

LMS Samtech

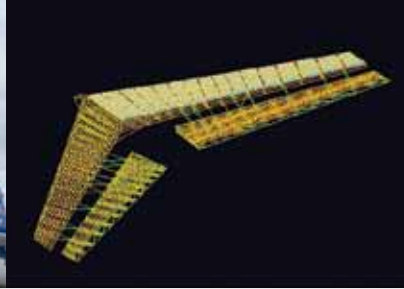
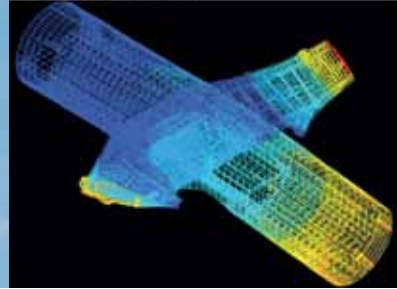
# CAESAM

CAE integration platform



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**Product innovation brings new challenges daily: environmental concerns, shorter product life spans, globally distributed sites and project teams. Today manufacturers must design and deliver high-quality products quickly and cost-effectively while retaining and building a customer base, reducing service costs, and complying with international regulations.**

**After using sophisticated systems for design, experimental testing and manufacturing planning, supplier relationship management, you may still need to get new products to market faster. Critical departments and functions may still operate separately. Different departments and partners may have challenges getting through your network.**

You need an open CAE integration platform for collaborative engineering, product development, and management of projects, product structures, documents, and quality.

That framework should provide an information backbone to help you access relevant information anywhere, anytime. You need CAESAM.

CAESAM provides a reference framework on which you can build and customize your application so as to make it a unique platform federating product-related information needed to collaborate with business partners and support processes including product innovation, design and engineering, quality and maintenance management.

## **WHATEVER YOUR INDUSTRIAL SECTOR... WHATEVER YOUR PROFILE**

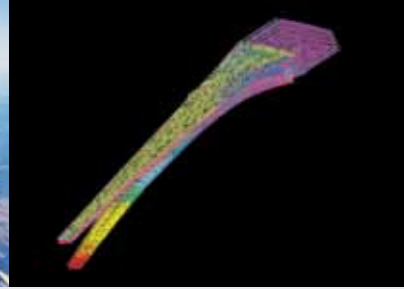
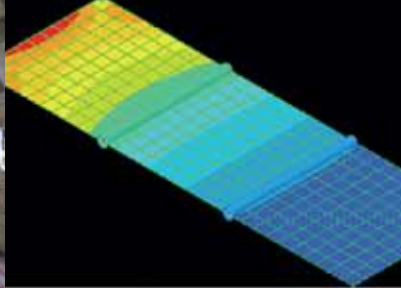
CAESAM application can help your organization:

- Provide role-specific, context-driven access for internal and external users to relevant information, tools and services;
- Support strategic sourcing by interfacing with supplier relationship management software;
- Improve decision-making through insight into projects; flexible reporting; and analytics for portfolio management, product safety and product quality;
- Increase strategic and operative control by monitoring product and production changes affecting timelines, costs and resources;
- Provide an open-technology framework that delivers up-to-date data required by enterprise processes for demand planning, manufacturing, purchasing and sales.

## **GENERAL CHARACTERISTICS**

- Extensible engineering process framework thanks to its ability to embed commercial software and in-house skill tools. CAESAM Software Development Kit (SDK) based on solid and modern programming languages ensures an efficient integration of user tools;
- Evolutivity scalability and Robustness: New tools can be plugged into CAESAM, even after software deployment. Embedded tools update and maintenance are easily achieved thanks to CAESAM plug-in mechanism;
- Thanks to its embedded capabilities for parametric design and analysis, CAESAM also offers the possibility to iterate over simulation processes and to identify the best design among a wide range of configurations;
- Productivity Gain is a consequence of the uniform GUI that CAESAM proposes for all tools, regardless of their technological specificities. Integrated tools are easier to use without any limitation: they keep all their features and functionalities;
- Moreover, CAESAM GUI uniformity and Ergonomics are also ensured by the possibility to create a customized GUI with advanced capabilities (like 3D view, dedicated help, view by steps...) using the CAESAM SDK;
- Industrial needs ready: huge amount of data can be processed by submitting jobs to remote servers. The mandatory data versioning and compatibility features are also present in CAESAM. Performance goal is also reached: Industrial State-of-the-art programming technologies and strict optimization criteria are part of the CAESAM application and CAESAM SDK.

CAESAM software is currently available on Linux and Windows.



## THE CONCEPT

CAESAM is a high level CAE integration platform. It allows the customization and the management of the customer's entire engineering process, potentially involving any commercial software and in-house skill tools. This environment is based on the Knowledge Based Engineering (KBE) concept: it encapsulates customer skills and knowledge into analyses (processes and methods). This ensures reusability, which leads to reduction of costs and Time-to-Market. CAESAM also offers embedded capabilities for parametric design and optimization and it can be linked to the customer PDM (Product Data Management). Furthermore, data can be shared within and across CAE analysis disciplines.

CAESAM represents an added value for any industrialist facing with standardization and rationalization issues with respect to engineering methods and computational tools, allowing a significant improvement of communication between departments and teams, from experts to users.

## DATA MANAGEMENT

CAESAM adapts itself to customers needs: CAESAM Studio allows to design data types, using xml, java, C++ and python programming languages.

CAESAM Studio provides means to fulfill all customers requirements for data and functionality: model topology, material behavior, physical data, boundary conditions, loads, constraints... all of them can be efficiently expressed and used in CAESAM.

## ANALYSIS - INTEGRATING METHODS AND TOOLS IN AN ELOQUENT FRAMEWORK

The heart of CAESAM is its capability to act as a federating platform where you can integrate a wide variety of computational processes, from your own in-house codes to commercial software. Once integrated, they become analysis templates that can be instantiated on the calculation points of your model.

CAESAM offers the possibility to define customized objects corresponding to the elements of your model carrying the information required by the analysis, and the corresponding data can be made visible in specific editors, making the framework an eloquent tool for engineers.

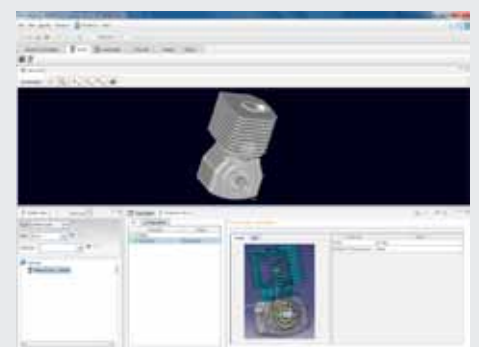
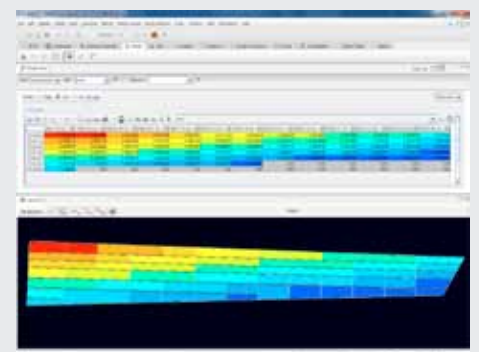
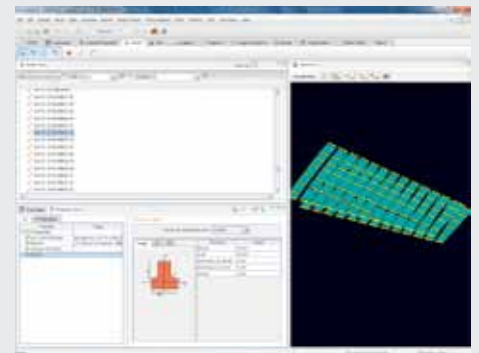
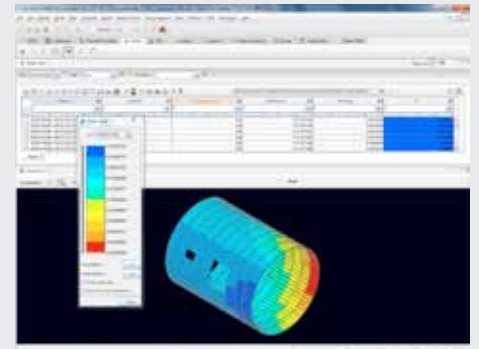
## FROM ANALYSES TO WORKFLOWS AND OPTIMIZATION

Analyses can be grouped together and organized in proper computational chains called workflows. Experts can define design variables easily and by varying the values of these parameters users can identify the best design. This can be further automated by using CAESAM embedded parametric design and optimization capabilities, where robust and proved algorithms iterate over successive designs to identify the optimal values of the parameters.

## POST-PROCESSING AND REPORTING

CAESAM offers a complete set of post-processing capabilities including tables with data filtering, 2D curves, visualization of results on 3D-view model representation or other topological support.

Experts can further define templates for automatic generation of reports for a better assessment of analysis results in view of certification.





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