

Product Synthesis solutions



CATIA V5

As one of the software applications that lies at the heart of the PLM solution set, CATIA Version 5 is the cornerstone of true integration between people, tools, methodologies and resources within an enterprise. Its unique product, process, resource model and workplace approach provide a fully collaborative environment that fosters creativity, knowledge sharing and the communication of three-dimensional (3D) product and process-centric definitions.

The ability to capture and reuse knowledge embedded within CATIA facilitates the implementation of corporate design best practices. It also frees end-users to concentrate on enhanced creativity and innovation.

In addition, the open CATIA V5 application architecture allows a vast and growing number of third-party vendors to submit specialised applications to meet targeted needs.



Product Synthesis solutions

Get it right first time!

The extensive range of tools provided with CATIA product synthesis solution set provides easy automation and validation of design and manufacturing data. This also allows the effective capture and reuse of corporate know-how. Some of the highlights include:

Focus on the knowledgware solutions

The CATIA knowledgware solution set turns implicit design methods into explicit knowledge for obtaining the optimum design.

- **The core capabilities of CATIA V5 –**
Enjoy the power of product synthesis embedded within its easy-to-use multi-discipline tools. The CATIA V5 knowledgware solution turns implicit design methods into explicit knowledge and allow users to capture and reuse corporate know-how throughout the product lifecycle. Users can add and share this extra intelligence in every phase from design to manufacturing, for simple applications or enterprise-wide deployment.
- **The capture of expertise and automation of business processes –**
The knowledgware solutions combine the power of explicit rules that define the product behaviour, with interactive capture of design intent as the design is built. As a result, the system acts as an expert advisor to guide users through the tasks, warning them of rule violations and conflicts, thus automating design generation and reducing risk. The full power of your accumulated product knowledge can be embedded directly in the design, by storing it in catalogues. It can also be leveraged through the use of custom applications based on CATIA V5 processes, allowing designers to accelerate and secure the design process cycle time, while being more innovative.
- **Assured design consistency and quality –**
knowledgware solutions ensure compliance to best practices and corporate standards. Users can validate their designs and ensure acceptable development standards are maintained enterprise-wide. They also assure designers of the quality of their design, enabling them to make the right decisions, faster.
- **Solutions that facilitate brainstorming and innovation –**
Functional and conceptual definition optimisation tools are designed to formalise designs. This allows users to detect engineering problems in the functional definition of the system at the conceptual development stage. They can then use solution guidance and links to knowledge databases as a powerful tool for solving them.
- **Knowledgware tools to explore more of the benefits of design alternatives and automated goal-driven design optimisation –**
The knowledgware solutions permit users to assess and quickly determine the best alternative for a design amongst numerous combinations of parameters and constraints. Its ability to take multidisciplinary specifications into account, such as distance, cost, volume and time, across all the CATIA V5 products, enables users to perform powerful and complete assessments of designs.

Focus on DMU solutions

CATIA DMU solutions support complex DMU reviews and simulations for quick and efficient engineering and process decisions.

- **Dramatically reduced costs and design cycle time** – *DMU solutions enable people involved in engineering and process decisions to perform a number of time and cost-saving functions. These include collaborative and immersive visualisation, navigation, review and simulation of digital mock-ups and technical data of any complexity. Leveraging collaborative design review methodologies across the extended enterprise, DMU solutions allow customers to place the digital product definition at the centre of their development process, transforming product information into business intelligence for fast and decisive project decisions.*
- **Increased levels of responsiveness throughout the design chain** – *DMU solutions exploit e-business characteristics throughout the product lifecycle, and are a key component of the digital enterprise. They form a platform on which customers can achieve a real competitive edge through product innovation. DMU solutions strengthen communication across the extended enterprise by providing advanced tools to support collaborative design and manufacturing decisions. Their tight integration with ENOVIA lifecycle management solutions contributes to raise extended enterprise performance.*
- **Proven support for all DMU needs** – *DMU solutions offer a unique and extensive combination of scalable applications. They can be used by all user profiles and all levels of specialisation in the enterprise at any stage of the digital product development. They also address requirements from design review to quality verification and simulation. Built on the industry-leading CATIA V5 architecture of Dassault Systèmes, this solution set delivers seamless interoperability, reduced training and support requirements, ease of installation and enhanced team collaboration. This enables an accelerated response to business needs and investment protection. Its complete 'plug and play' design review environment and extensive, realtime, multi-user conferencing and reporting capabilities allow all team members to collaborate in a completely interactive review process.*

Configurations

Knowledge

CATIA – Business Knowledge

Process Definition 3 (KD3)

The KD3 configuration accelerates a company's business processes, while ensuring compliance with its best practices to take advantage of its intellectual capital. It offers users access to set advanced design parameters as well as knowledge capture and optimisation tools.

These features are used to define standard rules and checks for design quality assessment.

Users can optimise the design process by exploiting the synergy between the suite of powerful CATIA V5 knowledgware tools and its ability to maximise the value of corporate knowledge with V5-empowered best-practice workbenches.

'Capture, reuse, automate, explore, optimise, validate', is the unique philosophy that guides the KD3 configuration: Get it right first time!



Products

Knowledge

CATIA – Knowledge Expert 1 (KE1)

CATIA – Knowledge Expert 1 (KE1) allows designers to import and use corporate knowledge stored in rule bases created using CATIA – Knowledge Expert 2 (KWE). Thus design compliance is ensured with established standards. These rule bases automate knowledge processes such as:

- *Best practices*
- *Application processes*
- *Design validation and corrections.*

The reports generated provide better identification of standards violations and help to implement necessary corrections.

As an integrated product, CATIA – Knowledge Expert 1 (KE1) can be used in conjunction with all other Version 5 products to share process applications throughout the enterprise.

The Knowledge Expert solution consists of a buildtime product, CATIA – Knowledge Expert 2 (KWE), and a runtime solution, CATIA – Knowledge Expert 1 (KE1).

CATIA – Product Knowledge Template 1 (KT1)

CATIA – Product Knowledge Template 1 (KT1) allows the instancing of feature, part and assembly templates, created using CATIA – Product Knowledge Templates 2 (PKT), and their modification through the use of appropriate input values and geometry references. The powerful features of CATIA Version 5 allow the intelligence built into such templates to be highly adaptive to its usage context.

Instances of these templates also take advantage of the CATIA Catalog infrastructure to allow easy access to templates references.

In the extended enterprise, this allows other groups to re-use knowledge encapsulated within such templates through the application of best practices. At the same time, it restricts their ability to fully examine the intellectual capital, protecting the know-how of the creating organisation while still facilitating its re-use.

This significantly improves design productivity and can promote standardisation of design methodology.

CATIA – Product Knowledge Template 1 (KT1) fits the needs of all types of designers in all industries.

The Product Knowledge Template solution consists of a buildtime product, CATIA – Product Knowledge Template 2 (PKT), and a runtime solution, CATIA – Product Knowledge Template 1 (KT1).

CATIA – Business Process Knowledge Template 2 (BK2)

The CATIA – Business Process Knowledge Template solution first allows companies to model any of their best practices and know how. It's done in a simple and intuitive way, without coding. From complex conceptual studies in the automotive to airframe structure generation for instance, an expert is able to capture, model, automate design and engineering tasks, embed core-knowledge rules and checks within those tasks. In a second step, the captured best practices are delivered within the enterprise through a customised V5 pseudo-application including all the required features and process knowledge.

The CATIA – Business Process Knowledge Template solution takes advantage of the wide range of products in the CATIA V5 portfolio and leverages their capabilities in a powerful process-driven way. End-users have access to these high level V5 pseudo-applications in the same way as they have access to any CATIA V5 products. Users can create products while following a pre-defined methodology derived from the enterprise's best practices as captured by the experts.

Guided by skilled rules and checks, free from time-consuming, repetitive design tasks, and benefiting from knowledge-driven task automation, users can then unleash their creativity and focus on innovation.

The company increases considerably its competitiveness by providing better products and reducing costs.

The Business Process Knowledge Template solution is divided into a buildtime product, CATIA – Business Process Knowledge Template 3 (BKT), and a runtime solution, CATIA – Business Process Knowledge Template 2 (BK2).

With the CATIA – Business Process Knowledge Definition 3 (KD3) configuration find in one seat all the power of the CATIA V5 knowledgware solutions.

CATIA – Knowledge Advisor 2 (KWA)

CATIA – Knowledge Advisor 2 (KWA), allows designers and design engineers to capture their know-how and re-use it as best practices.

Users can embed knowledge in their design through formulas, rules, reactions and checks, which can be leveraged at any time. Resident knowledge can then be considered and acted on in context. Its meaning is also accessible. For example, a check intent can highlight the parameters involved in a verification, making it quick and easy to recognise how a standard has been violated.

By accelerating the exploration of design alternatives with regard to rules, CATIA – Knowledge Advisor 2 (KWA) helps users to make better decisions and reach optimal, error-free designs in a shorter amount of time.

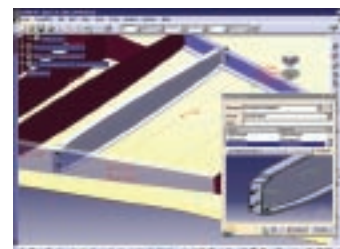
It is also used to convert implicit practices into explicit knowledge, thus automating design generation and reducing the risk and cost of repetitive tasks.

As an integrated and scalable product, CATIA – Knowledge Advisor 2 (KWA) should be used in conjunction with all other Version 5 products to add and preserve intelligence from design to manufacturing process.

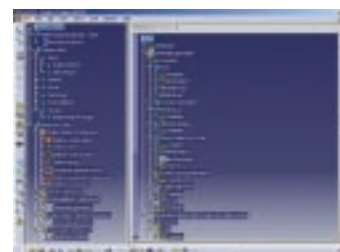
As a scalable product, it allows users to manage and exploit know-how and intents, from parametric rules and checks to advanced contextual reactions in products and processes. It also allows users to define 'smart' components for morphing re-use.



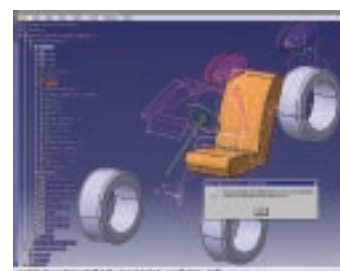
CATIA – Knowledge Expert 1 (KE1)



CATIA – Product Knowledge Template 1 (KT1)



CATIA – Business Process Knowledge Template 2 (BK2)



CATIA – Knowledge Advisor 2 (KWA)

Products

Knowledge

CATIA – Knowledge Expert 2 (KWE)

CATIA – Knowledge Expert 2 (KWE), allows an expert designer to build-up and share corporate knowledge in rule bases, and leverage that knowledge across the enterprise to ensure design compliance with established standards. These rule bases capture and automate knowledge processes such as:

- *Best practices*
- *Application processes*
- *Design validation and corrections.*

As part of the native capacity of the Version 5 products and architecture to dynamically capture design specifications, CATIA – Knowledge Expert 2 (KWE) delivers a unique way to specify corporate rules and checks which must be employed throughout the corporation to ensure compliance with best practices. Generated reports allow end-users to better identify violations of standards and implement necessary corrections.

As an integrated product, CATIA – Knowledge Expert 2 (KWE) can be used in conjunction with all other Version 5 products to build process applications and share them throughout the enterprise.

The Knowledge Expert solution consists of a buildtime product, CATIA – Knowledge Expert 2 (KWE), and a runtime solution, CATIA – Knowledge Expert 1 (KE1).

CATIA – Product Engineering Optimizer 2 (PEO)

CATIA – Product Engineering Optimizer 2 (PEO) allows users to explore additional design alternatives and accurately optimise designs utilising two complementary tools – Design Of Experiments (DOE) and Design by Goal.

Design Of Experiments

It's clearly difficult to assess and quickly determine the best configuration for a design because of the numerous combinations of parameters (such as lengths, masses, deformations, etc).

CATIA – Product Engineering Optimizer 2 (PEO) enables users to perform virtual experiments taking into account as many parameters as required. Thus, Design Of Experiments allows users to:

- *Evaluate interactions between parameters*
- *Make parameter predictions*
- *Identify which parameter is the most influential.*

DOE is a natural and efficient way to explore and optimise design. It allows users to estimate an optimal design with a few computations and also perform better, faster optimisations. DOE dramatically reduces the number of design iterations avoiding costly re-design and increasing productivity.

Design by Goal

CATIA – Product Engineering Optimizer 2 (PEO) helps define optimisation targets and means for multidisciplinary specifications. Objectives, captured interactively, drive the system to determine an optimal solution for designs with many variables and criteria.

Objectives are embedded into CATIA V5 documents and leveraged through sharable, integrated and automated goal-driven specifications. Real-time feedback and outputs are provided to satisfy users' requirements for immediate assessment or analysis.

As part of the native capacity of Version 5 products and architecture to dynamically capture design specifications, CATIA – Product Engineering Optimizer 2 (PEO) delivers a unique way to specify objective-driven specifications.

As an integrated product, CATIA – Product Engineering Optimizer 2 (PEO) can be used in conjunction with all other Version 5 products to increase design performance.

CATIA – Product Knowledge Template 2 (PKT)

CATIA – Product Knowledge Template 2 (PKT) allows users to easily and interactively capture engineering know-how and methodology for highly efficient re-use. PKT helps organisations share best practices and avoid duplication of effort due to the inability to re-use existing designs because they are too complex or difficult to understand. This can all be achieved without the need for skilled programming resources, ensuring that all engineers can instead participate in knowledge sharing and capture activities within the organisation.

For organisations working within extended supply chains, this allows the delivery of design data to partner organisations without exposing the embedded intellectual capital of design methodology or rules. Partners are, however, still able to capitalise on this embedded knowledge.

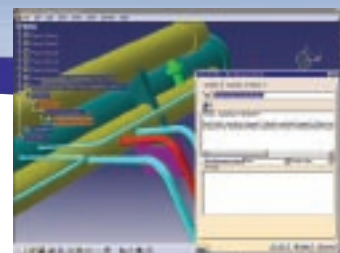
CATIA – Product Knowledge Template 2 (PKT) allows the interactive creation of feature, part and assembly templates which encapsulate geometry specifications, associated parameters and relations (knowledge) for associative re-use.

The Product Knowledge Template solution is divided into a buildtime product, CATIA – Product Knowledge Template 2 (PKT), and a runtime solution, CATIA – Product Knowledge Template 1 (KT1).

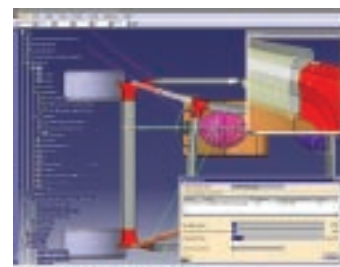
CATIA – Product Function Definition 2 (PFD)

CATIA – Product Function Definition 2 (PFD) describes the functional systems of a product to be designed and visualises them in a schematic-like viewer. This application also manages variants for the functional systems. In addition, it enables users to create links between the functional systems and CATIA product items, thus allowing full functional and physical definition in V5. Finally, scripts can be created from the functional view to generate 3D data.

This product focuses on functional modeling extending the V5 portfolio through the conceptual stages. Seamless integration between classical detailed data (3D) and formal functional specifications offers full product definition capabilities.



CATIA – Knowledge Expert 2 (KWE)



CATIA – Product Engineering Optimizer (PEO)



CATIA – Product Knowledge Template 2 (PKT)



CATIA – Product Function Definition 2 (PFD)

Products

Knowledge

CATIA – Product Function Optimizer 2 (PFO)

At the conceptual stage of development, CATIA – Product Function Optimizer 2 (PFO) allows users to detect engineering problems by creating functional systems for a product and provides helpful methods and knowledge databases for solving problems.

To accomplish that, PFO utilises Invention Machine Corporation (IMC) TechOptimizer kernel knowledge to add unique expertise in functional system modeling to the CATIA portfolio. IMC is the world's leading provider of knowledge-based innovation software.

Thus, CATIA – Product Function Optimizer 2 (PFO) enables the user to numerically diagnose the value of systems and offers strategies to improve this value. PFO identifies and categorises functional problems in a system and helps to conceptually solve them by searching for solutions in dedicated knowledge databases.

CATIA – Business Process Knowledge Template 3 (BKT)

The CATIA – Business Process Knowledge Template solution first allows companies to model any of their best practices and know how. It's done in a simple and intuitive way, without coding. From complex conceptual studies in the automotive to airframe structure generation for instance, an expert is able to capture, model, automate design and engineering tasks, embed core-knowledge rules and checks within those tasks. In a second step, the captured best practices are delivered within the enterprise through a customised V5 pseudo-application including all the required features and process knowledge.

The CATIA – Business Process Knowledge Template solution takes advantage of the wide range of products in the CATIA V5 portfolio and leverages their capabilities in a powerful process-driven way. End-users have access to these high level V5 pseudo-applications in the same way as they have access to any CATIA V5 products. Users can create products while following a pre-defined methodology derived from the enterprise's best practices as captured by the experts.

Guided by skilled rules and checks, free from time-consuming, repetitive design tasks, and benefiting from knowledge-driven task automation, users can then unleash their creativity and focus on innovation.

The company increases considerably its competitiveness by providing better products and reducing costs.

The Business Process Knowledge Template solution is divided into a buildtime product, CATIA – Business Process Knowledge Template 3 (BKT), and a runtime solution, CATIA – Business Process Knowledge Template 2 (BK2).

With the CATIA – Business Process Knowledge Definition 3 (KD3) configuration find in one seat all the power of the CATIA V5 knowledge solutions.

Products

DMU

CATIA – DMU Navigator 1 (DN1)

CATIA – DMU Navigator 1 (DN1) performs collaborative DMU review using powerful visualisation, navigation and communication capabilities. A large number of tools (annotation support, hyperlink and animation creation, publishing and conferencing tools) facilitate collaboration between all team members involved in DMU inspection. User productivity is enhanced through the ability to automate commands and work on visualisation files for quick data loading. Complete DMU review and simulation is made possible through the native integration with other DMU products.

Addressing all populations involved in Digital Mockup related processes, CATIA – DMU Navigator 1 handles digital mock-ups of all sizes from consumer goods assemblies to very large automotive, aerospace, plant, ships or heavy machinery mock-ups, while being entirely available on Windows® and UNIX®.

DMU Space Analysis 1 (SP1)

DMU Space Analysis 1 (SP1) performs interference detection and 3D geometry comparison for DMU verification. It computes clash, clearance, and contact information and enables users to view conflict details. 3D geometries can also be compared and the result can be visualised in a dedicated viewer where sectioning and measurement on the section are available to further understand and assess differences between them.

DMU Space Analysis allows validation of designs by ensuring a better understanding of the problems for quick solving. It addresses populations involved in digital mockup review and product packaging processes and can be used all along the product life cycle, from the design in context to the maintenance review.

DMU Space Analysis is capable of handling digital mock-ups of all sizes from consumer goods assemblies to very large automotive, aerospace, plant, ships or heavy machinery mock-ups.

DMU Engineering Analysis

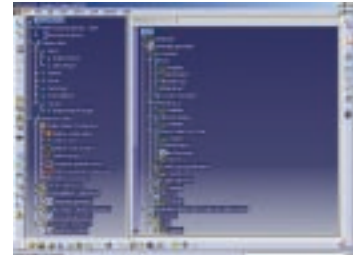
Review 2 (ANR)

DMU Engineering Analysis Review 2 (ANR) provides the capability to easily access and review the analysis results generated through the CATIA Analysis suite of products or results created by third party CAA applications.

Using a digital mock-up, this product takes the integration of design and analysis to a new level with the ability to check interferences and perform measurements between the deformed shape and surrounding solid parts. This ensures that this part will operate within its expected limits in loaded and unloaded conditions.



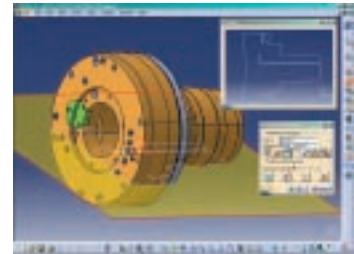
CATIA – Product Function Optimizer 2 (PFO)



CATIA – Business Process Knowledge Template 3 (BKT)



CATIA – DMU Navigator 1 (DN1)



DMU Space Analysis 1 (SP1)



DMU Engineering Analysis Review 2 (ANR)

Products

DMU

CATIA – DMU Navigator 2 (DMN)

CATIA – DMU Navigator 2 (DMN) performs advanced collaborative DMU review, packaging and pre-assembly, using optimum visualisation, navigation and communication capabilities. High graphic performance is provided to the user. Productive 3D navigation is ensured through group management and selection capability. A large number of tools (annotation support, hyperlink and animation creation, publishing and conferencing tools) facilitate collaboration between all team members involved in DMU inspection. User productivity is enhanced through the ability to automate commands and work on visualisation files for quick data loading. Batch mode can be used to further improve cache management. Combined kinematics and fitting simulations can be performed to extend review capabilities. Interoperability with CATIA V4 is supported.

Addressing all populations involved in Digital Mockup related processes, CATIA – DMU Navigator 2 handles digital mock-ups of all sizes from consumer goods assemblies to very large automotive, aerospace, plant, ships or heavy machinery mock-ups.

DMU Optimizer 2 (DMO)

DMU Optimizer 2 creates alternate representations of products or assemblies for size reduction or geometry creation better adapted to specific contexts. Thus, the user can create reduced but accurate representations of parts or assemblies by keeping their external representation only. He can generate simplified representations of parts ensuring confidentiality protection when communicating with suppliers. Surfaces can be converted to volumes for realistic DMU analysis. Further design is facilitated by performing space reservation through swept volume or free space calculation. Finally, all generated representations can be managed easily by saving and reusing them for productive DMU review and analysis.

DMU Optimizer 2 (DMO) increases the ability to handle digital mock-ups of all sizes in industries as various as consumer goods, automotive, aerospace, plant, ship or heavy machinery.

DMU Fastening Review 2 (FAR)

DMU Fastening Review 2 (FAR) is dedicated to the validation and the documentation of fasteners in the frame of the collaborative automotive Body in White fasteners process. This product suits both to company teams, such as DMU, Product Synthesis and Structural Analysis, and to product design suppliers, as part designers and prototype makers.

DMU Fitting Simulator 2 (FIT)

DMU Fitting Simulator 2 (FIT) is dedicated to the definition, simulation and analysis of assembly/disassembly operations to validate a product design regarding the feasibility of its maintenance operations (assembly/disassembly operations). It generates useful information on space reservation for the dismantling operations, to be taken into account in future design modifications. The product also helps identify a trajectory allowing to dismantle an assembly.

The simulation and analysis tools of DMU Fitting Simulator 2 (FIT) address the needs of product design, recycling, serviceability and maintainability departments. Moreover, DMU Fitting Simulator 2 (FIT) animation, simulation and video creation capabilities are very useful for sales and marketing and training departments.

DMU Fitting Simulator 2 (FIT) can handle digital mock-ups of any size, making it suitable for all type of industries, and is entirely and identically available on Windows and UNIX.

DMU Kinematics Simulator 2 (KIN)

DMU Kinematics Simulator 2 (KIN) defines mechanisms for digital mock-ups of all sizes using a wide variety of joint types, or by generating them automatically from mechanical assembly constraints.

DMU Kinematics Simulator 2 (KIN) also simulates mechanism motion easily with mouse-based manipulation in order to validate mechanisms.

DMU Kinematics Simulator 2 (KIN) analyses mechanism motion by checking interferences and computing minimal distances. It generates the trace or the swept volume of a moving part to drive further design. Finally, it allows combined simulations through the integration with other DMU products.

Addressing people involved in activities ranging from the design of mechanisms to the functional verification of mechanisms, DMU Kinematics Simulator 2 (KIN) is targeted for all types of industries.

DMU Space Analysis 2 (SPA)

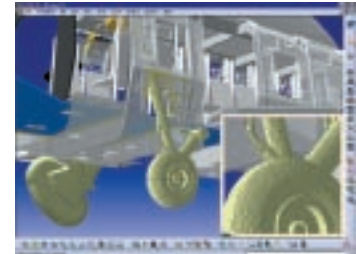
DMU Space Analysis 2 (SPA) performs optimum DMU verification using advanced interference detection and analysis, superior sectioning analysis, measurement, distance analysis and 3D geometry comparison tools. Interferences can be detected interactively or in batch mode, analysed, and results can be saved. The user can do sectioning dynamically with mouse-based manipulation and save the section results for re-use. Tools are included in the product for distance analysis and 3D geometry comparison. Distance analysis of motion simulations and animation of sectioning results are possible through integration with other DMU products.

DMU Space Analysis 2 (SPA) allows advanced validation of designs by ensuring a better understanding of the problems for quick solving. It addresses populations involved in digital mockup review and product packaging processes and can be used all along the product life cycle: from the design in context to the maintenance review.

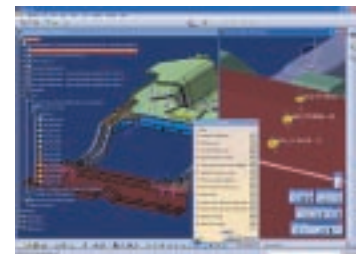
DMU Space Analysis 2 (SPA) is capable of handling digital mock-ups of all sizes from consumer goods assemblies to very large automotive, aerospace, plant, ships or heavy machinery mock-ups.



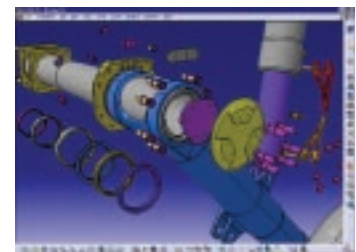
CATIA – DMU Navigator 2 (DMN)



DMU Optimizer 2 (DMO)



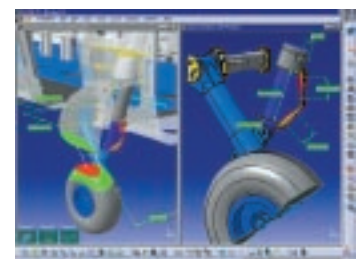
DMU Fastening Review 2 (FAR)



DMU Fitting Simulator 2 (FIT)



DMU Kinetics Simulator 2 (KIN)



DMU Space Analysis 2 (SPA)

Products

DMU

CATIA – DMU Space

Engineering Assistant 2 (SPE)

DMU Space Engineering Assistant 2 (SPE) shortens design cycle time by giving designers the ability to check for interference impacts of their design modifications as they are working. Knowledgeware rules pilot interference analysis to ensure best practices compliance at the company level. Interference analysis results are stored in ENOVIA V5 LCA.

DMU Space Engineering Assistant 2 (SPE) fits the needs of designers working in a collaborative environment, in industries dealing with large assemblies such as shipbuilding, automotive, and aerospace.

Human

Human Activity Analysis 2 (HAA)

Human Activity Analysis 2 (HAA) is an add-on to Human Builder 2 (HBR) allowing the user to maximise human comfort, safety, and performance through a wide range of advanced ergonomics analysis tools that comprehensively evaluate all elements of a human's interactions with a product and specifically analyse how a manikin will interact with objects in its virtual environment.

Human Activity Analysis 2 (HAA) addresses the needs of human factors engineers, assembly and decommissioning planners, maintainability engineers, packaging engineers, and manufacturing engineers from industries as diverse as aerospace, automotive, plant design, shipbuilding and electrical goods.

It is effectively used in conjunction with Human Measurements Editor (HME) and Human Posture Analysis (HPA). These products are combined to create a fully integrated Human Engineering Design solution.

Human Builder 2 (HBR)

Human Builder 2 (HBR) creates and manipulates accurate standard digital humans in the DMU environment for early human-product interaction analysis. Tools provided within Human Builder 2 include manikin generation, gender and percentile specification, manikin manipulation techniques, animation generation, and advanced vision simulation. A user-friendly interface ensures that first level human factors studies can be undertaken by non-human factors specialists.

Human Builder 2 (HBR) addresses the needs of design engineers, managers, maintainability engineers and concept designers from the aerospace, automotive, plant design, heavy engineering, shipbuilding and electrical goods industries.

Human Builder 2 (HBR) is effectively used in conjunction with Human Measurements Editor 2 (HME), Human Posture Analysis 2 (HPA), and Human Activity Analysis 2 (HAA) for advanced detailed digital human creation and analysis, improved human comfort, performance, and safety. These products are combined to create a fully integrated Human Engineering Design and Review solution.

Human Measurements Editor 2 (HME)

Human Measurements Editor 2 (HME) is an add-on to Human Builder 2 (HBR) allowing the user to create advanced, user-defined manikins using a number of advanced anthropometry tools. The manikins can then be used to assess the suitability of a product against its intended target audience.

Human Measurements Editor 2 addresses the needs of human factors engineers, maintainability engineers, and packaging engineers in the aerospace, automotive, heavy engineering, plant design, shipbuilding, white goods and electrical industries.

Human Measurements Editor 2 is effectively used in conjunction with Human Builder 2, Human Posture Analysis 2 and Human Activity Analysis 2. These products are combined to create a fully integrated Human Engineering Design solution.

Human Posture Analysis 2 (HPA)

Human Posture Analysis 2 (HPA) is an add-on to Human Builder allowing the user to quantitatively and qualitatively analyse all aspects of manikin posture. Whole body and localised postures can be examined, scored and iterated to determine operator comfort and performance when interacting with the product in accordance with published comfort databases. User-friendly dialogue panels provide postural information for all segments of the manikin and color-coding techniques ensure that problem areas can be quickly identified and iterated to optimise posture. Human Posture Analysis 2 (HPA) allows users to create their own specific comfort and strength library for the needs of each individual application.

Human Posture Analysis 2 (HPA) addresses the needs of human factors engineers, assembly and decommissioning planners, maintainability engineers, packaging engineers, and manufacturing engineers in industries as diverse as aerospace, automotive, plant design, heavy engineering, shipbuilding, and electrical goods.



CATIA – DMU Space
Engineering Assistant 2 (SPE)



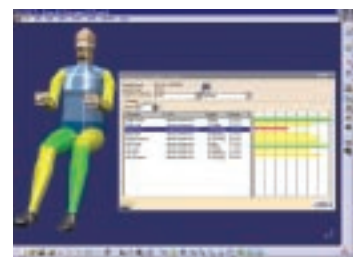
Human Activity Analysis 2 (HAA)



Human Builder 2 (HBR)



Human Measurements Editor 2 (HME)



Human Posture Analysis 2 (HPA)



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Portugal	21 7915005
Romania	21 224 1544
Russia	095 940 2000
Slovakia	+42 12 4954 1225
Slovenia/Croatia	01 479 6676
South Africa	0860 788 788
Spain	(34) 91 397 66 11
Sweden	8 763 4394
Switzerland	+41 58 333 5370
Turkey	0212 317 1305
United Kingdom	0870 010 2510

IBM Eurocoordination

Product Lifecycle Management
Tour Descartes
La Defense 5
2, avenue Gambetta
92066 Paris La Defense Cedex
France

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