



3D detail reffer fabrication.

By Nick Lerner]

Keep on Trucking

Lighter weight, longer life and increased strength at lower cost have been achieved through the use of Dassault Systèmes technology at leading South African reefer trailer manufacturer, SERCO.

REEFER MADNESS

Over the last 25 years the SERCO Group has become South Africa's foremost manufacturer of reefer trailers with an additional large national repair and maintenance business. Derrig Gottemaker, the company's Engineering Director, uses Dassault Systèmes V5 PLM featuring CATIA and ENOVIA SmartTeam software, to ensure that through their hard life, SERCO trailers survive the harsh treatment they meet on their long travels around the often poorly maintained roads of South Africa.

The company annually builds and supplies more than 240 reefers complete with chassis and axles many of which are refrigerated. This gives the company around 60% regional market share.

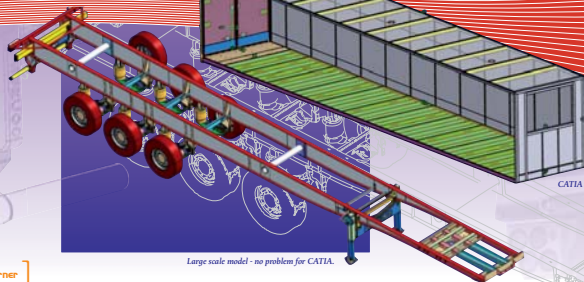
SERCO is quality oriented in a competitive market where buyers are always looking for lighter, stronger, more long-lived reefers that can withstand years of mistreatment by largely unskilled workers. The company had been using a 2D CAD system that was proving unwieldy and

was unable to deal with the progressively advancing production methodologies that SERCO deploys. Derrig had experienced Dassault Systèmes PLM at MAN and brought it to SERCO where its impact has proved profound.

SPEED DATA

Derrig explained, "CATIA proved to be the most stable software we evaluated and it is additionally able to handle large assemblies which is important because our trailers are up to 35 meters long. Since its installation the output of plans and production data has accelerated. Once we had transferred the data to CATIA, significant productivity benefits became apparent. CATIA methodology is the first step in a journey towards a more complete PLM installation at SERCO with Dassault Systèmes ENOVIA SmartTeam software being recently introduced to handle data generated from CATIA. 3D models are held in ENOVIA SmartTeam where links to design level revisions are maintained along with several generations of 3D models. SERCO plans to allow these models to be more generally available to other departments and partners who to access the models and associated data to aid their own work.

Further plans exist to bring other Dassault Systèmes PLM software into use at SERCO including 3DVia for its ability to create work



Large scale model - no problem for CATIA.

In practice

SERCO

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CATIA V5 model.

instructions, develop web based materials and to provide information in formats best suited to other users needs. This could help SERCO with staff training for assembly and maintenance using 3DVIA: 3D model animation procedures to replace more traditional communication techniques.

The current system allows information to be passed to engineers where the benefits include and ability to change designs using Microsoft Excel spreadsheets to drive model iterations by numerical dimensions. The time saving using this technique is considerable. Derrig explained that, "Numbers are all, so a design revision that carries with it all the related data including part numbers and amendment levels reduces mistakes and removes major restrictions to our workflows."

TRUCK DRIVING MAN

Derrig continued, "3D operation throughout our engineering and related processes, allows us to generate a bill of materials from the model and simultaneously generate accurate quotes and visual marketing materials. "This system allows us to see products as they really are rather than imagining a 3D image from a 2D original. It also enables direct machine programming and consequently much greater levels of production accuracy and better cost control. Additionally we have improved component and trim fit achieving a better product with less need for late reworking and grinding. We know that a part will fit, which leads to faster production throughput and a quicker time to market".

SERCO is able to achieve, comply with and maintain company and international standards which are applied throughout the development process helping to lead the company successfully through its 3D strategy. Derrig Gottemaker outlined this plan, explaining, "By generating parametric plans and defining critical dimensions from data held in ENOVIA SmartTeam we have shortened our design cycle time by 70%. Our designers can do more work in less time and have a better work experience which increases their motivation and produces a better overall outcome.

"Dassault Systèmes CATIA and ENOVIA methodologies produce an environment in which we can focus on new developments helping to create a more efficient and productive future for SERCO."

BIG WHEELS ROLLING

In conclusion Derrig described the major benefits that SERCO has experienced since deploying Dassault Systèmes technology, "By creating easy to understand and read 3D imagery that also contains a complete set of associated data we can provide accurate and relevant information in suitable formats, across our internal and external supply chains. This not only allows semi-skilled labour to access complex information presented in a simple form but also allows top-level engineering analysis and simulation from the same 3D model. 3D is rapidly becoming a universal language which can be understood and used by all since - a picture tells a thousand words" -]

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



SERCO reefers built to last.



SERCO trailer on the road with Dassault Systèmes technology.