

Snecma Space Engines Division

On-line collaboration across the extended enterprise with 3DLive



Overview

■ Challenge

Enhance collaboration by making information-rich 3D product data available to all innovation stakeholders – both in and outside of the engineering department

■ Solution

3DLive for ENOVIA provides an easy-to-navigate 3D view of products to all staff enabling even non-technical users to quickly locate and visualize parts and to access all information related to them, and to exchange on-line with colleagues on the most up-to-date product information

■ Benefits

Increased collaboration thanks to better communication, improved reactivity since users can find and fix problems when they occur, and greater innovation thanks to wider access to 3D product data



Snecma, SAFRAN Group - a world leading manufacturer of aircraft and space engines with a wide range of propulsion systems

Based in Vernon, France, the Space Engines Division of Snecma is a driving force behind the Europe's push into space. Its 1100 employees develop and produce propulsion systems and equipment for rocket launchers and satellites. This includes cryogenic engines for launch vehicles, as well as electrical thrusters for satellites and space vehicles. The Vulcain® 2 and HM7B engines for the Ariane 5 launcher are produced and tested at Vernon.

Snecma is responsible for the design, testing, production and assembly of an engine. Development times can last up to 15 years with a final product lifespan of up to 30 years. Its engineers manage complex industrial projects that require coordination with a number of subcontractors and up to 40 partners throughout Europe

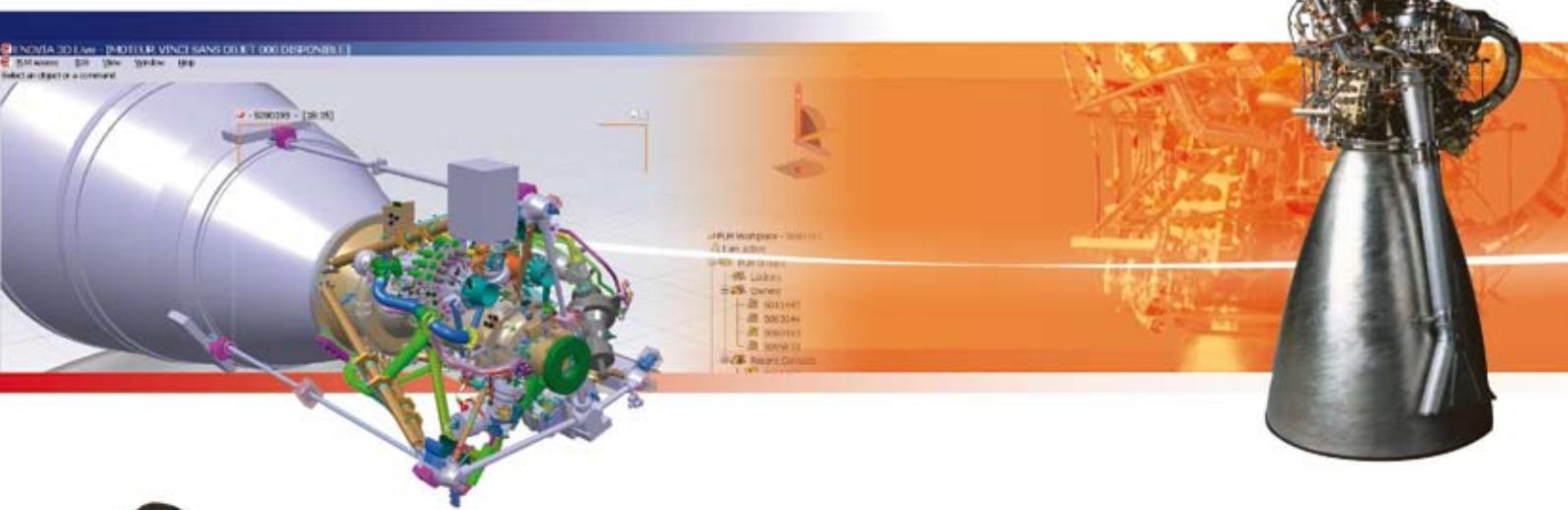
including Avio (Italy), EADS-Astrium and DLR (Germany), Volvo Aero Corporation (Sweden). With this many players involved, effective project management is critical to the engine development process. Collaboration must also be optimized throughout the value chain.

"We develop our products on platforms which require a high level of collaboration," said Thierry Delaporte, VP Deputy Operation Office, Snecma Space Engines Division. "We already possess a culture of working together and sharing internally. Our objective with 3DLive for ENOVIA is to implement this "working-together" philosophy with our partners as part of our strategy to operate as an extended enterprise."

3D digital product – a universal language for collaboration

At Snecma, working with the 3D digital mock up is primarily the domain of design specialists. This first level of people uses





“3DLive for ENOVIA takes collaboration to a higher level by providing everyone involved in the lifecycle of our products with a quick and easy way to access the same 3D digital information.”

Thierry Delaporte, VP Deputy Operation Office, Space Engines Division, Snecma, SAFRAN Group

CATIA V5 and ENOVIA Digital Mock-Up to exchange technical information and share opinions. Progressively, Snecma is moving toward making 3D its product reference where designers will design in 3D and analysts will verify, directly on the 3D model, that the design adheres to specification. “We are even currently studying the possibility of assembling the engine directly from the digital mock-up thereby creating a 3D value chain where interoperability exists between the different product development phases, all in 3D,” said Delaporte.

Beyond this first group of design engineers and analysis experts, other Snecma employees also need to access and visualize the 3D product information including: program managers who are frequently in contact with customers and suppliers; technical project managers who supervise development teams; product quality managers who treat possible product anomalies; and procurement staff who purchase product components.

3DLive – a springboard for collaboration between all professions

3DLive is Dassault Systèmes new, lightweight application for on-line collaborative intelligence that leverages both enterprise 3D and PLM information. It provides a revolutionary, easy-to-use 3D interface that connects the people, processes and products needed to accelerate decision making and drive innovation. It fully leverages existing Dassault Systèmes applications and data, and is downloadable online.

3DLive offers Snecma a user-friendly way for technical as well as non-technical staff to access 3D product data. “Users don’t need a lot of experience or technical knowledge to manipulate a complex 3D engine since the user interface is relatively simple and easy to learn,” said Delaporte. “This is a breakthrough for those who need to access and visualize a part since they can now exchange with their colleagues in a more productive manner without having to learn all the mechanics of the more complex



DMU tools already used by our engineers,” he adds.

Benefits in productivity and precision

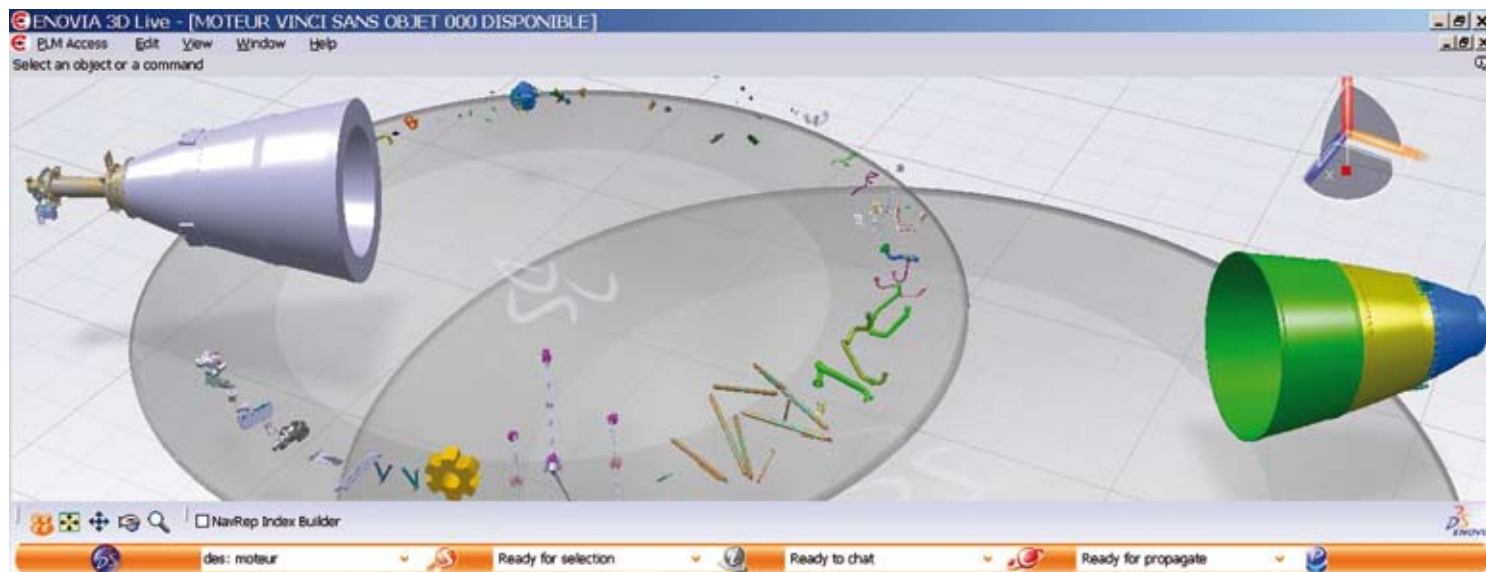
Within the company, 3DLive helps Snecma save time since information is rapidly accessible. It improves the quality of exchanges between actors since they are

simultaneously accessing the same up-to-date product data and making decisions based on a clear and mutual understanding of the information.

“3DLive could help us to accelerate defect management since our test teams in Germany could exchange rapidly with their development colleagues here in

“With 3DLive, users don’t need a lot of experience or technical knowledge to manipulate a complex 3D engine since the user interface is so simple and easy to learn.”

Thierry Delaporte, VP Deputy Operation Office, Space Engines Division, Snecma, SAFRAN Group



France. The same applies to our people at the European launch site in Kourou, French Guyana. If there is a question about an engine piece which needs to be answered quickly, 3DLive would facilitate communication between the site and head office for rapid decision making and any required technical assistance," said Delaporte.

"3DLive also ensures that all users, even non-technical users, can easily the right information. Normally, we would need to issue queries to a database to get detailed product information, and for most people, that's just too cumbersome."

In addition, 3DLive improves information exchange with partners and suppliers, and the Space Engines Division is currently laying the foundations for better collaboration throughout the extended enterprise. "Beyond the ability to visualize a product, we want to use the application's most advanced tools to make real-time collaboration at a distance possible based on the same product information and where all parties can contribute and exchange ideas," said Delaporte.

A driving force for innovation

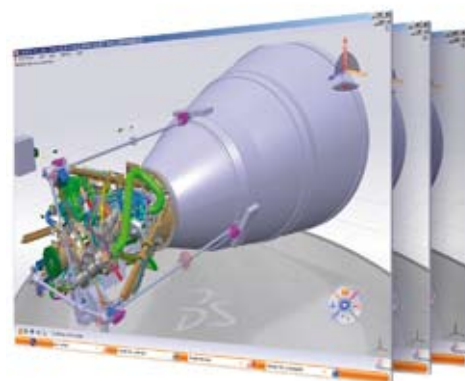
Snecma believes that better collaboration will also fuel innovation. "We can go further in our quest for superior products from the moment everyone has access to the same information which is rich in detail and rapidly available on their screen. 3DLive is a means by which our people can exchange ideas more easily as well as make suggestions that can lead to improvements, and this will pave the way for increased innovation in our products."

Moving toward a paperless environment

Snecma plans to eliminate the use of paper in its offices by the year 2010 and to adopt a 3D Master approach for an environment entirely based on 3D digital representations of engines. The company plans to use 3DLive to help it achieve this objective. Based on the 3D Master approach, all information required for production and assembly will be found in the 3D master environment, and the different actors will use 3DLive to access the master data. For example, the production engineers will use 3DLive to visualize tolerancing information in 3D so that they can adjust their machines prior to manufacturing.

"3DLive makes it easy for people to exchange ideas and make suggestions. This will pave the way for increased innovation in our products."

Thierry Delaporte, VP Deputy Operation Office, Space Engines Division, Snecma, SAFRAN Group



Dassault Systèmes
9, quai Marcel Dassault, BP310
92156 Suresnes Cedex France
Tel: 33 (1) 40 99 40 99

CATIA®, DELMIA®, ENOVIA® and SIMULIA® are registered trademarks of Dassault Systèmes or its subsidiaries in the US and/or other countries.

Images courtesy of:
-Snecma
-ESA/CNES/ARIANESPACE-Photo Optique Vidéo

© Copyright Dassault Systèmes 2007.
All Rights Reserved.

Ref: RF_F_AOL67_EN_200704

The Dassault Systèmes home page can be found at www.3ds.com

