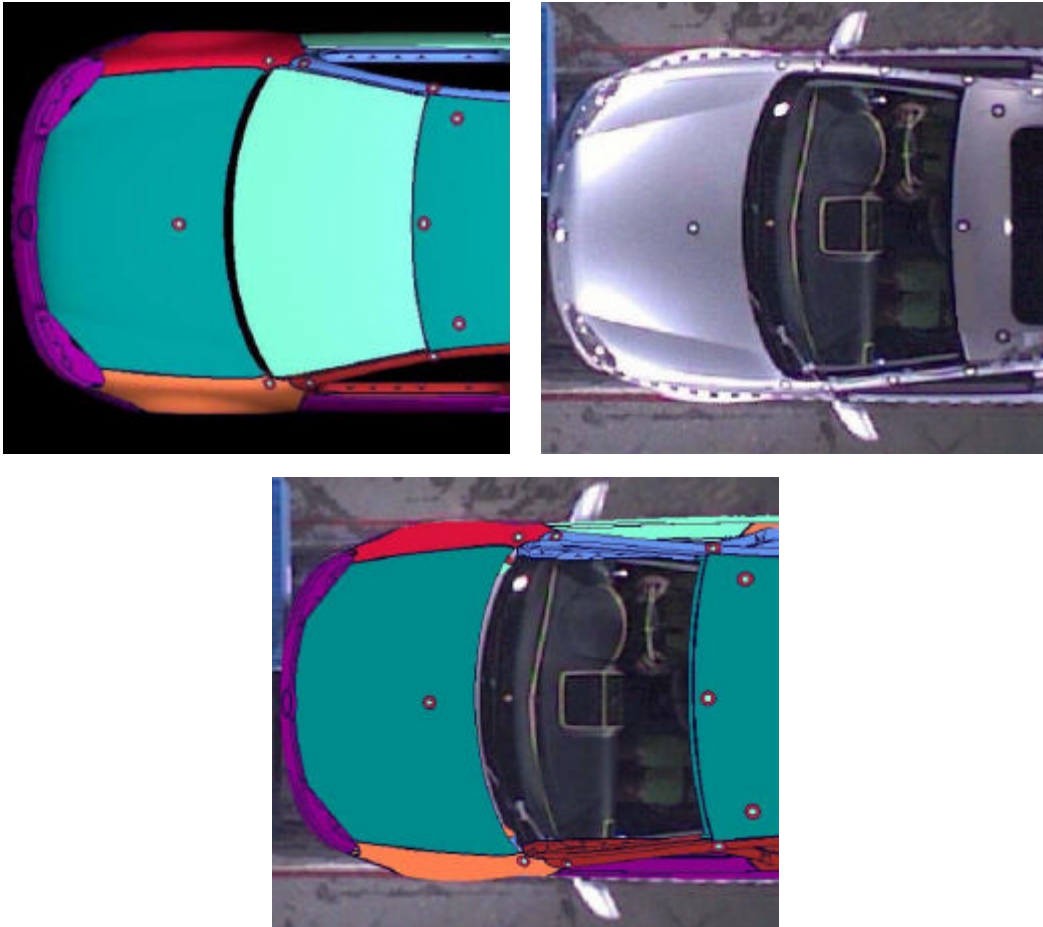# FalCon eXtra Animator3AX

Software for a Synchronous Overlapping of Simulation Animations and High-Speed-Video Sequences
(Integration of the visualization tool "Animator3" of GNS)

The **Animator3AX** serves for an easily understandable visualization of calculated 3D animations and high-speed images of a crash test. The exact and time synchronous overlapping of simulations and real films enables the comparison and verification of the movements of dummy and vehicle.

The viewer **Animator3** of **GNS GmbH**, which has been set up in the calculation departments, has been integrated into FalCon eXtra with all its characteristics and the established command interface. For users in the crash departments a user surface compliant to Windows has been added, so that a department-overlapping work in the field of vehicle development is made easier.

During overlapping the view of the simulation movie is precisely aligned with the outer orientation of the high-speed camera. It is suitable to evaluate the spatial position necessary for this purpose and the optical characteristics of the camera in use in advance by means of methods of image measurement technology (Module **MovXact** and **Mov3D**).

Main Features:

- Time synchronous overlapping of the image information gained from simulation and test in the vehicle's coordinate system
- Line of sight automatically adjustable or interactively adaptable
- Rectification of lens distortion in images
- Storage of the moving overlapped images as AVI
- Comparison presentation of several tests or views at the same time
- All Animator3-standard functionalities, such as switching on and off of parts, measurement of points and distances in a model, selection of the type of presentation
- Possibility of user specific configuration of the user surface

Overlapping view of the driver dummy model

Effects of the lens distortion: left uncorrected, right rectified

(Pictures by Volkswagen AG, R&D, department EZTV-CE)

Preconditions for the Use of the Animator3AX:

- Crash video as AVI
  (compatible with FalCon Quick View, image frequency and T0 contained in the header)
- CAE model data are present as an import format of Animator3
- Information about model and test coordinate systems
- Camera position (static or dynamical) sensible for an automatically comparison
- Camera calibration recommended
- Import format of camera data: FalCon formats or ISO MME 13499

Technical Framework:

- **Animator3-Licence (not contained in Animator3AX)**
- Program system for computer platforms under WINDOWS 2000 / XP / 2003
- User surface compliant with MS-Windows
- **Changes of technology and content subject to change**