed pictures, see the back cover):

StVZO ^{*1} §35b	✓	✓	✓	✓	✓
ECE-R 46 (StVZO §36)	✓	✓	✓		
ECE-R 125	✓				
EBSF ^{*2} (Publication no. 234 of the Association of German Transport Companies, StVZO §34a)			✓		
ISO ^{*3} 16121-2			✓		
SAE ^{*4} J 1750		✓			
ISO ^{*3} 5721					✓
ISO ^{*3} 5006				✓	

^{*1} StVZO = German Regulations Authorising the Use of Vehicles for Road Traffic

^{*2} EBSF (European Bus System of the Future) (Publication no. 234 of the Association of German Transport Companies, StVZO §34a)

^{*3} ISO (International Standard Organization)

^{*4} SAE (Society (Standard) of Automotive Engineers)

Fig. 1 Visual standards

Your advantages:

- > a high degree of accuracy and testing of standard compliance, even at a very early stage of development
- > direct display of violations of the standard
- > simple documentation of the test procedure and traceable, replicable results
- > reduced number of physical test benches

Analysis and simulation of the visual field

RAMSIS simulates the real visual field in the CAD model of the vehicle – including all relevant attachments. Here our software geometrically generates the visual field based on the driver's position and in accordance with standards – and it displays the field in a 3D environment.

The limit values of the standard and all the analysis methods are stored in RAMSIS. The results can always be perfectly replicated, even on different versions of vehicles — and that cannot be done on a physical test bench.

All that has to be added is the specific vehicle data, such as vehicle geometry, movement possibilities, dimensions of the mirror & cameras, plus the position of the seat where required. Users can change the standard values on request, if the standard criteria are to be tightened up, for instance.

Automated visual test with standard values

Testing is carried out exactly in accordance with standard specifications. The visual field is automatically evaluated in the digital simulation and checked against the criteria of the guideline. Violations of the specifications can be detected quickly. Thanks to the new RAMSIS visual standards, you can evaluate the necessary design corrections and carry them out effectively – and the results are also digitally documented, quickly and conveniently.

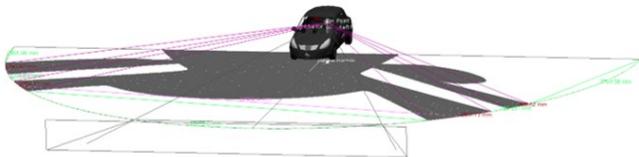
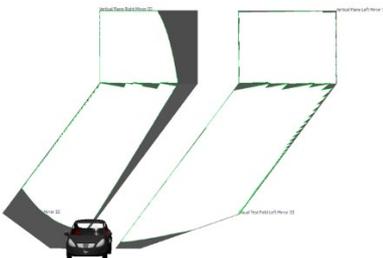
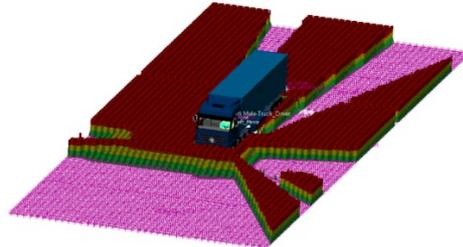
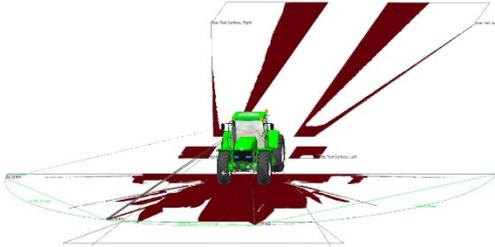
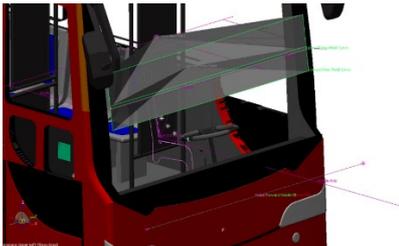
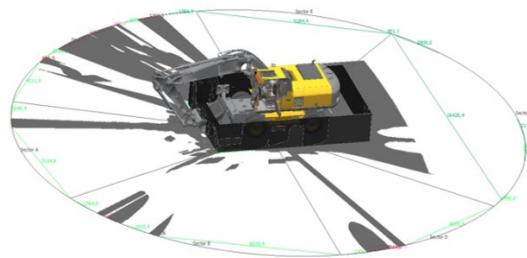
AVAILABILITY

Software and services

The visual standards are available as standalone versions, or they can be seamlessly integrated into existing RAMSIS solutions. Integrations into Catia V5, 3DEXperience or Siemens NX are also in the planning pipeline.

(for abbreviations, see Page 1.)

The RAMSIS visual standards comprise the following tests:

<p>StVZO §35b</p> 	<p>ISO 16121-2</p> 
<p>ECE-R 46</p> 	<p>SAE J1750</p> 
<p>ECE-R 125</p> 	<p>ISO 5721</p> 
<p>EBSF</p> 	<p>ISO 5006</p> 

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