

CAVA – Vehicle Homologation

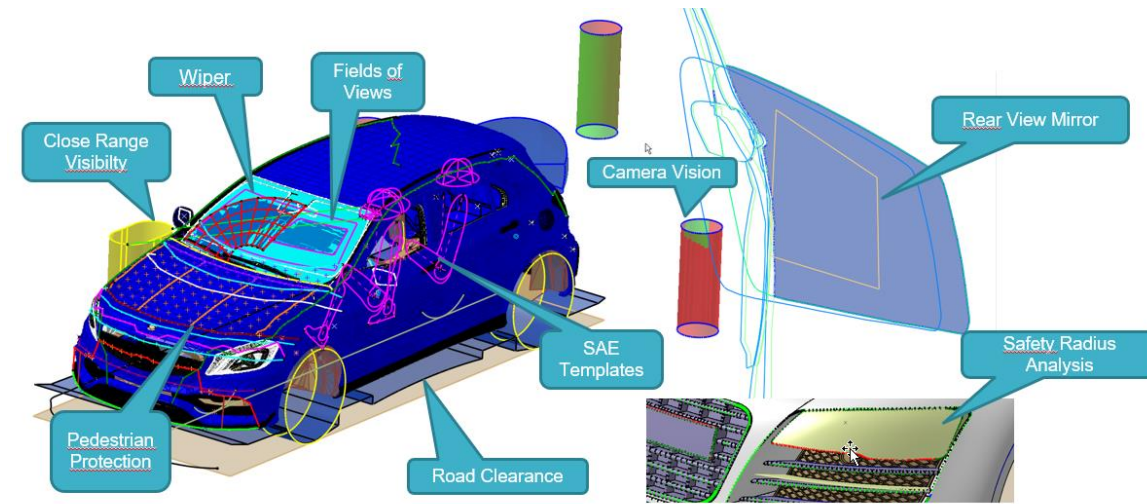


Vehicle Compliance is a compulsory part of Automotive design. CAVA (CATIA Automotive Extensions Vehicle Architecture) provides the solution to efficiently and confidently validate the compliance of your vehicle design and architecture against international standards and regulations.

Available as a CATIA V5 or 3DEXPERIENCE enhancement, CAVA is successfully used by OEMs and suppliers world-wide and can be installed as a complete solution or as individual sub products for specific application areas.

CAVA Product Portfolio

- **CAVA OVA:** Verify the overall vehicle packaging
- **CAVA Manikin:** Verify seating positions, pedals and headroom
- **CAVA Vision:** Analyze the direct and indirect vision of the driver
- **CAVA Safety:** Analyze safety of occupants and pedestrians
- **CAVA Wiper:** Analyze wiper kinematic and wiping quality
- **CAVA Tools:** Project the silhouette outlines of a complete vehicle with one click using Silhouette Tools



Integration into CATIA

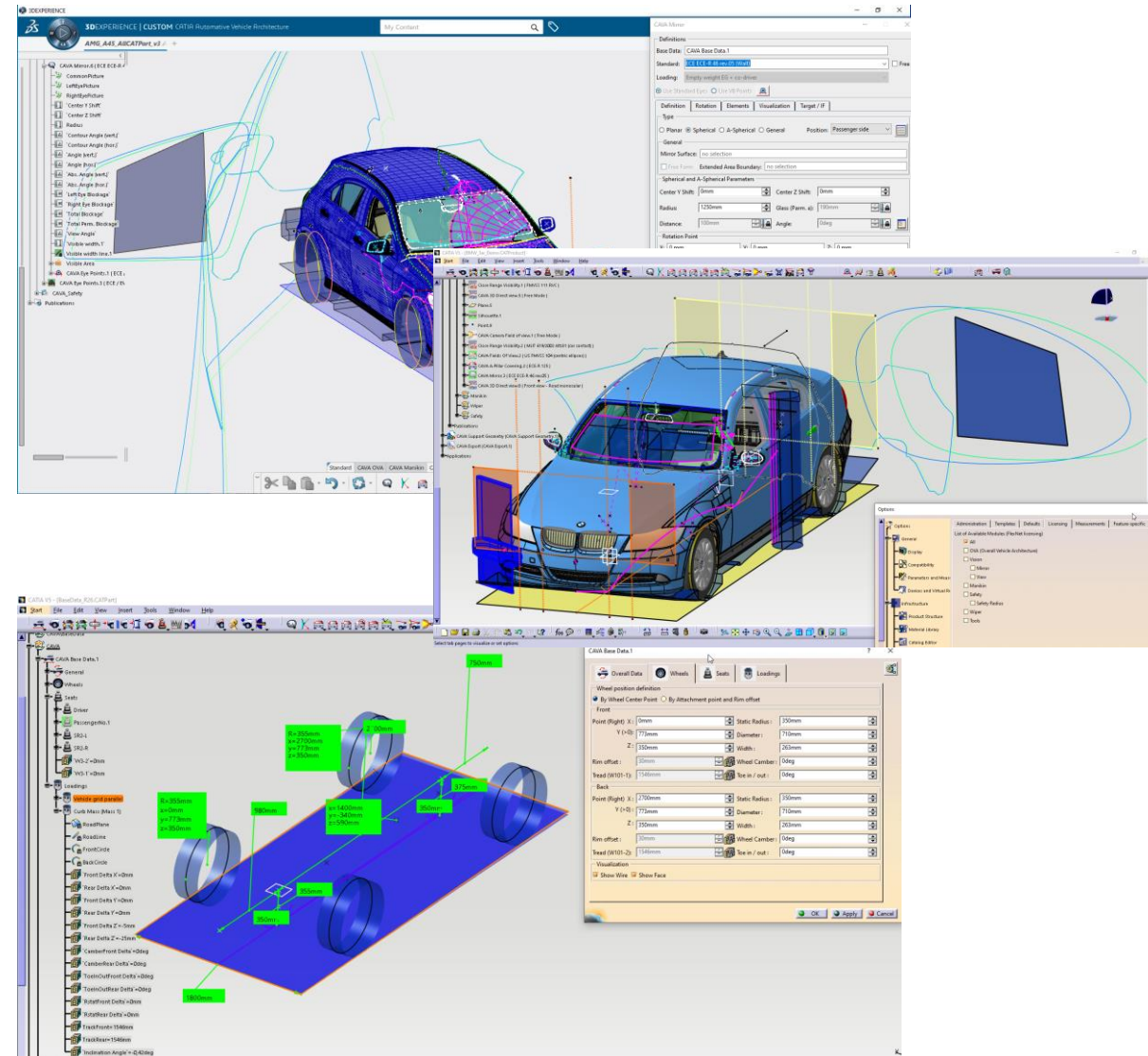
- CAVA is integrated into CATIA as a separate workbench or App.
- CAVA features are stored directly with the CAD data.
- Working in part and product context.
- Automatic feature update on change of any input parameters or changed geometry.

Configurable and Open

- Supported Standards are available as readable xml file.
- You can create your own adapted company-specific standards easily.
- Export your results as regular CATIA Geometry for downstream applications, readable without CAVA.
- Create textual, excel and drawing reports using customizable report templates.

Base Data Concept

- Organize relevant parameters in a central location.
- Define vehicle size, wheel size, driver and occupant placement.
- Define different ground reference planes to accommodate loading configurations.



CAVA Wiper



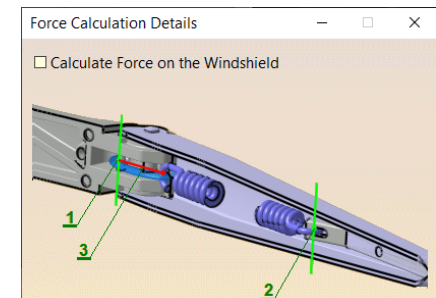
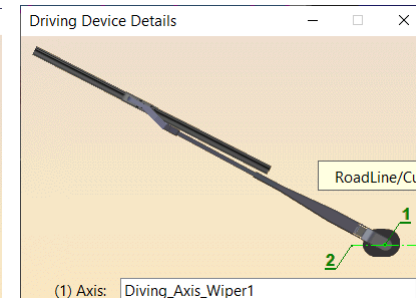
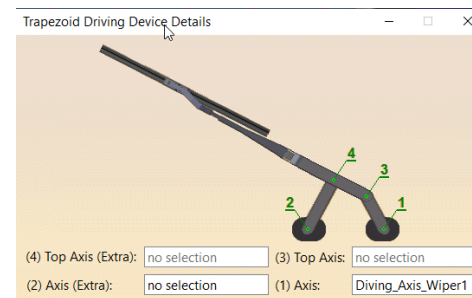
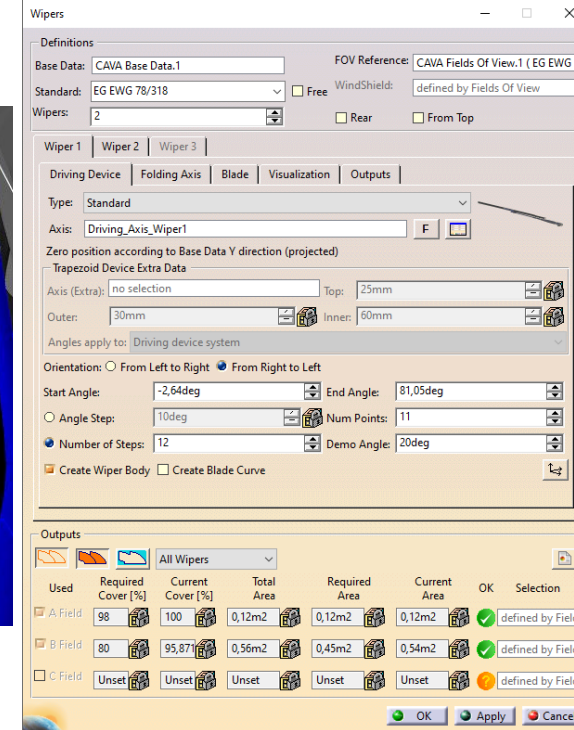
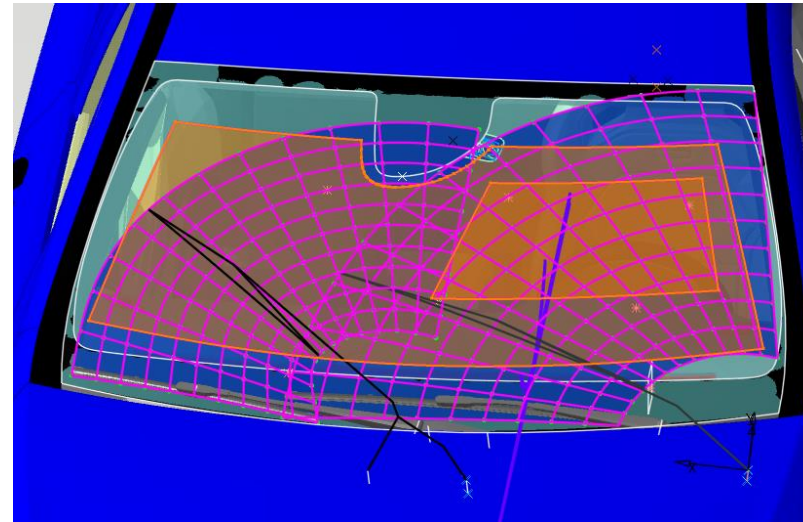
With CAVA Wiper, the user can simulate the geometry of a wiper system to determine the wiped area on the windshield. Used together with the Field of View feature in CAVA Vision, it is possible to check the percentage of wiped area within the field of view according to standards (ECE, FMVSS).

Features

- Calculate the wiped area on the windshield based on defining axis of the kinematic system
- Flexibly define a wiper system with up to 3 wipers for front and rear
- Supports the commonly used types of wiper kinematics: standard, trapezoid, parallel arm
- Calculates the covered percentage of wiping for the A- and B-Fields according to standards
- Measures and visualizes key quality parameters

Result

- Check result for coverage of required fields.
- Can optionally create filled surface



CAVA Wiper



The Wiper tool can calculate and visualize the key parameters important for the quality of the wiping operation.

Features

- Measures key quality criteria like
 - Curvature radius of the blade
 - Sag of the blade
 - Normal deviation (attack angle)
 - Folding angle and height (rise & fall)
 - Folding pressure force (at blade axis)
- Visualize values as a color map on the windshield or as a 2D graph of curves
- Quickly observe the effects of design optimization
- Flexible reporting mechanism to create Excel or text reports of calculated parameters

Result

- Visualization of calculated parameters

