

MASCHIO GROUP

Harvesting benefits with CATIA V5 and ENOVIA SmarTeam





MASCHIO GROUP Objectives

- *Meet local customer requirements with innovative, market-specific machines*
- *Reduce product development times to meet market deadlines*



“All companies face the same challenges - to meet customer requirements and to reduce the time-to-market. CATIA V5 and ENOVIA SmarTeam are the best answer.”

Massimo Crozzoli, I.T. Director,
MASCHIO GROUP

Company Overview

In 1998, Italy-based MASCHIO S.p.A., GASPARDO Seminatrici S.p.A. and TERRANOVA S.p.A joined forces to become the MASCHIO GROUP, a world leader in agricultural machinery with a workforce of more than 580 and an annual turnover of 82 million euros in 2002.

The GROUP produces and markets agricultural machinery, including MASCHIO power harrows, rotary tillers and shredders and GASPARDO seed drills, row-crop cultivators, and finger-blade mowers for sowing operations. The machines are designed and assembled at separate locations mainly with components manufactured at the GROUP's TERRANOVA plant.

Business Challenges

Agricultural machines must be as varied as the land they work. “Market needs differ from one region in the world to another due to differences in the type of soil or seeds, but also to differences in legislation, such as those concerning road dimensions,” says Paolo Cera, Marketing Director, MASCHIO GROUP.

To meet this challenge, the GROUP had to develop an aggressive marketing and commercial strategy focused on producing agricultural machines that meet local market needs anywhere in the world. Critical to the success of this strategy is the GROUP's ability to quickly develop and manufacture innovative and market-specific machines.



Solution

This innovative and reactive product development structure became a reality when the GROUP implemented Dassault Systèmes Version 5 Product Lifecycle Management (DS V5 PLM) solutions in 1999, integrating the 3D product development capabilities of CATIA V5 with the data and lifecycle management features of ENOVIA SmarTeam. “When we selected CATIA and ENOVIA SmarTeam, we were looking for a long term solution,” says Massimo Crozzoli, I.T. Director.

Progressive implementation

MASCHIO GROUP has implemented CATIA V5 and ENOVIA SmarTeam progressively, starting with GASPARDO Seminatrici in 1999, followed by MASCHIO in 2002.

Today, GASPARDO’s design office, with its three project managers and eight design engineers, develops all new machines using CATIA’s 3D modeling, sheetmetal, surfacing, assembly, drafting, and analysis tools. Moreover, GASPARDO designers have implemented ENOVIA SmarTeam to structure their working processes.

The transition to DS V5 PLM was quick and easy. “A new employee is fully operational in CATIA V5 within four to five days, and capable of producing detailed drawings 100% compliant with our standards after two weeks,” says Paolo Grasso, Project Manager.

MASCHIO’s former design tools consisted of a 2D CAD system and a Product Data Management (PDM) system. First, the design office’s 25,000 drawings, including the corresponding archive system of links between drawings and historical drawing records were migrated to the ENOVIA SmarTeam database. With this phase easily completed, CATIA V5 came on line within the ten-person design office.



“We can manage any type of information in the ENOVIA SmarTeam database and link it to the project. Our design engineers cannot imagine working without ENOVIA SmarTeam.”

Lorenzo Asti, Project Manager,
MASCHIO Technical Department





Results

More innovative products

CATIA V5's advanced features and ease-of-use enable GROUP design engineers to concentrate on designing the product rather than operating the tool.

“CATIA V5 gives you the opportunity to think better, since your attention is not focused on the type of command that has to be used, but on the type of design that is being prepared,” says Paolo Grasso, Project Manager. Since its implementation, it has enabled GROUP designers to explore 50% more design options for each project, which improves quality and fosters innovation.

Reduced development costs

GASPARDO has substantially reduced development costs with the implementation of CATIA V5. Thanks to the digital mock-up capabilities in CATIA V5, GASPARDO engineers can detect design errors before producing a physical prototype. Producing a physical prototype without errors the first time translates into reduced costs.

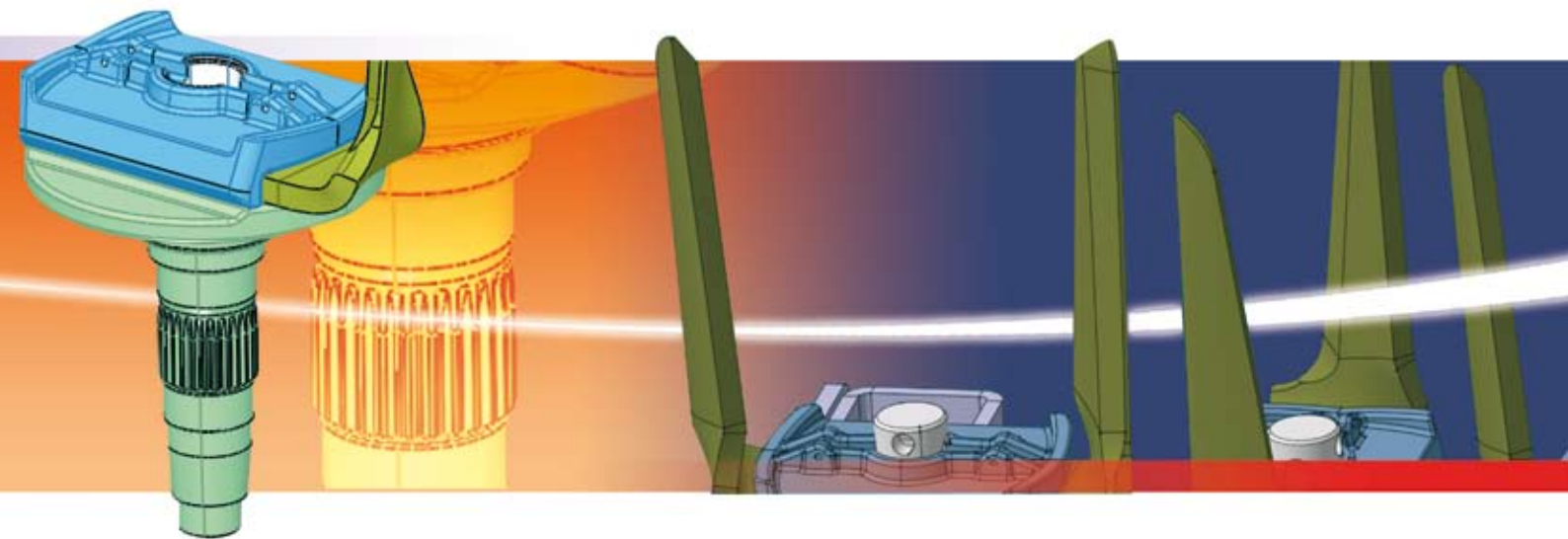
“In the past, creating a mold for testing cost about €5,000. With CATIA V5, stereolithography (STL) prototypes cost €150. This represents an overall direct savings of more than 115 k€ per year,” says Paolo Grasso, Project Manager.

For MASCHIO's design office, CATIA V5 has also contributed to reducing product development costs. “We now realize that by switching from our previous 2D system to CATIA V5, we improved quality by 70%. We've been able to reduce the number of errors made during the design phase. These errors were costly to correct later on,” says Lorenzo Asti, Project Manager.



“Missing the critical springtime deadline costs a year of potential sales. Thanks to CATIA V5 and ENOVIA SmarTeam, we no longer worry about meeting this deadline.”

Paolo Cera, Marketing Director,
MASCHIO GROUP



V5 PLM Key Benefits

Reuse of knowledge and harmonization of processes

ENOVIA SmarTeam enables MASCHIO GROUP to capture and automate working processes related to product development, thus enabling engineers to maximize company knowledge.

Designers can now formalize and harmonize working processes that lead to costly errors. ENOVIA SmarTeam simplifies the work of project managers, and gives more autonomy to design engineers while ensuring the consistency of their work with regard to corporate processes.

Reduced development cycle time

GASPARDO has reduced the development cycle time of new machines by 55% from 18 months to eight months. This enabled them to have design projects right in time. This savings is critical to the company that has precise, seasonal deadlines for its planting machines.

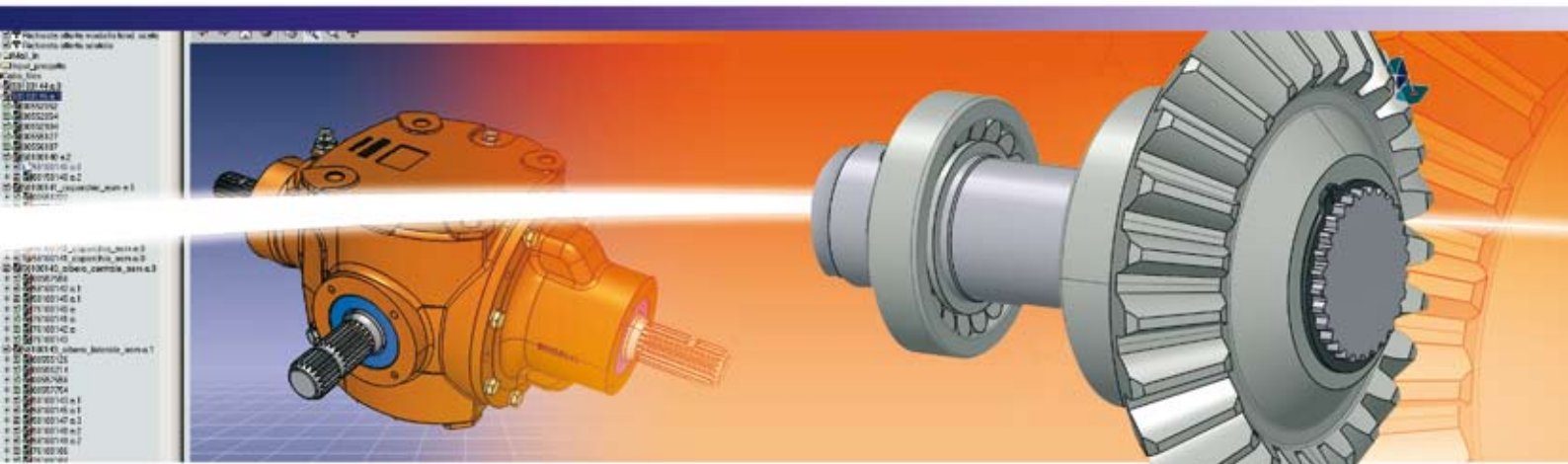
Planting equipment projects must be completed by springtime when pre-series on the soil is carried out. If the company misses planting time, it means delaying the project not by a few months, but by a whole year. "By shortening the cycle time by ten months, we are now much more flexible and better adapted to the changing market demand. This benefit is priceless for our company," says Paolo Cera, Marketing Director. ENOVIA SmarTeam has also enabled MASCHIO to reduce development cycle time by allowing designers to spend less time on making changes.

+ 50%
Creativity
Design productivity gains allow greater testing of alternatives and more innovative product development

+ 70%
Design quality
Design quality was improved by moving from 2D to 3D

- 115 k€
Prototype costs per year
Prototype costs for molds have been reduced 24-fold

- 55%
Time-to-market
Time-to-market for new projects has been cut from 18 to 8 months



“To do a part modification, a designer can now immediately identify all projects where the part is used, and verify the impact of the modification on the other projects. In the past, he had to open all assembly files one by one. This saves time, cost and worries,” says Lorenzo Asti, Project Manager.

CATIA V5 and ENOVIA SmarTeam have enabled the MASCHIO GROUP to meet and surpass its business challenges. By unleashing designers' creativity and by drastically reducing new product development cycle time, DS V5 PLM solutions have enabled the GROUP to provide clients with more innovative and market-specific machines, while respecting market deadlines.

“Our strengths are to be able to capture and integrate local market needs, and to bring innovative products to market much more rapidly. Without a doubt CATIA V5 and ENOVIA SmarTeam PLM solutions are the keys to that success,” says Paolo Cera, Marketing Director.



“With ENOVIA SmarTeam, anarchy is over. The product's life cycle is managed with greater logic.”

Paolo Grasso, Project Manager,
GASPARDO Technical Department



Future

To extend the benefits of CATIA V5 and ENOVIA SmarTeam to the entire company, the GROUP plans to implement CATIA V5 Machining products at TERRANOVA and expects to use additional ENOVIA SmarTeam products to enable engineers to synchronize GROUP databases and reuse part among its design offices.

The GROUP also will create an interface between ENOVIA SmarTeam and its internal ERP system to synchronize engineering and manufacturing bills-of-materials, allowing purchasers to be more reactive.

MASCHIO GROUP will employ ENOVIA SmarTeam web tools to share design information with other departments in the company and enable suppliers or remote operating centers to access design information via the Internet.

V5 PLM for the Fabrication & Assembly and Consumer Goods industries

Dassault Systemes has been working with major Fabrication & Assembly (F&A) and Consumer Goods (CG) manufacturers and suppliers for more than 20 years to provide a range of leading PLM solutions.

DS V5 PLM solutions cover the product development needs of F&A sectors such as machinery manufacturing for industry, construction, mining, paper,

printing, textiles, the industrial equipment sector and other specialized production and process domains. It covers the requirements of CG sectors, including furniture, white goods, home and garden, leisure, personal goods, watches and jewelry and consumer packaged goods.

The DS V5 PLM portfolio of CATIA, DELMIA, ENOVIA and SIMULIA enables F&A and

CG manufacturers to increase innovation, reuse company knowledge and part design, standardize processes, ensure quality, increase flexibility and reduce product development costs.

For information about DS V5 PLM solutions for F&A and CG industries, visit www.3ds.com

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

Dassault Systèmes
9, quai Marcel Dassault
BP 310
92156 Suresnes Cedex
France

As a world leader in 3D and Product Lifecycle Management (PLM) solutions, the Dassault Systèmes group brings value to more than 90,000 customers in 80 countries. A pioneer in the 3D software market since 1981, Dassault Systèmes develops and markets PLM application software and services that support industrial processes and provide a 3D vision of the entire life cycle of products from conception to retirement.

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The Dassault Systèmes V5 PLM offering consists of CATIA V5 for designing the virtual product, DELMIA for virtual production, ENOVIA for global collaborative lifecycle management (including ENOVIA VPLM, ENOVIA SmarTeam, and ENOVIA MatrixOne), and SIMULIA for virtual testing.

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