

# CATIA Body in White Modeling

Body in white design teams need to quickly create or modify a car body in an associative styling and engineering context, taking into account the manufacturability of the created body.

CATIA Body in White Modeling is an advanced product that uses unique skilled features to boost body in white design phase productivity. CATIA extends its unique functional modeling technology to surfacing for the Body-in-White community. Functional modeling capability enables users to focus on and capture their design intent, by freeing themselves from the sequence in which they model and by associating behaviors with design features, thereby decreasing design complexity. It also brings greater flexibility to evaluate multiple design variations in a short time frame. These powerful tools allow body in white design teams to quickly create or modify a car body in an associative styling and engineering context.

## Key capabilities

### Perform Diabolo Seat on volumes and solids

Provides, in just a very few clicks, the Body in White community with a functional feature very often used in any parts. Diabolo Seat can be performed on volumes and solids.

### Create Mating Flanges

This allows adding a shape to a thin part. Most of the time, this shape is used as a contact zone with another part within an assembly purpose. This added shape can be used to create welding points in order to assemble two parts. The Mating Flange feature comes with the ability to manage the local thickness of for local deformation, the ability to create both sides Mating Flange shapes in one step, and a split option.

### Quickly define beads

To stiffen a part, users can create a triangle bead shape to stiffen a part, in a quick and intuitive manner.

### Link up several sections with the Junction feature

This High level feature allows to link up several sections (isotopologic or not) with tangency management. The ability to join surfaces in this way is a major productivity innovation.

### Create various shapes of Hole

Allows the user to create a Hole shape in a very productive and user-friendly way. The Hole feature is used to remove material from a body. Various shapes of standard hole can be created (Round, Slot ? Elongated, Square ? Rectangular), and the Hole curve creation enables to create only the the wire frame structure of a hole instead of the hole itself. Additionally,

## Customer benefits

- Productive Functional Shape Design paradigm
- Delivers a dedicated body in white design product based on highly productive, skilled features
- Optimize the final appearance of your BIW design
- Strengthens the CATIA PLM end-to-end design for manufacturing body in white process coverage
- Embeds process knowledge inside each feature

semantic recognition of holes means they can be used for Tolerancing purposes.

### **2D View Section**

2D-view sections are used as a means to visualize geometry details along multiple section planes, display sections information on a plane independent from the sectioned geometry or the sectioning plane for usability purposes and enrich the raw section information with additional sketch editing, corner and thickness operations.

### **3D Geometrical Grid review tool**

Powerful design and review tool allowing to position the design activity inside the vehicle coordinates  
Productive design tool allowing snapping mechanisms  
Augments comfort during the design process  
Standard in the automotive Industry  
New option enabling users to use grids lines either as lines or planes features. Visibility management: enables to manage the 3D Grid visibility in a product including several Parts containing grids (When a part is active inside the product: the grid of the active part is displayed (if active), when the product is active: none of the grid are displayed)

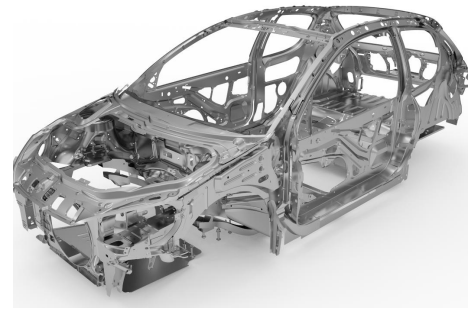
### **Powerful global deformation tools**

Embeds unique breakthrough technologies enabling to perform quickly global morphing on complex shapes. It allows to deform interactively shapes. This easy-to-use environment helps designers to achieve real productivity gains to optimize the product or the

tooling definition.

### **Realistic Shape Optimizer**

Enables the user to perform the geometric morphing of a nominal shape from any displacement files resulting, for instance, from finite elements analysis, discrete measurements. The realistic shapes are then reusable as any other V6 features.



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