

Autodesk®
Alias®

Design drives success.

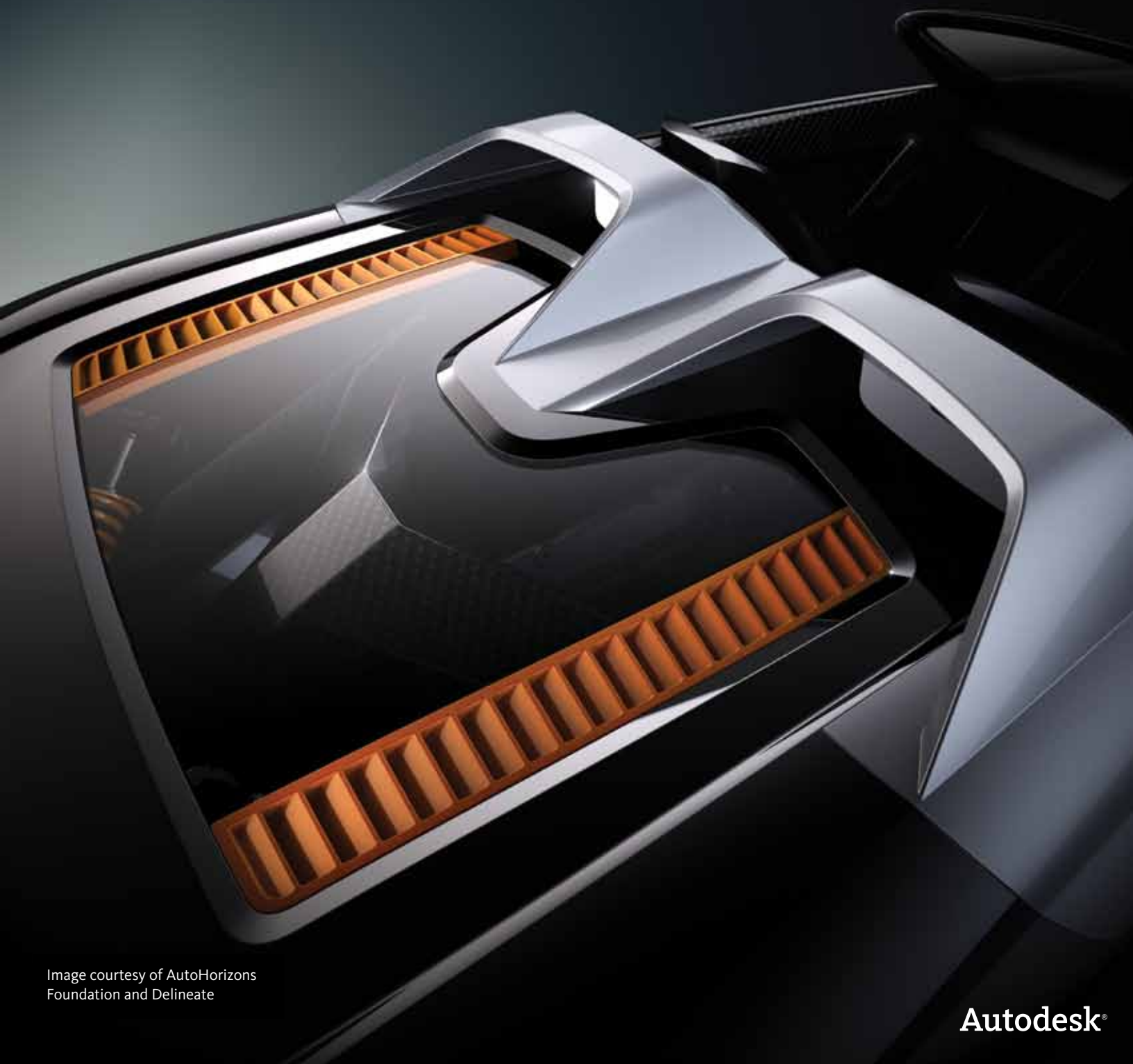


Image courtesy of AutoHorizons
Foundation and Delineate

Autodesk®

Innovate Ahead of the Curve

Create the innovative designs consumers want—faster than your competition. Autodesk® Alias® software powers your creative design process with advanced sketching, modeling, and visualization tools that help you bring your ideas to reality in less time.

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Unleash Creativity

Combine creativity and craftsmanship to capture inspirational ideas and forms using the powerful tools in Autodesk Alias software. By addressing the unique creative requirements of the industrial design workflow, Alias software enables designers to rapidly iterate concepts and develop inspiring, ergonomic shapes that also meet your functional requirements.

Perfect Your Designs

Style, form, and function all influence a consumer's choice of products. Alias helps you sculpt 3D models to achieve the perfect union of aesthetics and engineering. With highly advanced curve-based and direct modeling tools in a single software environment, Alias offers the tools you need to sculpt 3D models, refine winning details, and create high-quality production surfaces with speed and control.

Communicate Your Vision

Tell the story of your products and help team members and customers understand your design intent. With real-time 3D visualization tools and reliable data exchange with engineering CAD software, Alias software helps design and engineering teams collaborate effectively. Communicate concepts and validate Class-A surface data, so engineering teams don't need to re-create your designs. The visualization and data exchange tools in Alias software help you maintain design integrity throughout the product development process, so design review decisions can be made quickly and projects can progress smoothly.

Specialized Design Tools

Alias software offers a full set of industrial design capabilities to meet your requirements for:

- Concept exploration
- Design modeling
- Precision surfacing
- Reverse-engineering
- Visualization and communication
- Collaboration and interoperability



Image courtesy of Astro Studios

Concept Exploration

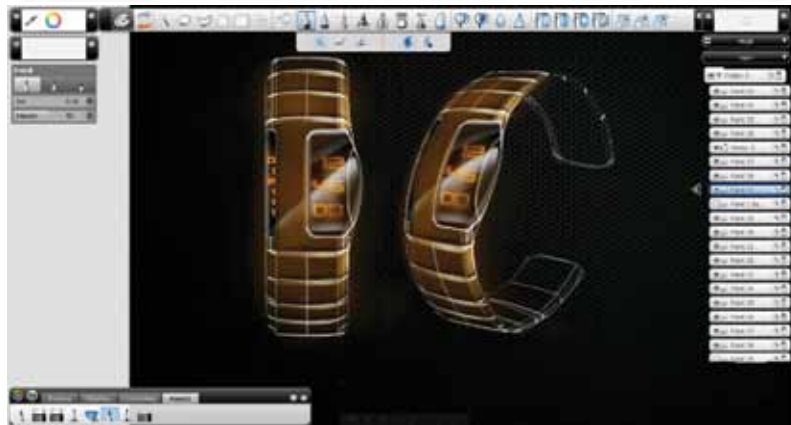
Pursue innovative, improved solutions to the challenges in your design brief. Autodesk Alias software helps you explore alternatives, experiment with ideas, and solve problems.

Complete Sketching and Illustration Toolset

Sketch, capture ideas, and communicate your design process in a natural digital sketching environment. Professional-grade drawing capabilities in Autodesk Alias software provide the tools you need for concept illustration, image editing, and production artwork, including pencils, markers, erasers, custom brushes, color editing, and powerful image compositing tools.

Intuitive Paint Interface

Easily make the transition from other 2D applications to Alias software, and enjoy simpler, more natural painting. Alias can help speed your work by giving you instant access to common brush controls through a dynamic hot-spot interface that appears directly under the cursor. Hot-spots combine common key functions, so you access the keyboard less often—and enhance your focus on the task at hand.



Integrated 2D/3D Environment

Create sketches at real-world scale, and draw over referenced engineering CAD data to help ensure design feasibility. Quickly take several concepts from sketches to 3D, without having to invest hours in resolving the details in model form. Take advantage of the flexibility of Alias software: sketch what's hard to model and model what's hard to sketch.

Image Editing and Modification

Create design variations easily. A full suite of color adjustment tools enables you to tweak colors and explore color alternatives. Alias software provides deform and warp tools to alter the proportion or character of an image and modification tools to make subtle corrections or radical changes quickly and easily.

Autodesk SketchBook Designer

Autodesk® SketchBook® Designer software* provides a unique hybrid paint and vector platform that enables designers to quickly capture design concepts by sketching and painting, then easily edit their art with the precision and control of vectors. Designers can easily export curve data from SketchBook Designer into Alias software, where they can quickly transform their concept sketches into 3D product designs.

*Autodesk® SketchBook® Designer software is included with the purchase of Autodesk® Alias® Design software and Autodesk® Alias® Automotive software.

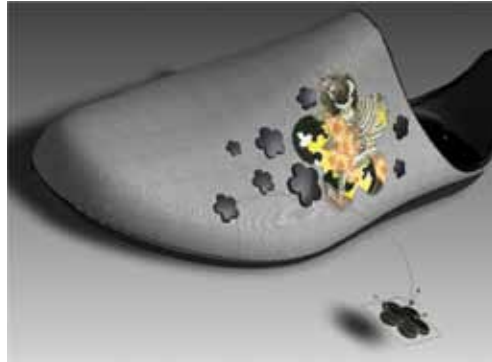
Design Modeling

Refine your 3D models through a creative, iterative process to quickly evolve designs from concept to reality.

Dynamic Shape Modeling

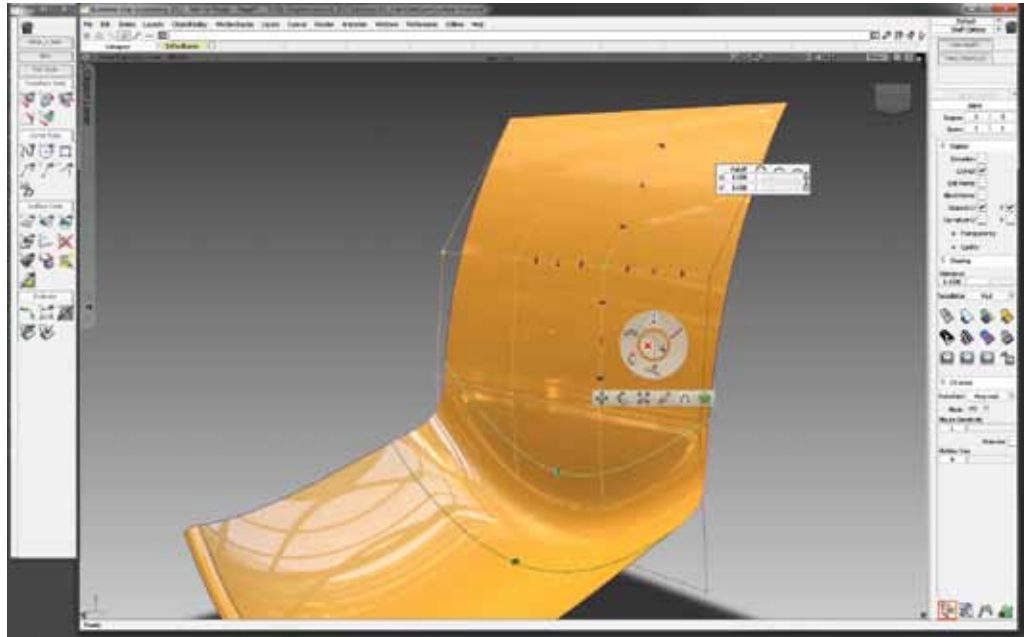
Experiment with shapes at any stage of the design process. Quickly manipulate your model, exploring variations on 3D forms without rebuilding geometry, or make real-time modifications in design reviews. Shape objects dynamically with these powerful tools:

- Lattice rig—Sculpt geometry by manipulating a customizable lattice created around an object.
- Bend—Bend geometry using a curve to control deformation.
- Twist—Twist geometry around a single-axis curve.
- Conform—Conform geometry to the shape of another surface.



Flexible Modeling

Take advantage of a range of surface modeling techniques to construct and visualize nearly any form. Autodesk Alias software combines fast, repeatable curve-based modeling tools with the ability to directly sculpt 3D models.



3D Sculpting

Sculpt surfaces by adjusting surface control vertices. You can use curve-based tools to define a shape at its edges and direct modeling to adjust the shape at any point. With Alias you maintain complete control, helping you to achieve the exact form and surface quality you need.

Automated Modeling Tools

Autodesk Alias productivity tools significantly reduce the number of picks and clicks required in your everyday modeling workflows. Alias software includes tools for fast draft surface creation, easy edge selection and trimming, and even tools that automate multiple common tasks, such as creating fillets and flanges in a single operation or automatically generating panel gaps.

Precision Surface Modeling

Autodesk Alias software provides the Class-A surfacing tools you need to sculpt 3D models, refine winning details, and create high-quality production surfaces with speed and control.

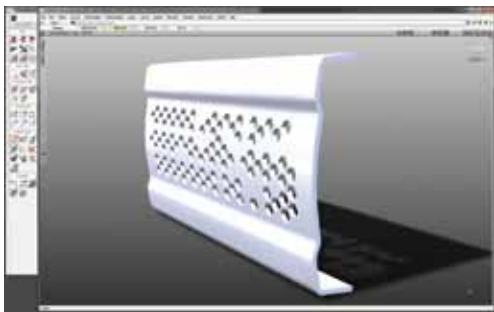
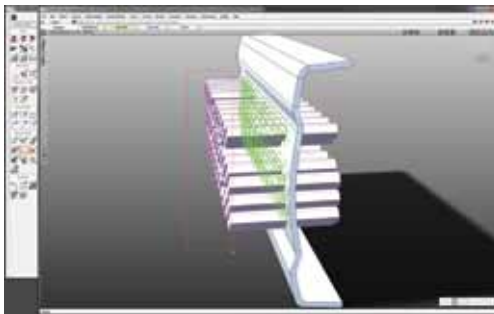
Advanced Surface Creation Tools

Advanced surface creation tools help to ensure that your surfaces maintain positional, tangent, or curvature (even G3) continuity with adjacent surfaces—for high-quality aesthetic results and manufacturing-ready data.



Trimmed Surface Paradigm

Precisely trim and form edges of new surfaces. Share trimmed geometry among modelers while retaining precision.



Explicit Surface Control

Maintain explicit control over surfaces, creating the lightest, highest-quality geometry. Build single-span Bézier geometry or multispans NURBS geometry, and define the number of spans and the degree of your curves and surfaces.

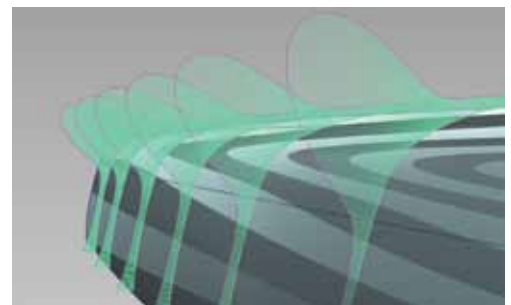


Align Tool

Quickly apply specific boundary conditions to your curves and surfaces. The align tool provides a focused, intuitive interaction that is supported by a new math capability that delivers optimal surface construction. Accurately align surfaces to the highest level of continuity while maintaining the surface quality you require.

Model Evaluation

Verify the quality of created surfaces, including patch boundary, curvature, and radii analysis. This helps ensure that geometry can be used by CAD programs and will meet manufacturing requirements. Get help fine-tuning your models with Alias analysis tools that provide instant numerical or graphical feedback to quickly verify surface conditions such as curvature maps, zebra stripes, and draft angles.



Reverse-Engineering

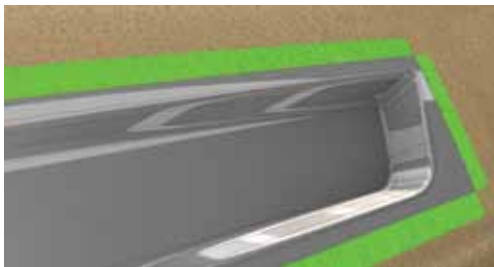
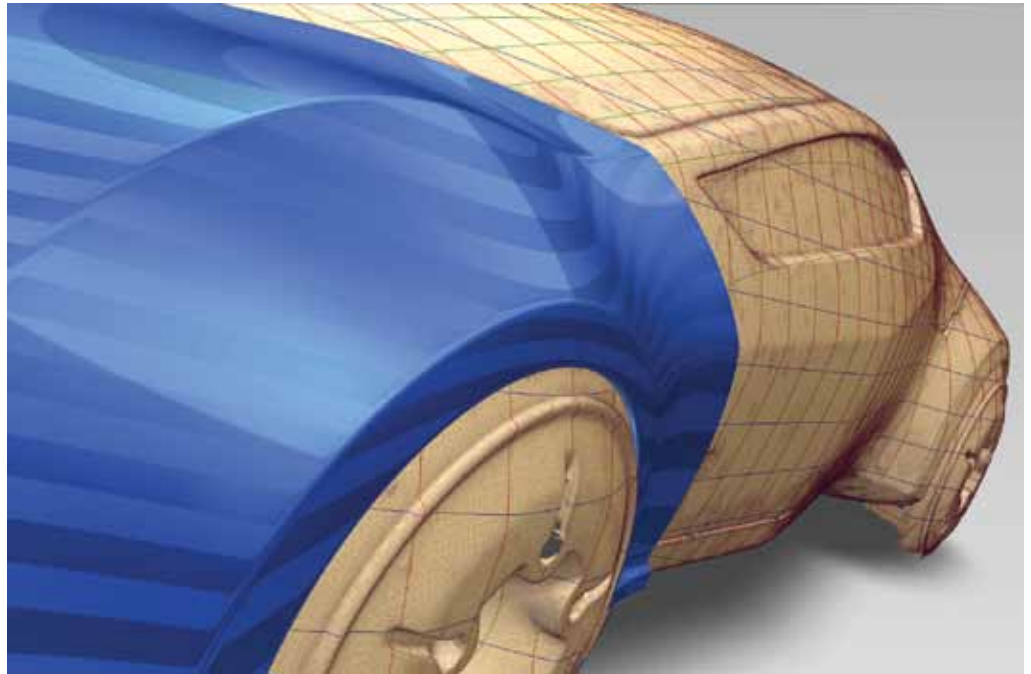
Move easily between the analog and digital worlds. Autodesk Alias software enables you to incorporate changes to a physical model into your digital model.

Scan Data Workflows

Import and configure data from 3D scanners to visualize and reverse-engineer consumer product or vehicle models. Alias helps you simplify and remove data with tools for cutting, smoothing, automatic hole filling, and reducing mesh. The software can handle large models with millions of polygons, so you can extract and evaluate shape and form.

Hybrid Modeling

Integrate NURBS data into scan data. With Alias, you can evaluate and refine the resulting hybrid model without resurfacing an entire model—helping to save time and effort.

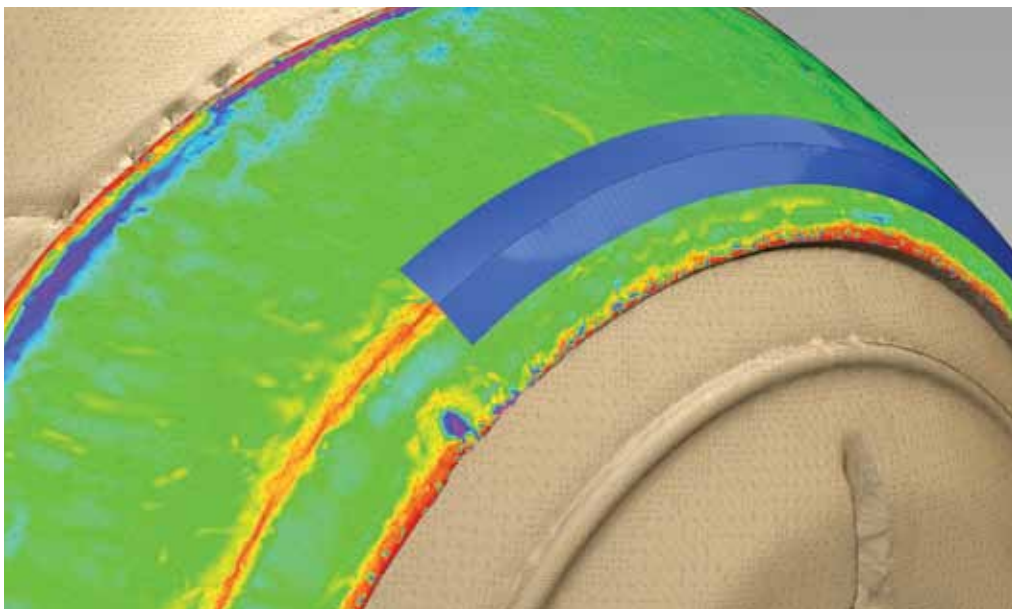


Feature Extraction

Spend less time creating and updating surface models. This specialized tool enables you to quickly extract feature information from scan data.

Surface Reconstruction

Automate the multistep process of filling holes in scan data. Alias software recognizes exterior curvature through user-defined sections by generating a mesh patch.



Visualization and Communication

Express the emotional character of your design and communicate your design intent to customers and team members.

Real-Time Visualization

Autodesk Alias software reduces the need for time-consuming renderings by providing immediate visual feedback. Instantly save high-resolution images of any modeling window without running a full software rendering. Use shading models to increase realism and to evaluate surfaces and design forms. The software supports material color, texture, glow, incandescence, bump, and displacement.



Photorealistic Renderings

Using near-photorealistic rendering capabilities in Alias software, you can create images for print, video, animations, or interactive presentations. Alias raycast and ray-trace renderers incorporate ambient occlusion calculations (soft shadows) and high dynamic range imaging (HDRI) support for added realism.



Image courtesy of Daniel Simon, Cosmic Motors

Annotation Tools

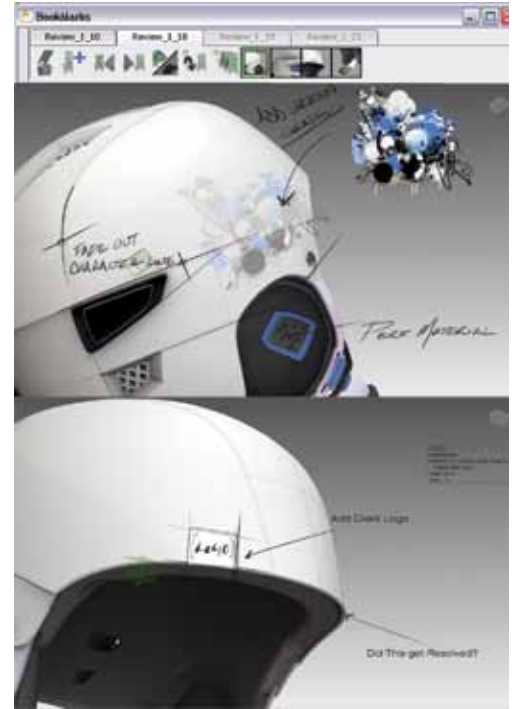
Evaluate and review designs with ease. Take advantage of your entire screen space, working with only necessary interface aspects. Alias software provides a full set of annotation tools, including bookmarks, full-screen capabilities, and pencils and markers.

Reference Data Workflow

The Reference Manager gives teams the ability to review massive amounts of 3D geometry and interact directly with detailed digital models, while maintaining interactive performance. Take advantage of fast loading speed and alternative shading—such as diagnostic shading, transparency, and visual cross sections—to generate and compare multiple design variations for engineering and design reviews.

Built-in Environments and Lighting

Tell the story of your product design in context with real-time, interactive 3D product visualizations. Render shading based on an omnidirectional light source, take advantage of ambient occlusion and soft shading, or use HDRI as the light source for more realistic images for evaluating, presenting, and marketing designs. Autodesk Alias software features geometric environments with built-in HDRI lighting and reflections, making it easier than ever to create stunning product visualizations in realistic settings.

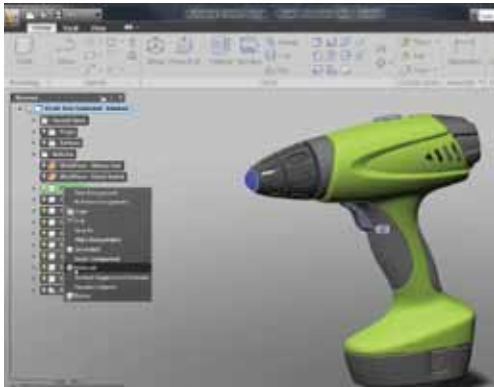


Collaboration and Interoperability

Share Class-A surface data and collaborate effectively, so that engineering teams don't need to re-create your designs.

Autodesk Interoperability

Collaborate more easily with designers and engineers using other Autodesk® applications, such as AutoCAD® software, using the DWG™ data format. The bidirectional interoperability between Alias and Autodesk® Inventor® software enables Alias users to directly read Inventor data, while Inventor users are able to directly read native Alias .wire files, including surface, shell, solid, and curve data. Autodesk® 3ds Max® Design users can now import .wire files natively into 3ds Max Design as Bodies objects, preserving object names, hierarchies, layers, and material names.



DWF File Format

Create DWF™ files from Alias data with a single click. The DWF format protects the integrity of a design so you can precisely publish, render, and print even the most complex digital models.

Model Verification

Bridge concept design and manufacturing with improved sharing of your design data. Autodesk® Inventor® Fusion software*** expands the capabilities of Alias for validating, repairing, and making models CAD-ready for engineering. Inventor Fusion helps make it easier to test geometry created in Alias software to predict and diagnose problems when transferring to CAD systems, such as Autodesk Inventor, SolidWorks, and Pro/ENGINEER.

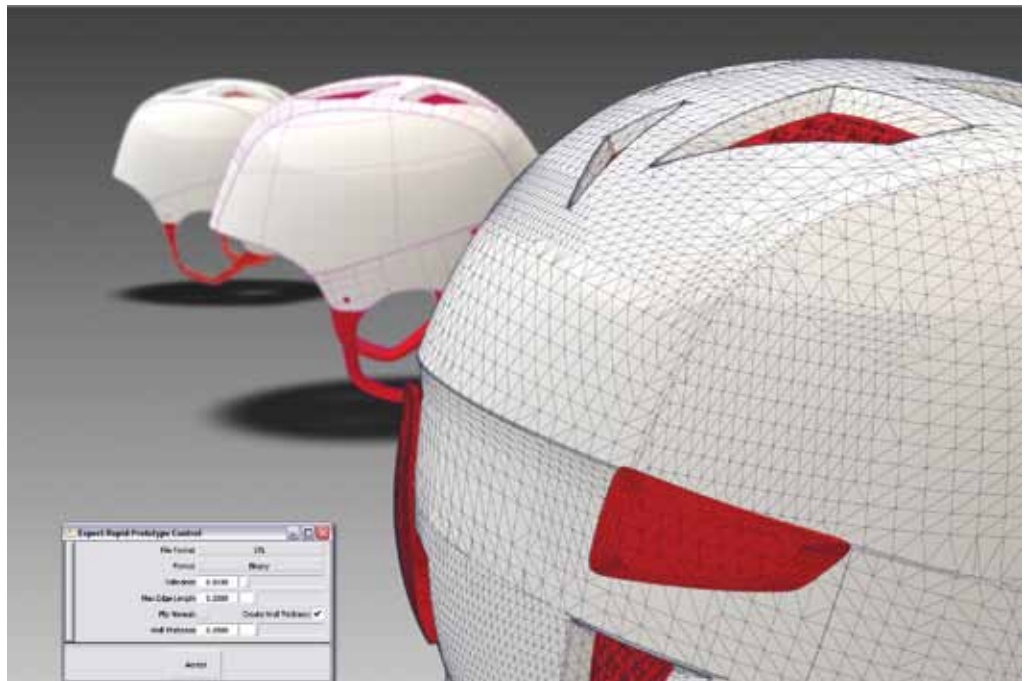


Rapid Prototyping

Build physical prototypes more efficiently from digital models. With rapid prototyping, you can develop and refine designs before committing to production. Print in 3D using STL output for stereo-lithography, and export data to computer numerical control (CNC) machines. Alias software supports 3D printing in color with ZPR file format (Windows® only).

Reliable Data Exchange

Exchange digital design data with engineering teams using fast, high-quality CAD translators for industry-standard data formats such as DXF™, IGES, and STEP. You can also integrate Alias software into your development pipeline with Autodesk® DirectConnect data translators, offering bidirectional sharing with CAD software packages such as CATIA®, UG® NX**, Pro/ENGINEER®, PTC Granite®, JT, and SolidWorks® software.



**Autodesk® DirectConnect data translators for UG® NX sold separately.

***Autodesk® Inventor® Fusion software is included with the purchase of Autodesk® Alias® Design and Autodesk® Alias® Automotive software.

Autodesk Alias Product Line

The Autodesk Alias product line, part of the Autodesk solution for Digital Prototyping, powers your creative design process with advanced sketching, modeling, and visualization tools that help you create innovative designs—faster than the competition. The product family includes Autodesk® Alias® Design, Autodesk® Alias® Automotive, and Autodesk® Alias® Surface software.

Autodesk Alias Design

Autodesk Alias Design is 3D product design software for industrial designers who control the entire creative process, from ideation to the final surfaces that are passed to engineering. Designers can create production-quality geometry and easily share it with engineering CAD applications, enabling collaborative product development.

Autodesk Alias Surface

Autodesk Alias Surface software offers a full set of dynamic 3D modeling capabilities that enables virtual modelers to evolve concept models into high-quality production surfaces for consumer product design and Class-A surfaces for automotive design and styling. Alias Surface software enables designers to efficiently handle large amounts of scan data and create such high-quality surfaces that engineering teams don't need to re-create them.

Autodesk Alias Automotive

Autodesk Alias Automotive is an industry-leading application for automotive design and styling. A choice of leading automotive styling studios throughout the world, Alias Automotive software provides a comprehensive set of modeling, visualization, and analysis tools for the entire car design process, from concept sketches through Class-A surfacing. With an advanced workflow, the software helps automotive companies produce design iterations quickly, reduce rework, and bring cars to market faster.

	Alias Design	Alias Surface	Alias Automotive
Capabilities			
Concept Exploration			
Complete Sketching and Illustration Toolset	•		•
Intuitive Paint User Interface	•		•
Integrated 2D/3D Environment	•		•
Autodesk® SketchBook® Designer	•		•
Design Modeling			
Dynamic Shape Modeling	•	•	•
Flexible Modeling	•	•	•
3D Sculpting	•	•	•
Automated Modeling Tools	•	•	•
Precision Surface Modeling			
Advanced Surface Creation Tools		•	•
Explicit Surface Control		•	•
Trimmed Surface Paradigm		•	•
Align Tool		•	•
Surface Evaluation		•	•
Reverse Engineering			
Scan Data Workflows		•	•
Feature Extraction		•	•
Hybrid Modeling		•	•
Surface Reconstruction		•	•
Visualization and Communication			
Real-Time Visuals	•	•	•
Built-in Environments and Lighting	•	•	•
Photorealistic Renderings	•	•	•
Annotation Tools	•		•
Reference Data Workflow	•	•	•
Collaboration and Interoperability			
Autodesk Interoperability	•	•	•
Reliable Data Exchange	•	•	•
DWF™ File Format	•	•	•
Rapid Prototyping	•	•	•
Autodesk® Inventor® Fusion	•		•

Digital Prototyping for the Manufacturing Market

Autodesk is a world-leading supplier of engineering software, providing companies with tools to design, visualize, and simulate their ideas. By putting powerful Digital Prototyping technology within the reach of mainstream manufacturers, Autodesk is changing the way manufacturers think about their design processes and is helping them create more productive workflows. The Autodesk approach to Digital Prototyping is unique in that it is scalable, attainable, and cost-effective, which allows a broader group of manufacturers to realize the benefits with minimal disruption to existing workflows, and provides the most straightforward path to creating and maintaining a single digital model in a multidisciplinary engineering environment.

Learn More or Purchase

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