



3DEXPERIENCE

THE CATIA USER EXPERIENCE

SIMPLICITY IS THE
ULTIMATE SOPHISTICATION





3DEXPERIENCE

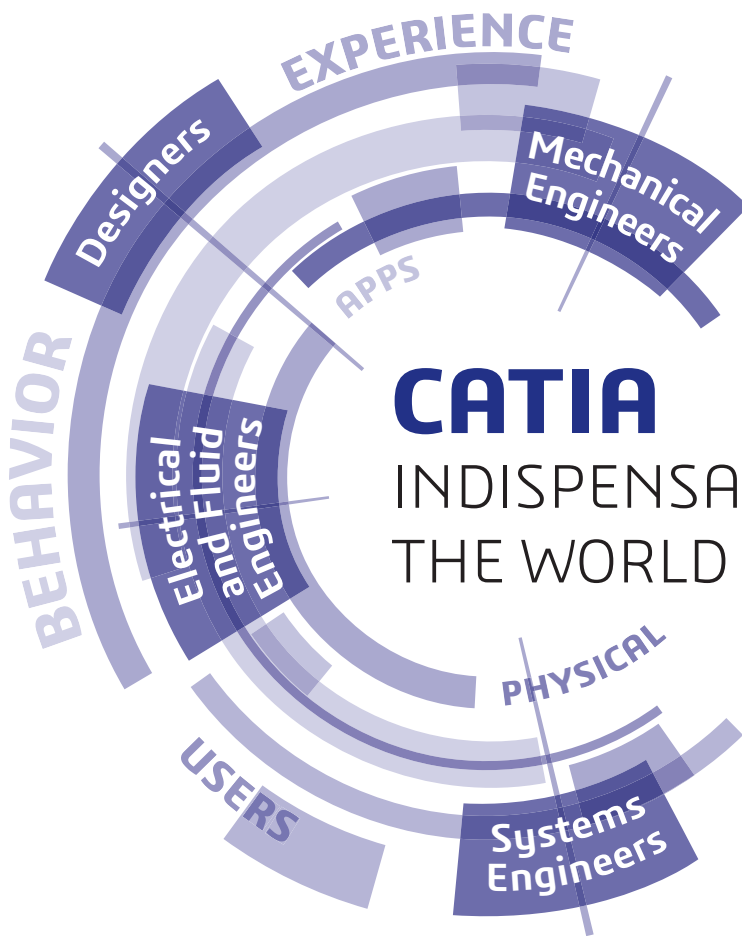
Dassault Systèmes, the **3DEXPERIENCE** Company, provides business and people with virtual universes to imagine sustainable innovations. Our world-leading solutions transform the way products are designed, produced, and supported.

The **3DEXPERIENCE** solutions powers our Brand Applications to deliver the full capabilities of 3D Modeling, Content, and Simulation, Social and Collaborative Innovation, and Information Intelligence to build the right business value for your ultimate consumers.

CATIA USER EXPERIENCES

More and more products combine hardware, software, and electronics to create smart systems, increasing demands on designers, engineers, and systems architects. These specialists (not only individually, but collectively) need a "common development experience" like never before.

CATIA provides unparalleled user experiences that enable the design and engineering of products and systems in digitally accurate 3D world powered by the **3DEXPERIENCE** solutions.



CATIA

INDISPENSABLE TO SHAPE
THE WORLD WE LIVE IN



The fundamentals of product development define the shape, design the parts, and ensure manufacturability. CATIA excels at helping designers and engineers execute this process to create a “right the first time” product, by ensuring zero defects at the geometric level and virtually assembling the parts and testing their fit before manufacturing.

This “**Digital Mock Up**” process has enabled CATIA users across all industries to reduce product development times by over 50% in the last decade.

But with today’s more complex products and sophisticated systems, you now need to not only model the geometry, but also its functions and behaviors. This “**Functional Mock Up**” (FMU) consolidates systems architecture, geometric composition, and behavior and control systems into an integrated 3D environment. Users enjoy a unified experience from modeling to simulation across multiple disciplines.

CATIA’s unique integration of the **DMU** and **FMU** enables developers to access a product at a functional, logical, or physical level, or any combination, depending on their roles and requirements, for a complete product experience, including physical and behavioral characteristics.



DESIGNERS

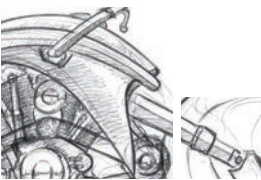
DELIVERING ADVANTAGE BY DESIGN

Successful product designs evoke positive emotional responses from their consumers. Creative designers need software tools that enable them to easily craft a product's emotional content, while collaborating with engineering on the functional scope.

CATIA addresses the entire shape design, styling, and surfacing workflow, from industrial design to Class A surfacing. Intuitive shape design tools deliver

flexibility to simplify design of any kind of complex shape, with advanced functionality like reverse engineering, powerful real-time diagnostics, best-in-class unified surface modeling, rapid propagation of design changes, and high-end visualization.

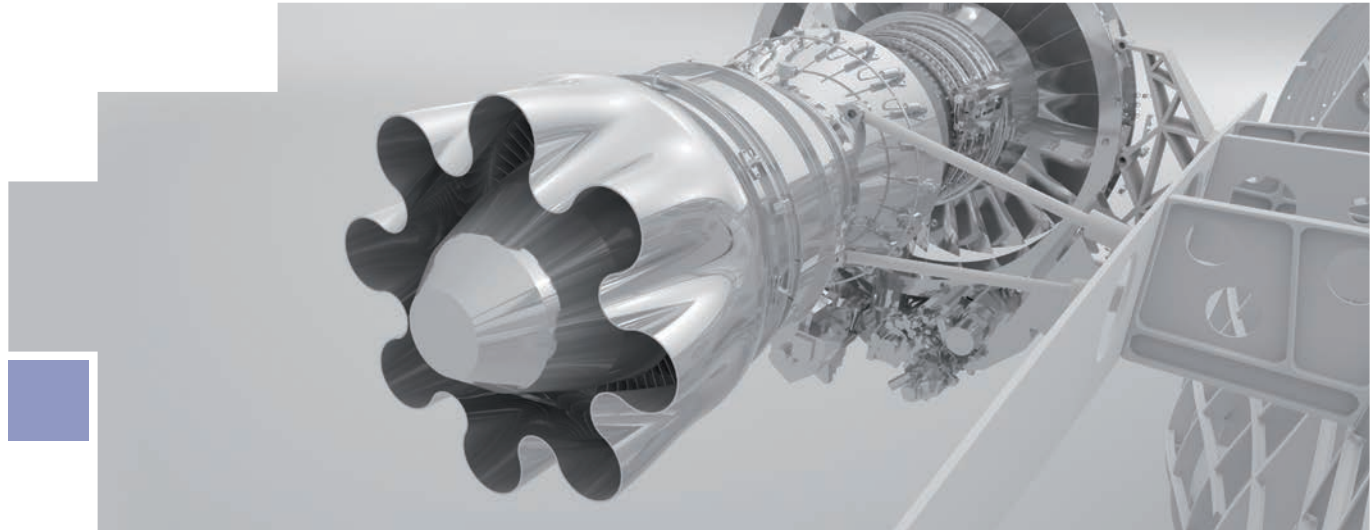
CATIA enables creative designers, design studios, and engineering departments to easily collaborate and optimize both product aesthetics and engineering.



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With CATIA Natural Sketch, strokes are precise, fluid, and easy to control. It just feels like real pencil on paper. It merges sketching and modeling, as 3D sketches can be used right away for 3D conception. This is not only a great time saver, it revolutionizes how we design.

Jens Paulus
Jens Paulus Design





MECHANICAL ENGINEERS

OPTIMIZING DESIGN TO MANUFACTURING

Digital prototyping, analysis, and simulation enable developers to virtually create mechanical products in their operating environment and give Mechanical Engineers key insights into quality and performance early in development.

CATIA applications create 3D assemblies for a wide range of mechanical engineering processes, including

- cast and forged parts
- plastic injection and other molding operations
- composite part design and manufacturing
- machined and sheet metal part design
- advanced welding and fastening

Engineers can rely on CATIA to define the complete mechanical product, including functional tolerances and 3D annotations.

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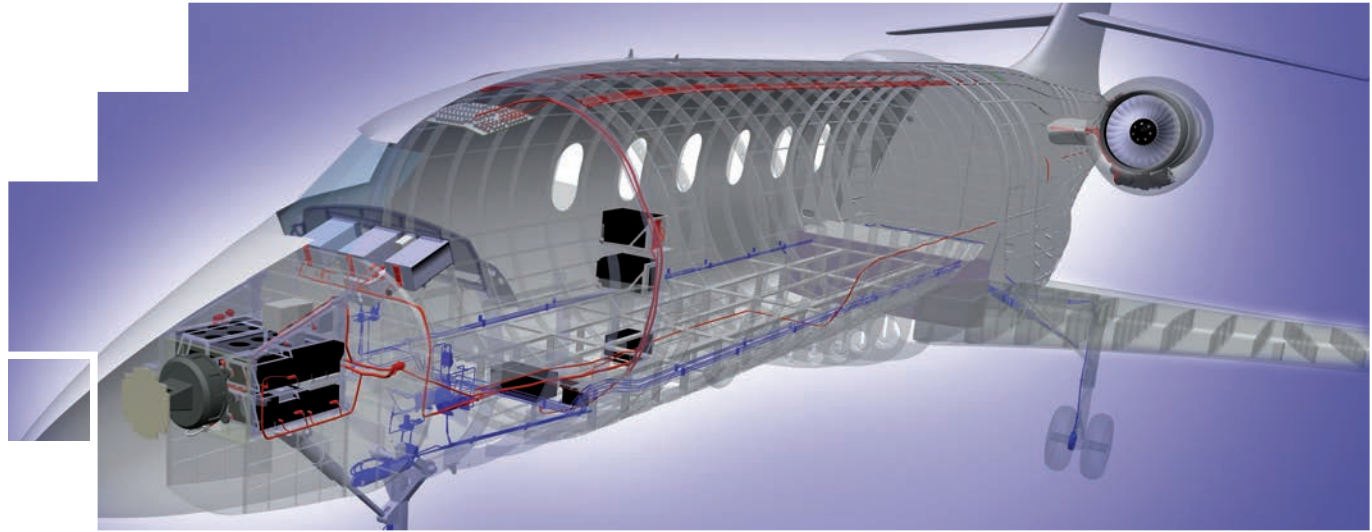
With CATIA, the ability to evaluate producibility on the computer rather than on the shop floor, without translating data, positions us at the leading edge of composites design and fabrication.

Tonya Cole

NC Programmer, GKN Aerospace

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ELECTRICAL AND FLUID ENGINEERS

THE ROUTE TO SUCCESS

Creating electrical modules directly in the digital mock-up reduces development time, costs, and clashes. CATIA delivers a dedicated electro-mechanical, end-to-end solution for designing and documenting **electrical wire harnesses**, including automatic creation of manufacturing documentation.

CATIA layout tools for intelligent placement of **pipng and tubing** allow users to choose from routing and part placement methods for

a given context. Knowledge and rules management with project standards and catalogs enables design automation and ensures compliance to company standards.

To create high-quality products faster, CATIA can integrate realistic **printed circuit boards (PCBs)** inside a virtual product, simplifying collaboration between mechanical and electronics specialists and accelerating time-to-market.



SYSTEMS ENGINEERS

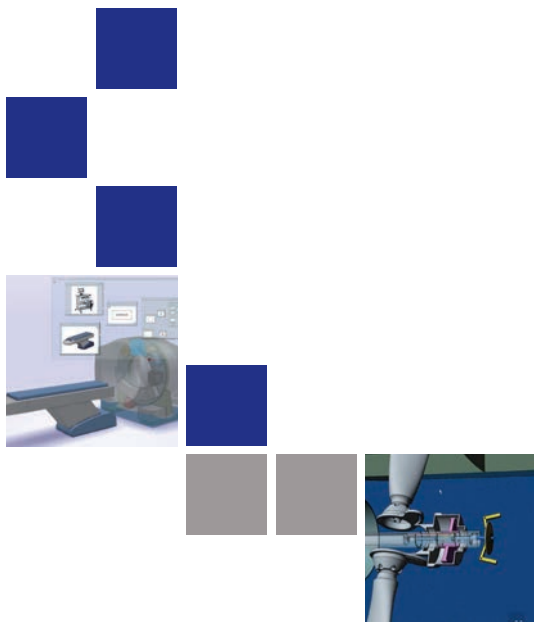
MANAGING PRODUCT COMPLEXITY



CATIA offers a fully integrated architecture, modeling, and simulation solution on a unified collaborative platform to develop complex systems and products.

CATIA Systems Engineering enables systems architects, product engineers, designers, and technical experts to define the architecture and interdependencies, accelerating the process from initial specification through development, validation, and "right the first time" product delivery. Complex behavior is integrated with product definition, enabling a virtual experience that predicts actual performance in the real world, with development traceable from initial requirements definition through final product delivery and support.

Dymola (Dynamic Modeling Laboratory) provides a fully integrated modeling and simulation environment for integrated and complex systems. The foundation for CATIA V6 Dynamic Behavior Modeling, Dymola leverages behavioral simulation for systems and mechanical product assemblies.



"We evaluate alternative designs with Dymola because it allows us to simulate system performance and cost benefit analysis in a virtual environment. This helps us to make better -informed decisions about how to optimize products."

Mark Selby
Senior Principal
Engineer, Ceres Power





CATIA, based on the 3DEXPERIENCE solution, provides a seamlessly integrated and agile product development environment, to support not only the most demanding and specialized engineers, but also a wider community of casual users.

You can :

- Increase efficiency connecting global design teams and suppliers securely to one single source of truth
- Design accurately with instant access to design updates from globally dispersed designers
- Improve designer experience with intuitive 3D navigation and easy handling of large product data
- Adapt and optimize 3D Design for product configurations
- Reach design maturity faster with concurrent design on the same assembly
- Reduce product delivery time through seamless multidisciplinary collaboration

Everyone in the product development process can work on the complete product, always confident that data is correct and up-to-date. This real-time collaboration saves time, ensures standards compliance, and accelerates decision-making, with users connecting **anywhere, anytime, anyhow.**

SOCIAL BUSINESS EXPERIENCE

CONNECTING THE DOTS

DESIGNING THE PRODUCT EXPERIENCE

To design the best products and optimize product experiences, it becomes vital to expand the product development process to a wider group than ever before.

The 3DEXPERIENCE solutions bring together design, engineering, and systems characteristics to provide a complete, integrated product environment to create a renaissance of product creation. People of all roles and skills, inside and outside the company, generalists and specialists, can connect in a social business experience to view, collaborate, and contribute in the evolution of the product.

TOOLS FOR COLLABORATIVE INNOVATION

CATIA enables managers and non-specialists alike to collaborate and share via an intuitive interface with clear dashboards, powerful analysis, and flexible search. Tools from V5, V6, and new capabilities come together in a single, simple-to-use environment to create breakthrough experiences, like CATIA Live Weight, showing managers and non-specialist engineers the right level of information and the right user experience to understand weight, center of gravity, and related tolerances for any assembly without opening parts.

For a conceptual designer, this means easy access to “cut and paste” existing parts into a new concept without needing to understand the embedded behavior science. With the 3DEXPERIENCE solutions, you can simply “play” the new assembly and be immersed in the product experience. CATIA takes care of both the physical representation and the functional behaviors.

Across the value chain, specialists and non-specialists, employees, suppliers, and customers, no matter where they are located, can all help develop the product experience.

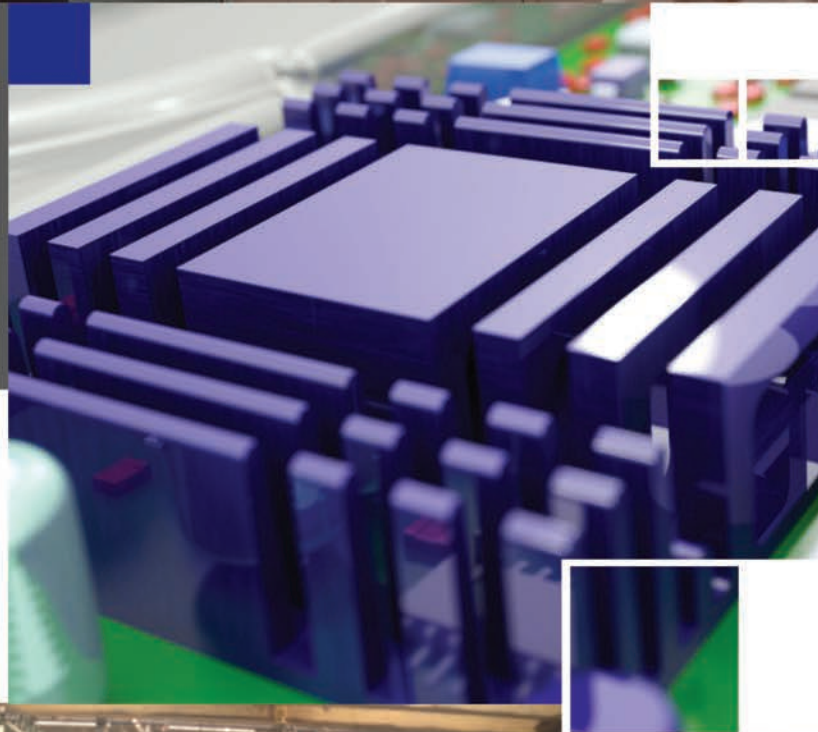


REAL TIME



COLLABORATION







BRINGING THE POWER OF THE 3DEXPERIENCE SOLUTIONS TO CATIA USERS

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Jaguar Land Rover has a diverse, international supply chain. The ability to edit Version 6 models in V5 means that collaboration with our team members, whether at JLR or within our extended supply chain, will be simpler and more effective.”

John Knight-Gregson, i-PLM
Programme Director, Jaguar Land Rover.

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Contact CATIA to learn how you can bring simplicity to your product development environment with the **3DEXPERIENCE** solutions.

When our customers engage in the business transformation enabled by the **3DEXPERIENCE** solutions, we want to ensure that it is as easy as possible.

Supporting the coexistence of CATIA V6 and V5 is a priority for Dassault Systèmes. CATIA V5 is the most widely used product design system for the world’s most significant and complex projects. When upgrading to V6, many customers need to continue to work collaboratively, internally or externally, with teams using V5. We will continue to support CATIA V5 to ensure continuity

SAME DATA MODEL FOR CONTINUED COLLABORATION

CATIA V6 and V5 share the same data model, simplifying transition and allowing re-use of existing data. The familiar user interface minimizes training, for full productivity from the start.

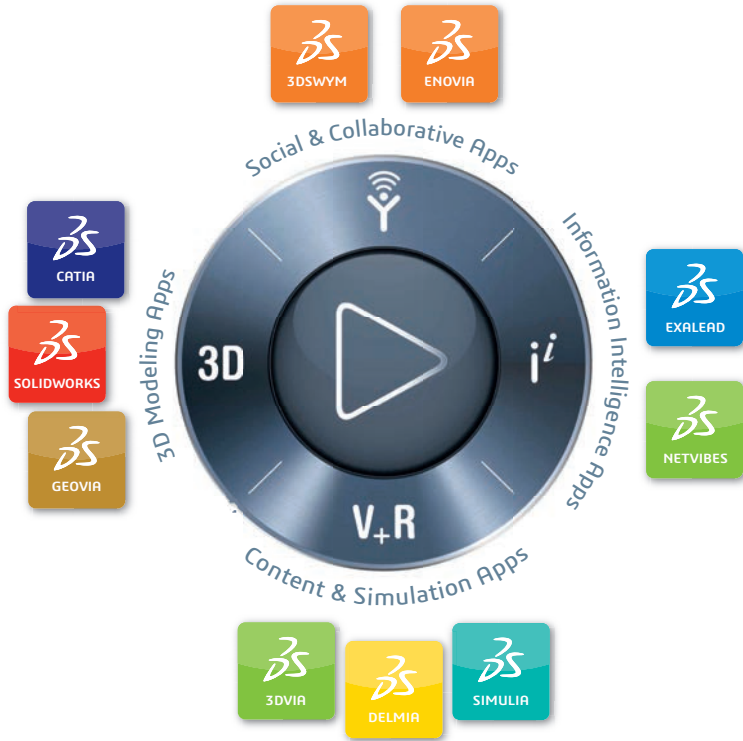
SYNCHRONIZED RELEASES FOR ENHANCED COMPATIBILITY

The option of synchronized CATIA V6 and V5 releases, beginning with V6R2012X and V5-6R2012, allows progressive transition, with ongoing enrichment of V5 solutions with V6 technology. V5 customers can experience the **3DEXPERIENCE** portfolio and benefit from Dassault Systèmes’ extensive R&D investments.

With enhanced V6 and V5 compatibility, we have made feature-level collaboration a reality. 3D models created in CATIA V6 retain their core features (created in, for example, Part Design, Sketcher, Freestyle, and Generative Surface Design workbenches and knowledgeaware) when sent to V5 users who can be access and modify them directly in V5.

SIMPLIFYING THE TRANSITION

OEMs or suppliers in all industries have the flexibility to modify and exchange designs, whether they are V5- or V6-native, as they progress through the design process. Customers can transition to V6 at their own pace, while continuing to collaborate seamlessly with departments, customers, and suppliers that use V5. Now you can take advantage of the exciting new capabilities of the **3DEXPERIENCE** solutions and applications, while protecting the investment in your existing infrastructure.



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 170,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

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