

3D ACIS MODELER

MARKET PRESSURES CREATE GROWING CHALLENGES FOR APPLICATION DEVELOPERS

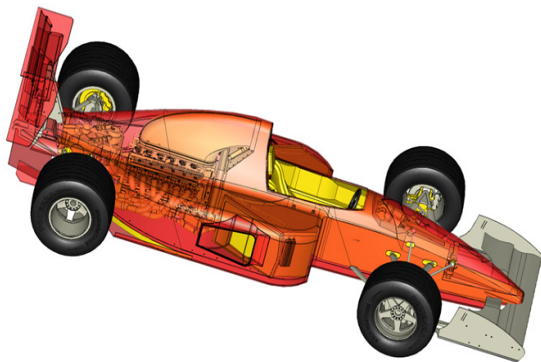
Demand to deliver innovative 3D applications faster and at lower cost

- Shrinking development schedules which put project scope, quality, and budget at risk
- Limited solutions focused only on specific market segments or don't provide a complete solution

3D ACIS MODELER UNLOCKS INNOVATION

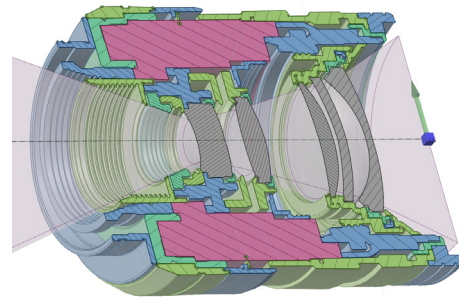
- 3D ACIS Modeler offers features and capabilities to enable the development of market-leading applications
- By using the industry-proven components of 3D ACIS Modeler, developers avoid the cost and risks associated with internally developed components
- 3D ACIS Modeler accelerates time-to-revenue by enabling the rapid development and delivery of applications

3D ACIS Modeler delivers flexible modeling capabilities that enable manufacturing, engineering and design application providers to meet market demand for higher quality 3D applications in less time and with lower development costs. Whether the need is for direct modeling capabilities to support a history-free CAD application or for tolerant modeling to remove gap errors in modified models, 3D ACIS Modeler provides broad solutions trusted across a variety of industries.



ENABLE PRODUCT DIFFERENTIATION

As the foundation for 3D modeling, 3D ACIS Modeler provides functions to create, modify, and query objects as well as provide visualization, simulation, and analysis. 3D ACIS Modeler delivers patented technologies, accuracy of modeling operations, ease of implementation, and robust data manipulation. Developers can focus their efforts on delivering unique product capabilities, rather than basic application infrastructure and standard functions.



LOWER DEVELOPMENT COST AND RISK

Powering hundreds of commercial and internal applications with over 2 million seats in use world-wide, 3D ACIS Modeler is industry-proven. This allows development teams to reduce both the cost and risk of developing 3D modeling technology. Cross-industry use of 3D ACIS Modeler in the most demanding applications, combined with rigorous testing procedures, ensures that it is capable of handling the most complex challenges. Lower risk means reduced development costs!

SOLUTIONS FOR A BROAD RANGE OF MARKETS AND INDUSTRIES

While the capabilities of 3D ACIS Modeler were initially developed to meet the demanding requirements of CAD/CAM/CAE, applications in areas such as automated machinery for robotics and metal-working also benefit from this technology. Additional markets such as shipbuilding and electronic design automation (EDA) rely on 3D ACIS Modeler for model generation, import and modification capabilities.

KEY FEATURE	BENEFIT
Boundary Representation (B-rep) Modeling	3D ACIS Modeler delivers precision and performance to create, modify, and query the geometry of simple through complex B-rep models.
Multi-threaded Platform Support	To maximize performance, 3D ACIS Modeler allows multi-threaded applications to take advantage of multi-core hardware and achieve near linear performance gains.
Direct Editing	Direct editing enables creation and modification of geometry without constraints. This allows manipulation of local areas of a model while managing surrounding topology.
History Based Modeling	3D ACIS Modeler bulletin-board functions and model change tracking supports relationships between features thereby capturing design intent.
Non-Manifold Modeling	To handle thin-plate objects, such as composite materials, 3D ACIS Modeler provides support for both manifold and non-manifold regions within the same function.
User-defined Geometry	3D ACIS Modeler allows creation of custom equations to easily define complex surfaces. The Laws functions, for example, can model complex shapes such as a helix for fastener and machine tool industries.
Attribute Management	To simplify data management, 3D ACIS Modeler allows application data, such as PMI, to be associated with any model entity and exchanged with other applications.
Model Analysis Tools	3D ACIS Modeler provides a comprehensive set of tools to query and analyze a given model. CAM and CAE systems make heavy use of point-body distance, clash detection, ray-firing, mass properties, and model quality tests.
Faceting	Faceting produces an approximate polygonal representation of the 3D model. Faceted representations are useful for rendering, clearance analysis and to speed calculations. The surface mesh is used to generate volumetric mesh for analysis applications.
Assembly Modeling	3D ACIS Modeler provides operators to assemble, manipulate, query, and save/restore a set of assembly and part models. A set of functions provide grouping structure and properties for kinematics, FEA, interference checking, and bill of materials generation.

Application Components - ACIS-based 3D modeling components that target a specific industrial challenge or application workflow

3D Advanced Covering	3D Defeaturing	3D HLR	3D Springback
Enables end-capping, post-translation model correction, and surface definition from curve data for consumer product design, manufacturing, and engineering applications	Automatically identifies and removes small features, typically used in CAE applications	Generates precise 2D projections of 3D ACIS models for use in engineering, design, and manufacturing applications	Performs springback correction of 3D models for pressed-metal tooling applications

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.spatial.com.

