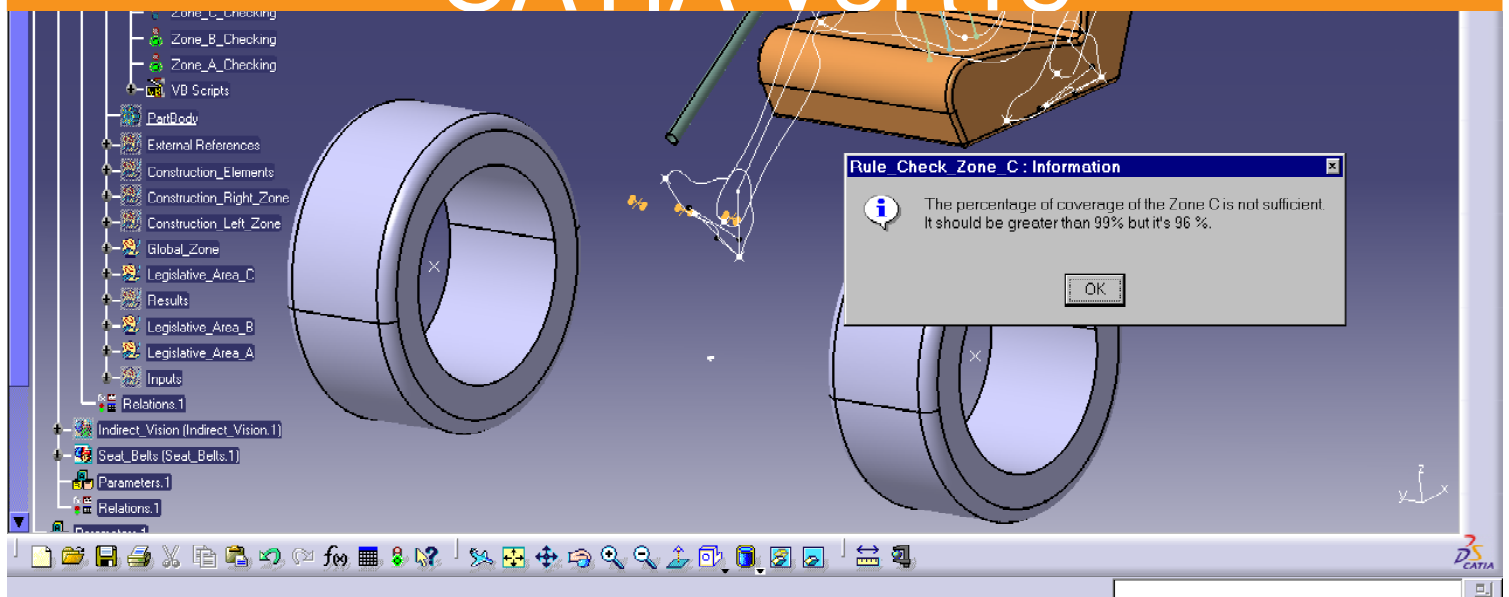


Product Synthesis
CATIA - Knowledge Advisor 2 (KWA)

CATIA V5R18





Product Synthesis

CATIA - Knowledge Advisor

Allow designers and design engineers to embed knowledge within design and leverage it to reduce errors and automate design for maximum productivity.

Product overview

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

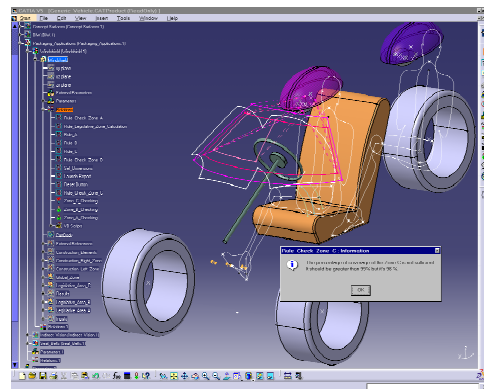
Users can embed knowledge in their design through formulas, rules, reactions and checks, which can be leveraged at any time. Resident knowledge can then be considered and acted on in context. Its meaning is also accessible. For example, a check intent can highlight the parameters involved in a verification,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

Product Highlights

- ❑ **Captures and highlights engineering knowledge as embedded design specifications.**
- ❑ **Provides easy definition and understanding of know-how.**
- ❑ **Supports advanced relational design.**
- ❑ **Leverages knowledge capital to automate design tasks.**
- ❑ **Leverages know-how to guide and assist users through the different design stages.**
- ❑ **Shares and ensures compliance with design rules and constraints.**

Product Key Customers Benefits

Captures and highlights engineering

knowledge...

Through the creation of rules, reactions, checks and formulas, CATIA - Knowledge Advisor 2 (KWA) allows designers and design engineers to capture, make explicit and leverage their know-how. This knowledge is directly embedded in the design through specifications.

This allows users to take parameters into account earlier in the design process, automate repetitive, or time-consuming design tasks, and solve complex equations. Early attention to specification details improves design quality and reduces cost by eliminating unnecessary redesign cycles.

Easy definition and understanding of know-how...

Capturing knowledge does not require high coding skill. Instead, designers and design engineers enrich their designs through a variety of interactive approaches, taking advantage of V5 ergonomic standards. This requires no specific training for knowledge capture and reuse. Because CATIA - Knowledge Advisor 2 (KWA) is natively integrated within CATIA Version 5, the embedded knowledge is multi-discipline, and can be modified at any time during the design process.

Moreover, based on the fundamental specification-driven design of the Version 5 architecture, Knowledge Advisor 2 (KWA) allows the addition of intelligence data to CATIA Version 5 documents including cost, surface finish or feed rates. These specifications are managed in a consistent, fully integrated and associative fashion throughout the system.

There are a variety of approaches to structure and manage knowledge. Designers and design engineers can, when required, interactively add, modify and delete formulas, rules, reactions and checks, while providing specific comments. The information is then displayed in the feature tree or directly on the 3D view as graphic symbols attached to the

parameters. Sets of relations can be defined and reordered to group knowledge and allow easier management.

Supports of advanced relational design...

CATIA - Knowledge Advisor 2 (KWA) allows the use of knowledge relations based on the publication of parts' parameters. It permits users to parameterize a wide set of components, such as an assembly, and to ensure the relations between parameters when a component is modified or replaced. For instance, at the conceptual stage of the design an expert can define the global product architecture, based on formulas, rules...and parameters. The publication of these parameters allows different users to enrich this product structure in a consistent way by plugging in their contributions (parts, sub-assembly...). It's also an efficient and quick way to test different product configurations.

Leverages knowledge capital to automate design tasks...

CATIA - Knowledge Advisor 2 (KWA) reduces the time-to-design, for increased productivity.

Capture and set parameters for design tasks, once and for all, according to engineering rules and reuse them on request, or automatically, while saving precious designer time and avoiding errors: CATIA - Knowledge Advisor 2 (KWA) makes it easy to create designs that can react to context evolution. For example, if a designer inserts, or replaces, a component, it can be triggered to automatically compute the new global mass and geometry positioning.

Leverages know-how to guide and assist users...

CATIA - Knowledge Advisor 2 (KWA) provides users with skilled advice during design conception.

For instance, when a check is not validated, a warning window pops up and displays a customized message describing

required corrective actions. The status of the check is indicated dynamically, directly in the workbench toolbar. All checks can be displayed in a synthesis window, where they are explained while the parameters involved are highlighted.

This allows the user to easily analyze the failures and perform the recommended corrective actions.

Shares and ensures compliance with design rules and constraints...

Once knowledge is embedded, a designer can store the design, reuse it and share it with other authorized users. This is facilitated through the designer's ability to add comments and URL links for knowledge objects to help explain the intent of the design. Moreover, in order to leverage the capitalization and reuse of knowledge, the rules and checks can be stored in a persistent way within ENOVIA V5 VPM.

Making previously implicit practices explicit and leveraging them through knowledge design documents is an efficient way to transform specific know how into corporate knowledge and disseminate it. Thus, by including the best practices of his company while working on a design and explaining the what, why and how, a designer, or a design engineer, is able to expand the corporations knowledge capital, while ensuring the consistency of design.

For extensive capability description, please consult the specification sheets for CATIA - Knowledge Expert 1 & 2 (KWE and KE1), the dedicated products for global design validation & quality.

CATIA - Knowledge Advisor 2 (KWA), used with CATIA - Product Knowledge Template 2 (PKT), also offers a complete solution for deploying intelligent components.

In addition, pieces of KnowledgeWare technology are available to all users throughout the CATIA - Object Manager core product lines.

ABOUT CATIA V5R18

CATIA is Dassault Systemes' PLM solution for digital product definition and simulation.

plm.3ds.com/CATIA

