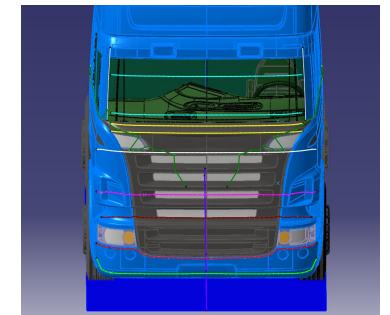
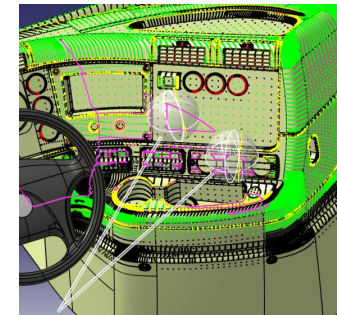
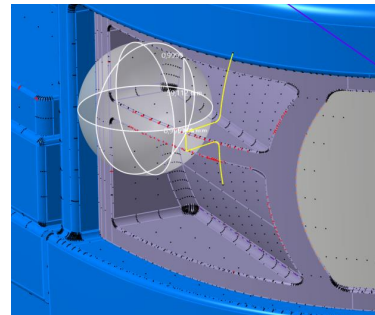
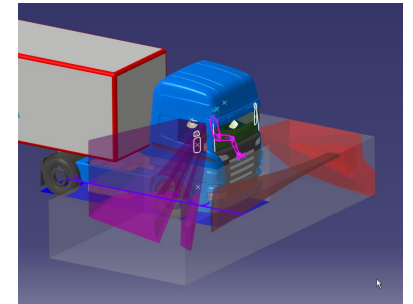
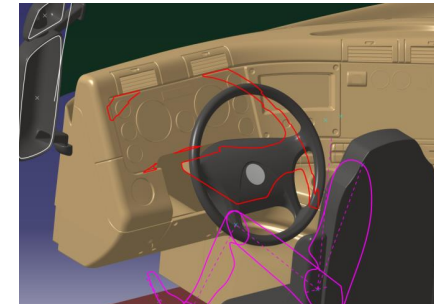
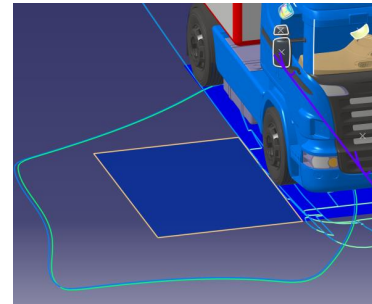
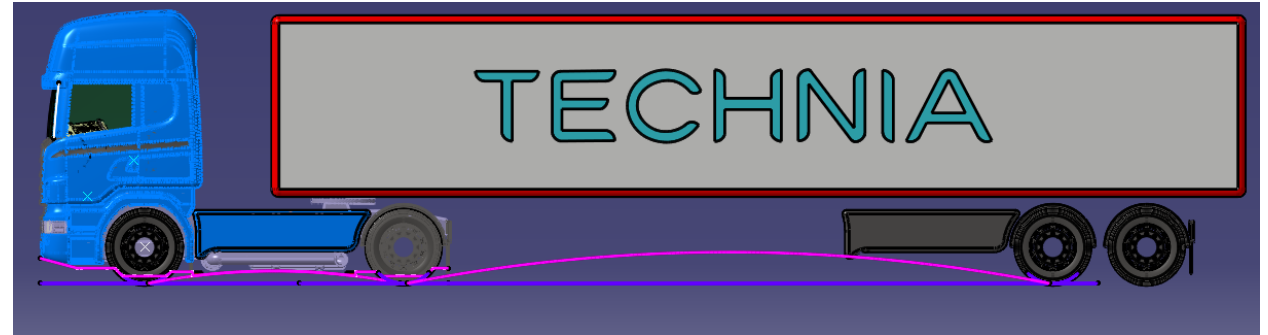


- Although **CAVA** was designed for personal cars it provides many functions applicable for **commercial vehicles and trucks**
- Benefits:
 - Analyze the legal requirements of the drivers direct and indirect vision
 - Analyze direct vision, mirror vision and camera vision to fulfill highest ergonomic or safety requirements
 - Fulfill legal requirements for the Safety of occupants and pedestrians
 - Answer architectural aspects like underfloor clearance
 - Analysis directly on the digital model
 - Directly integrated into CATIA
 - Applicable during all phases of the design process, from Concept to Homologation

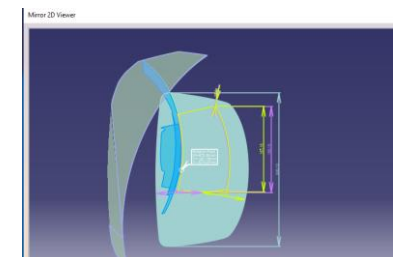
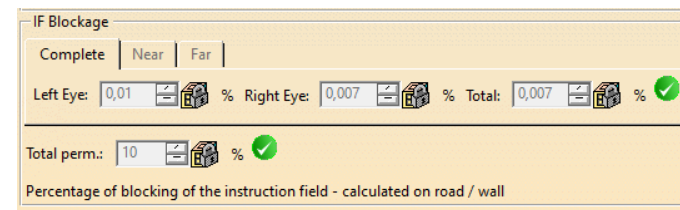
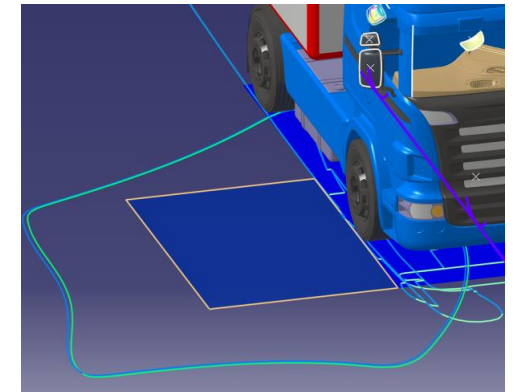
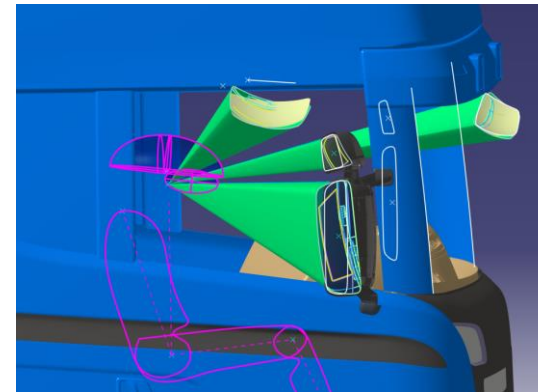
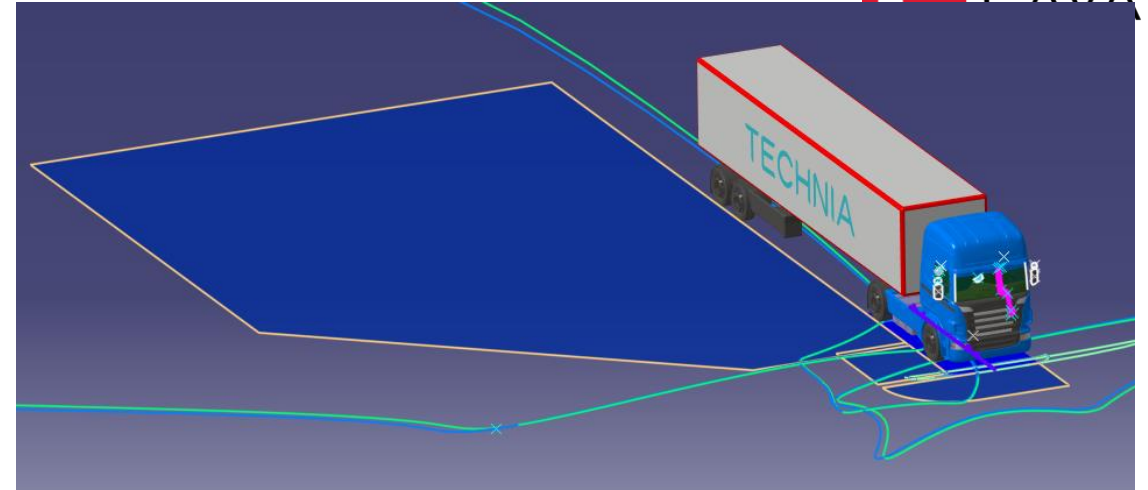


CAVA –Truck Vision - Mirror

The CAVA Mirror function shows the fields of vision through the rearview mirror, including possible obstructions.

Benefits:

- Provides vision field analysis for truck specific mirrors acc. UNECE R-46
 - Class I,II, III (road and wall)
 - Class IV (wide angle area)
 - Class V, VI (ramp and front mirror)
 - Class VII (L category lite truck)
- Visualize the mirror vision cone and determine view obstructions by cabin, trailer and cargo
 - With specific “View on the mirror” window
- For trucks evaluate the obstruction separately for near and far field (class II and III).
- Uses correct UNECE eyepoints or SAE eyellipses (Standard and class B vehicle specific)

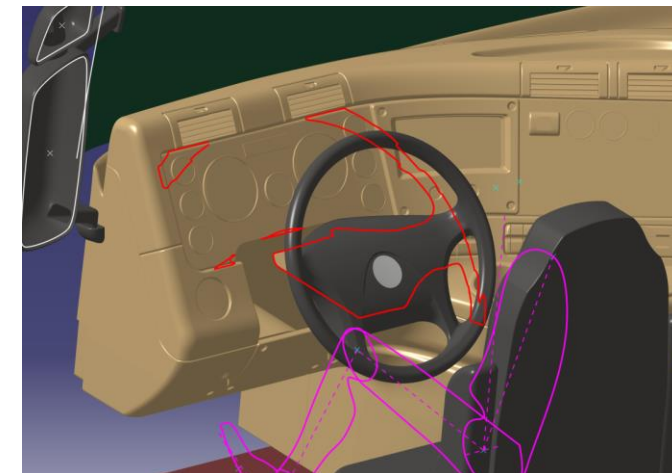
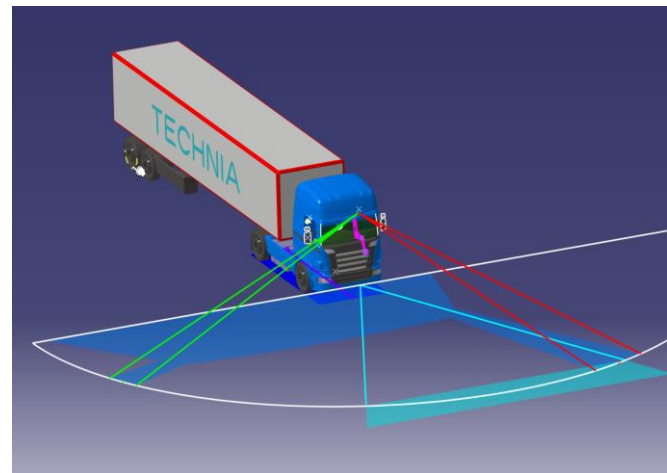
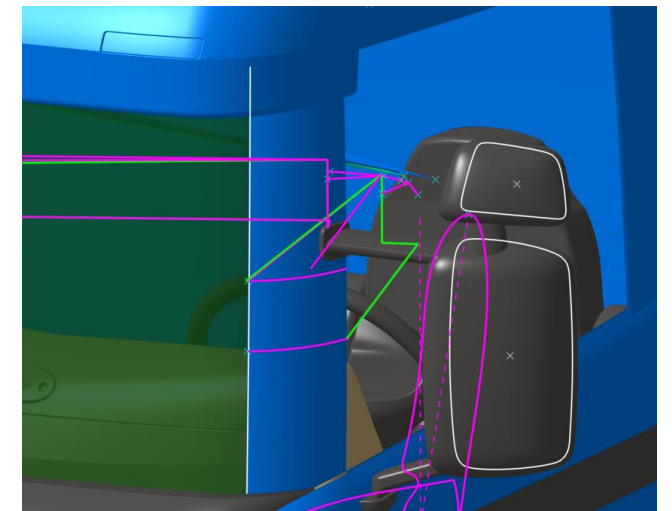
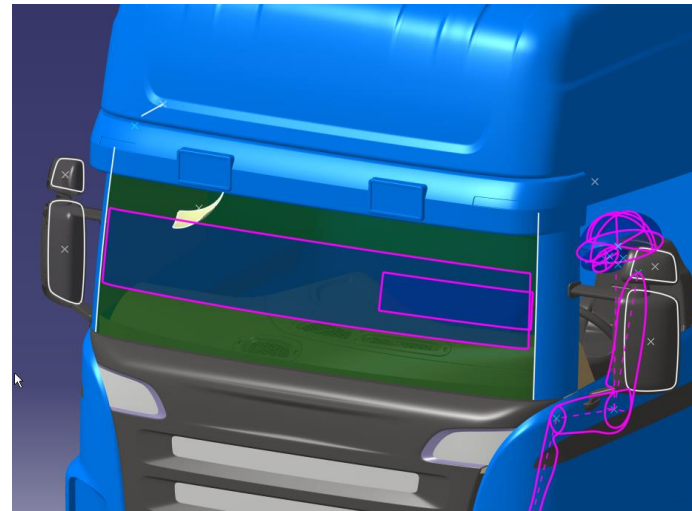


CAVA –Truck Vision – Direct Vision



CAVA Vision Functions enable you to analyze the direct vision of the driver as required by regulations.

- Benefits:
 - Create Fields of View on the windshield UNECE R-43 and FMVSS for the analysis of wiped area or optical properties
 - Use standard and custom eyepoints or truck-specific SAE eye ellipses
 - Measure A-Pillar obstructions acc. UNECE R-125
 - Analyze obstructed areas on road like Vision Section view on the road acc. StVZO 35b
 - Optimize ergonomics by detecting obstructed areas on the dashboard or in the cabin



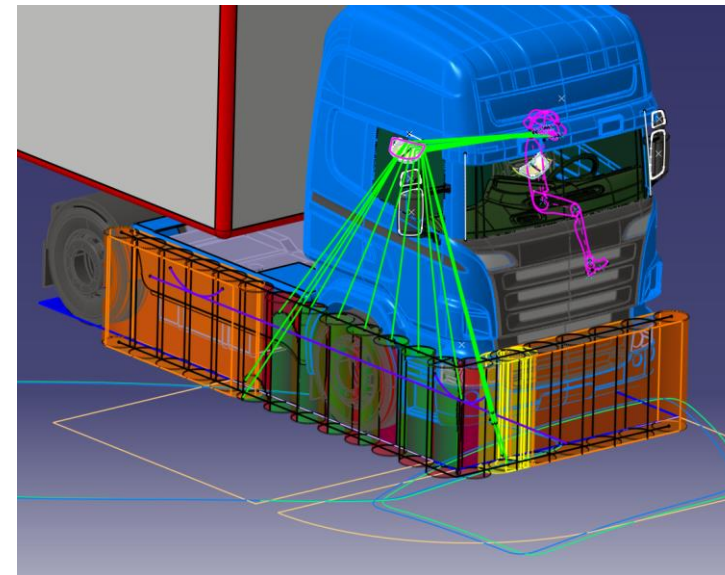
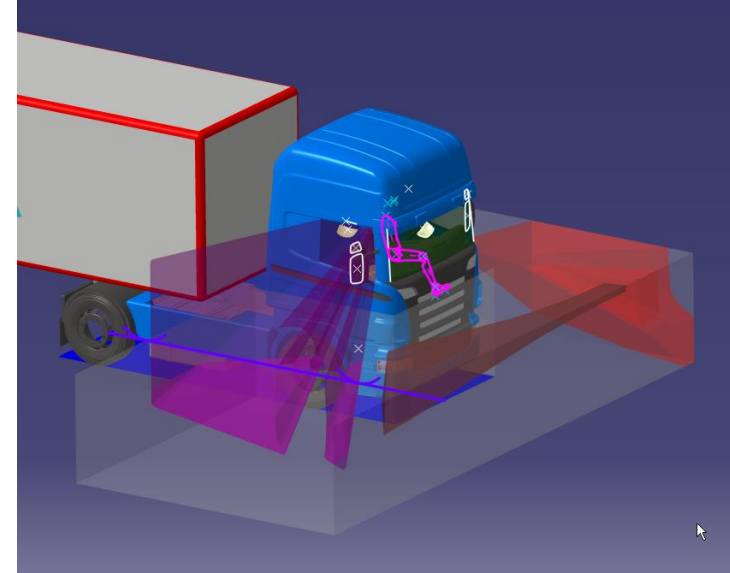
CAVA –Truck Vision – Close Range



Improve the safety of pedestrians and cyclists.

CAVA Close Range checks enable you to evaluate the visibility in close proximity of the vehicle.

- Benefits:
 - Measure visible ground volume around truck cabin acc. ECE-003155-1 - Large Vehicle Direct Vision
 - Detect and Measure Blind Spot length
 - Visualize Blind areas on customizable cylindrical objects
 - Analyze combination of direct view, camera view and mirror view



CAVA – Safety Radius for Trucks

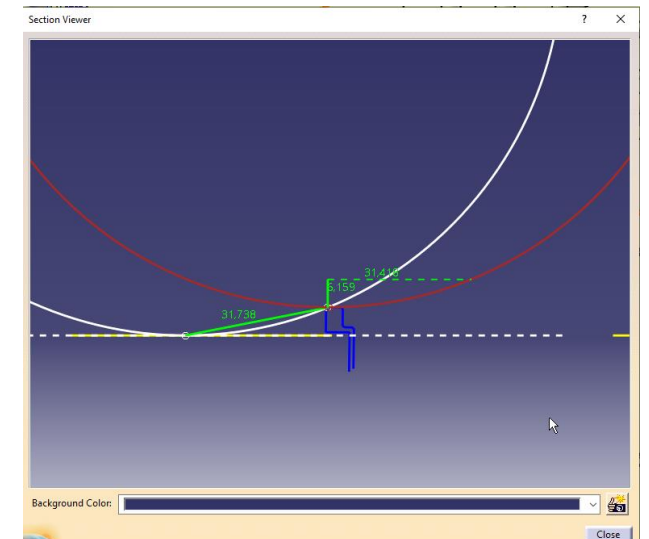
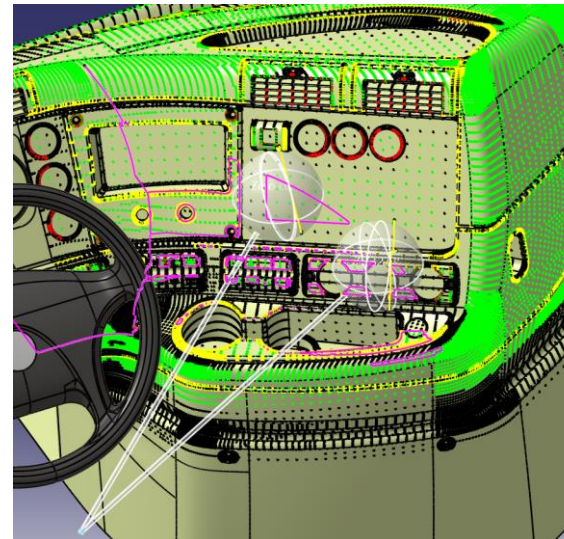
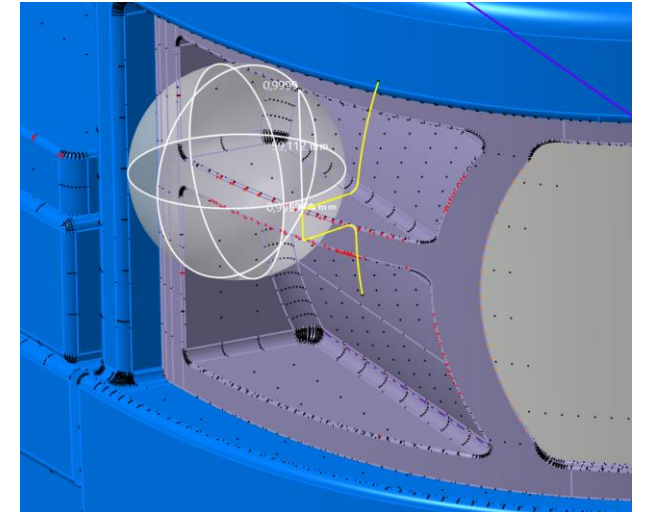


Improve the Safety of occupants and pedestrians.

CAVA Safety Radius checks enable you to detect critical sharp edges and corners potentially causing injuries.

Benefits:

- Analyze external projections on the cabin of commercial vehicles acc. UNECE R-61
 - Detect reachable points and areas
 - Considers floor line, upper limit and reference plane
- Analyze the interior of the cabin acc. UNECE R-21
 - Calculate the Head impact zone of the test pendulum
- Easily create section views for documentation and measure the projecting height of elements

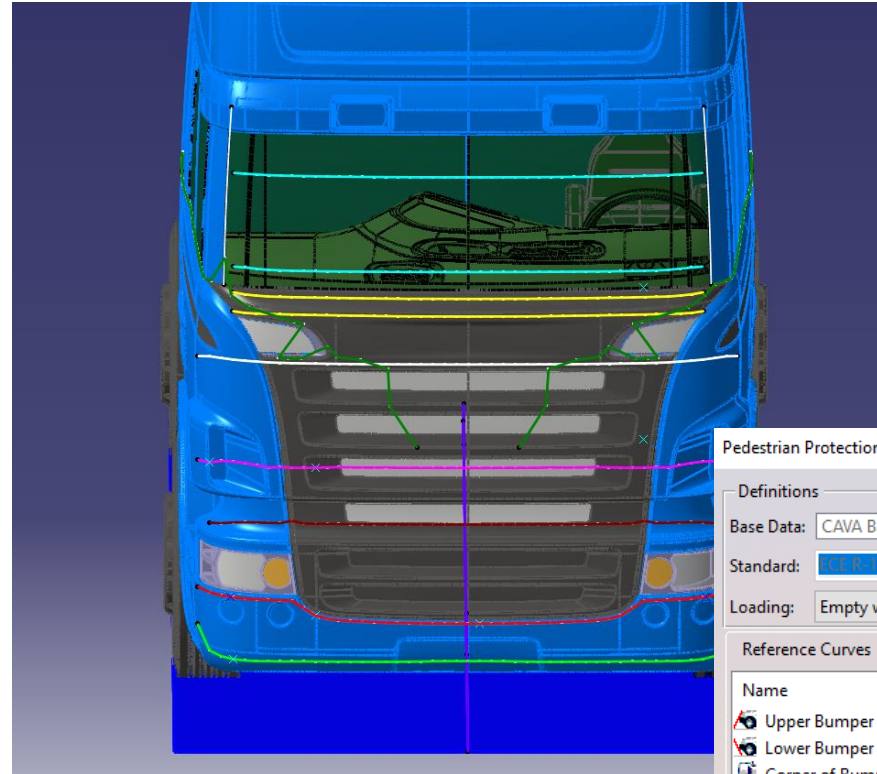


Improve the Safety of pedestrians and cyclists.

CAVA Pedestrian Protection will assist you to prepare the legally required physical head and leg impactor tests.

Benefits:

- Create the markups according UNECE R-127 and Euro NCAP
 - Wrap-around Distance Lines (WAD)
 - Bumper Reference Curve
 - Bonnet Rear Reference Curve
- Flexible selection of the markup lines applicable for trucks



Pedestrian Protection

Definitions

Base Data: CAVA Base Data.1

Standard: UNECE R-127 - Rev.03

Loading: Empty weight EG + co-driver

Reference Curves	Parameters	Options			
Name	Value	State	Color	Offset	Color
Upper Bumper	20deg	<input checked="" type="checkbox"/>	Red	N/A	
Lower Bumper	25deg	<input checked="" type="checkbox"/>	Green	N/A	
Corner of Bump...	60deg	<input checked="" type="checkbox"/>	Blue	N/A	
Bonnet Leading	50deg	<input checked="" type="checkbox"/>	Magenta	<input type="checkbox"/>	Magenta
Bonnet Side	45deg	<input checked="" type="checkbox"/>	Dark green	<input type="checkbox"/>	Dark green
WAD 1000	1000mm	<input checked="" type="checkbox"/>	Dark red	N/A	
WAD 1700	1700mm	<input checked="" type="checkbox"/>	White	N/A	
WAD 2100	2100mm	<input checked="" type="checkbox"/>	Cyan	N/A	
WAD 2500	2500mm	<input checked="" type="checkbox"/>	Cyan	N/A	
Bonnet Rear	N/A	<input checked="" type="checkbox"/>	Yellow	<input checked="" type="checkbox"/>	Yellow
Bonnet Top 1	N/A	<input type="checkbox"/>	Orange	N/A	
Bonnet Top 2	N/A	<input type="checkbox"/>	Violet	N/A	
Bumper Test Area	N/A	<input type="checkbox"/>	Brown	N/A	
Cowl Area	N/A	<input type="checkbox"/>	Yellow	N/A	
Windscreen Tes...	N/A	<input type="checkbox"/>	Grey	N/A	

CAVA – Ground Clearance for Trucks



Ensure that the ground clearance of your vehicle does meet the legal and practical requirements.

CAVA Underfloor analysis can create the ground clearance surface and measure the clearance to your vehicle design.

Benefits:

- *Create the ground clearance surface for different aspects*
 - Ramp angle
 - Static and Dynamic Curb clearance
 - Ground clearance and Inner Angle
 - Water wading and Wheel fixings
- Measure clearance and find violations
- Individual and combined results
- Measure truck and trailer

