

# ***IX Design® V5***



***Impact***  **Xoft®**

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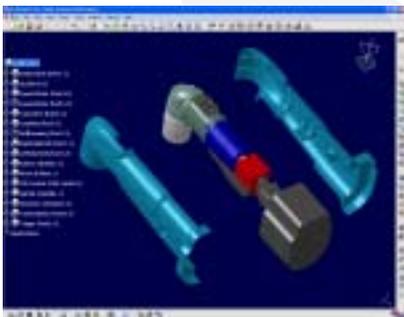
## IX Design® V5

### Accelerating Product Innovation

*The ease, flexibility, and overall power of the IX Design V5 application enable you to concentrate on what you want to model, not how to model it.*

*IX Design V5 is the only design solution natively interoperable with CATIA® V5 and Dassault Systèmes' PLM products.*

*You can easily use tool bodies to modify the shape of other bodies and maintain associative relationships to ensure effective change propagation.*



The IX Design V5 application's built-in design intelligence helps drastically reduce design steps and speed up the product development process. The key is a behavior-driven approach to modeling, called IX Functional Modeling, that promotes a better understanding of the overall design, throughout its entire lifecycle, by all disciplines involved. With this new approach, geometry creation shifts to the background so that you can focus on the functions and behaviors of design elements. You stay true to your design goals while the geometric model is generated automatically to meet your requirements.

Along with this shift in focus comes a more effective solution for change propagation that ensures designs can be built and modified faster and more efficiently than with traditional, order dependent modeling approaches.

In addition, IX Design V5 users can work with CATIA V5 users on the same project without losing vital information when moving data between applications. ImpactXoft's solution provides powerful design software to companies that require a connection to products built with Dassault Systèmes' CATIA V5, such as those in consumer goods, the electronics and electrical industries, and the automotive and aerospace supply chains.

#### **Making the Most of IX Functional Modeling**

The functional modeling approach places an emphasis on the way that volumes and features interact in the context of a part design. The three essential elements of functional modeling include functional bodies, volumes, and features.

**Functional Bodies.** Bodies conceptually represent the overall shape of a part design by acting as containers for any number of interacting design elements. Essentially, they provide a mechanism for easily controlling groups of volumes and features:

- Create single-file, multibody assemblies that are defined top-down or bottom-up
- Encapsulate the behaviors of functional volumes and features inside a functional body
- Enjoy robust, flexible shelling capability by controlling the shell thickness of solid material as a property of the body

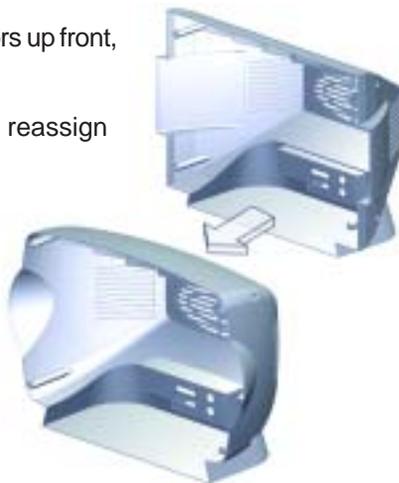
*Functional Volumes.* Functional modeling simplifies the process of defining a part's shape by enabling you to focus on the interactions between various subvolumes with different design behaviors, such as volumes that represent physical material, empty space, and protected space. Functional volumes are a key element to functional design:

- Use one of five volume types, each type defining a different interaction with other volumes in a body, including adding, subtracting, and intersecting
- Define the boundary of a volume, regardless of its type, by extruding or revolving profiles or thickening surfaces

*Functional Features.* The IX functional features are a unique set of tools encapsulating design rules and industry-specific behaviors. The IX Design V5 application captures your intended design behavior and automatically generates the geometry of a feature to satisfy its specific function. Many of the functions have been defined based on assembly and manufacturing processes for mechanical products. Because features manage and maintain their own behaviors, there is no need to worry about the order in which you create them. Functional Features enable users to think like designers and engineers, not like jockeys of a CAD system:

- Save design time by applying predefined behaviors up front, in a single operation
- Modify features at any stage in the design and reassign or copy them to different bodies
- Build ribs, reinforcements, cutouts, rests, pockets, grills, bosses, draft, chamfers, and cut features

*The innate functional knowledge of the IX functional features ensures that nothing impairs their predefined behaviors. In this example, even when drastic design changes are made, the features easily adapt to the new shape.*

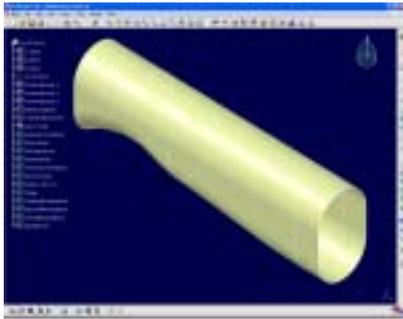


*Functional volumes add intelligence to the design by reserving empty space for additional components such as screws.*

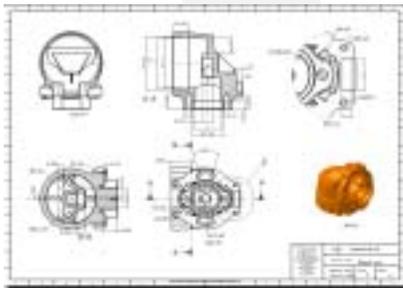




*Advanced surfacing tools provide extreme design flexibility.*



*A complete set of detailing tools enables you to develop basic and complex models and drawings.*



## Taking Charge of the Versatile IX Design V5 Toolset

The IX Design V5 application also provides a comprehensive collection of design, drawing, and organizational tools that enable you to make the most out of your functional models:

**Flexible Surfacing.** The surfacing tools provided in IX Design V5 enable you to easily create and modify both basic and advanced surfaces that maintain associative relationships with their flow lines, guide curves, spines, and control points to ensure fluidity and flexibility:

- Advanced surface definition by lofting or blending existing surfaces, sweeping profiles, or by filling closed profiles or groups of surfaces
- Trimming, extending, blending, offsetting, and stitching (healing) functions
- Thicken surfaces or transform them into enclosed solid volumes in a single operation

**Effortless Geometry Construction.** With the complete set of sketching tools in IX Design V5, you can construct the precise geometric foundations of 2D and 3D models:

- Sketch a wide variety of 2D curves with upfront constraints or driving dimensions
- Construct a number of associative 3D curves and splines
- Perform various functions such as trimming, offsetting, projecting, reflecting, mirroring, and bending curves

**Precision Detailing and Drawing.** IX Design V5 delivers the capabilities of a full-featured 2D system and enables the creation and modification of 2D drawings starting from white sheets or imported DWG or 2D IGES files. It is a package that follows national drafting standards (ANSI, ISO, DIN, JIS):

- Create 2D drawings automatically from 3D parts or assemblies
- Define dimensions, geometric tolerances, annotations, and other detailing entities that can all be edited with a click
- Modify a 3D part and automatically propagate the changes to all of the associated 2D drawing views, and vice versa
- Add standard tables or auto-populated assembly BOM tables to a drawing
- Use standard drawing templates and formats or customize your own

*Intelligent Assemblies.* IX Design V5 offers numerous tools specifically designed to help you build intelligent assemblies on any scale:

- Identify components, insert them into assemblies, and maintain dynamic links to source files for easy updates and flexibility
- Use a full set of 3D constraints to mate, align or join components while easily supporting future changes and constraints
- Perform interactive rigid body transformation simulation

*Reliable Data Translation.* IX Design V5 includes best-in-class translators for 2D and 3D formats such as IGES, STL, WRL, DXF and DWG.

*Interactive Rendering.* The interactive rendering capabilities of IX Design V5 enable you to leverage technological material specifications to produce realistic renderings of your models:

- Create textures from scratch, imported digital images, or an available library
- Maintain associativity between library materials and materials applied to parts
- Apply materials through a specification-driven approach or through simple selection
- Quickly convert models to realistic renderings with real-time display computations

#### **System Requirements:**

- Intel Pentium III or 4 workstations running Microsoft Windows
- Microsoft Windows 2000 Professional (SP2+) or Windows XP Professional
- Graphic adapter with 3D OpenGL accelerator
- 800 x 600 minimum resolution; 1280 x 1024 recommended

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