

# Flying High in South Africa

Aircraft seating developed by Aerosud.



By Nick Lerner

Aerosud Aviation Pty (Ltd) is a South African aerospace company that has achieved significant business growth in international markets coupled with major companywide productivity gains through the adoption and advanced use of Dassault Systèmes PLM technology.

## PREPARED FOR TAKE OFF

With a growing demand for its services as both a design and manufacturing contractor to the international aerospace industry Aerosud adopted Dassault Systèmes PLM technology in 2001. Since that time the company has grown as a supplier of its own product designs and as a supply chain partner in the Airbus A400 manufacturing programme. The Aerosud Group employs 600 people across its enterprise with 20-30 PLM operators. Presently Aerosud designs and manufactures

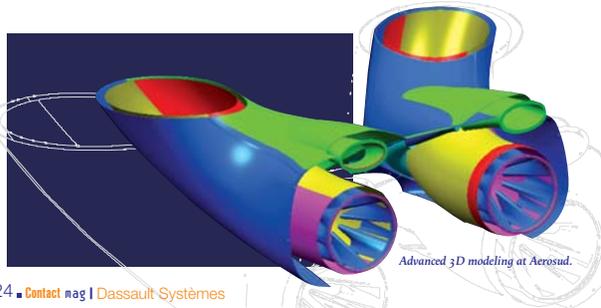
acoustic liners for cargo holds, seat dividers, cockpit liners, complete galleys and an extensive range of sheet metal and machined parts including manufacture of 2.4m wing tips. They also produce geometrically complex composite assemblies and ancillary systems including fuel tanks, radar assemblies and FLIR installations. Johan Steyn MD of Aerosud Aviation described the company's work, "We conduct multiple aviation related programmes which comprise making our own products, designing and manufacture for aerospace OEMs and operating as

a production house for externally developed designs. We realised in 2001 that to develop as a company it was important to invest in a design-to-manufacture system able to handle the work that we had at that time but also grow with us and be future proof.

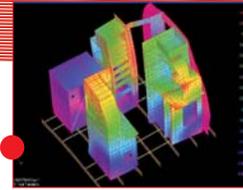
"Our investment in DS PLM technology was a major step for us and to a certain extent a leap of faith, but one that has been completely vindicated by subsequent events. When the A400 programme came to South Africa we were able to join the design and manufacturing supply chain because we were prepared and equipped. We were also able to run a truly efficient business by extending our PLM infrastructure to include ENOVIA SmarTeam."

## CONTROLLED ASCENT

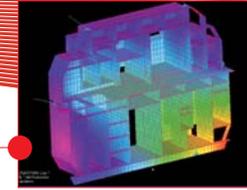
The incorporation of ENOVIA SmarTeam has brought significant benefits to the company in areas including configuration management, version control and re-use of multiple parts. Johan Steyn explained, "Dassault Systèmes PLM has helped us to participate in the Airbus manufacturing programme and deal with the complexities and demands that this entails. It has been a steep learning curve but one in which DS and its South African VAR, CDC, have been instrumental in helping us to achieve the best possible results both for us and our customers."



Advanced 3D modeling at Aerosud.



Analysis of aerospace assemblies developed using PLM.



In practice

AEROSUD

CDC  
CATA DESIGN CONSULTANTS  
Your Technology Partner

## We are now able to integrate fully with the Airbus design and manufacturing programme.

Johan continued, "The DMU (digital mock up) that we work with for Airbus changes constantly during the design phase and we are able to communicate directly via a secure data link, in conjunction with other suppliers around the world, in a truly collaborative engineering environment. Once the design has been finalised we manufacture both tooling and components directly from the 3D design data. This ensures absolute accuracy and allows for tolerance veracity checks using CMM (coordinate measuring machinery).

"Our PLM system produces a BOM (bill of materials) which can integrate with our Enterprise Resource Planning (ERP) system to give us very high levels of control over shop floor management, standards and the entire design to build process. By using PLM, we have been able to make considerable savings in our stock holding and are also able to re-use and transfer designs to produce similar but different variations."

## UPGRADE

By restricting the variability of designs and creating a central library of parts, Aerosud has been able to offer its customers better designs and services, which are now more speedily executed. The company has also been helped to meet its own requirement for higher quality and increased productivity at decreased cost.

Aerosud's current 18 PLM seats have produced a positive influence throughout the company because the advanced methodology that they engender within Airbus programme, has led to other, enterprise-wide benefits. Johan Steyn explained, "We have developed a strong com-

petitive advantage with Dassault Systèmes PLM by introducing common processes. Quality has improved through a rationalisation of BOMs which now contain only the best options and variants. Costs have been cut through this technique largely through having fewer stock parts and extending the use of those that we do hold. Delivery times have shortened because, by using ENOVIA we have reduced design times and can often re-use or make changes to existing designs rather than constantly producing wholly new ones.

"Sourcing is now much quicker because we are able to use the PLM system as repository for our accumulated knowledge. In practice this allows us to know which are our best suppliers and which of those meet our stringent quality, cost and delivery criteria. When new staff join Aerosud, they are able to benefit from this knowledge and make better decisions based on the experience that others have gathered over the years. We have effectively turned knowledge from something that that could be easily lost into a valuable company asset that helps us to improve everything we do."

## TIME TRAVEL

Johan concludes, "Dassault Systèmes PLM technology has brought us the benefits of being able to integrate fully with the Airbus design and manufacturing programme twinned with an ability to introduce world class methodology to the rest of our business. It is a major decision for any company to initiate and develop a PLM infrastructure and the challenges that it presents are not insignificant but having been through the process I can attest that the benefits are there for the taking. We have seen our company grow 5 fold in as many years and generate a level of productivity and improvement that I believe could not be achieved by any other means. As Aerosud progresses, our PLM system will develop accordingly enabling us to capitalise on opportunities as they present themselves."

For more information:  
www.cdca.co.za  
www.aerosud.co.za



Aircraft galley.