



OFFICE SUITE F1, MIDWAYS MALL | 280 CORLETT DRIVE, JOHANNESBURG, SA
TEL: +27 11 786 3516 | Fax: +27 11 786 3520 | Email: info@cdcza.co.za | Web: www.catia.co.za

CHARGED UP

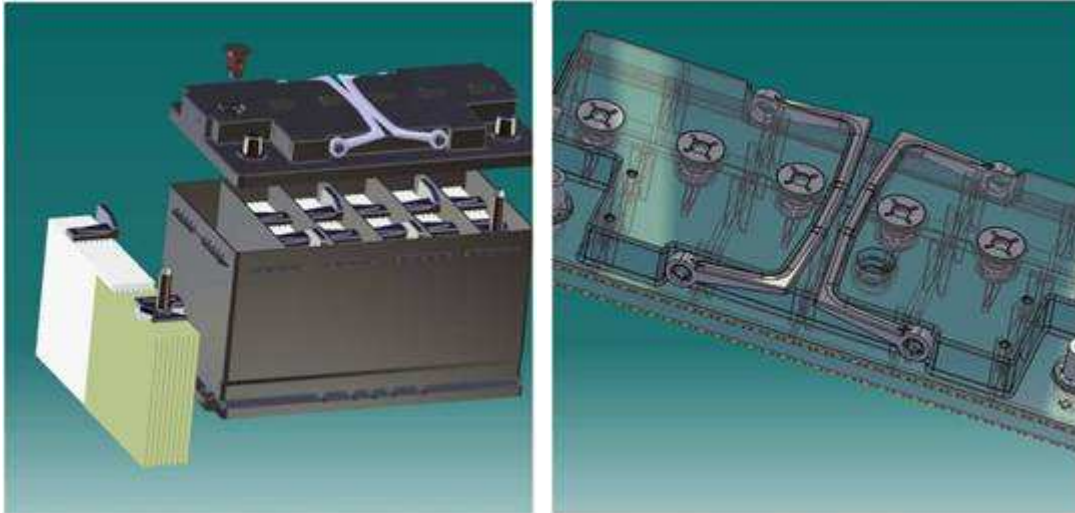
Abstract: South Africa's leading automotive battery company deploys Dassault Systèmes 3D technology to stay at the forefront of OEM requirements. First National Battery celebrating almost 80 years of production.

Introduction

South Africa's First National Battery, produces 2.2 million lead acid batteries per year for a range of industrial, commercial and transport applications. Its automotive batteries are supplied to major OEMs including, Mercedes Benz, Toyota, Nissan, BMW, Volkswagen SA, Renault, Nissan Diesel and MAN.

Tony Du Preez, the company's Product Development Manager, spoke about how First National Battery uses Dassault Systèmes 3D technology to develop better batteries, "We work with OEMs to make lead acid batteries that match their precise size and output requirements. We use CATIA to design tooling, moulds and components. We also develop and modify assembly tooling using 3D simulation software."

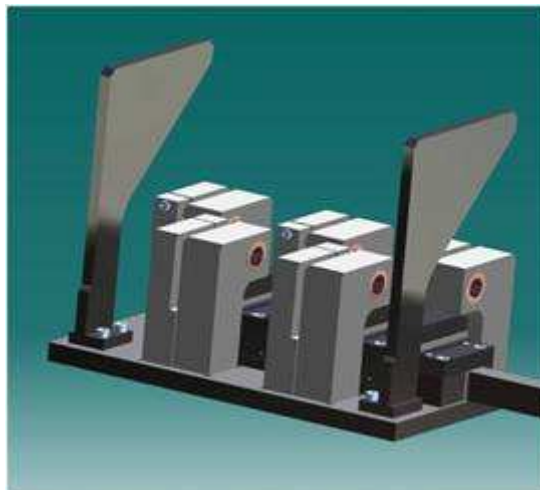
The company faces a constant demand to produce batteries that are smaller, lighter and more powerful. Tony explained how this is achieved, "Weight reduction in lead acid batteries is achieved gram by gram. Using CATIA we iterate the design of battery grids and take out extraneous material wherever possible."



Positive Improvements

Many of the improvements made to batteries are based on new technical developments. Working with 3D digital models First National Battery is able to optimise designs and processes to take advantage of continual advances in technology.

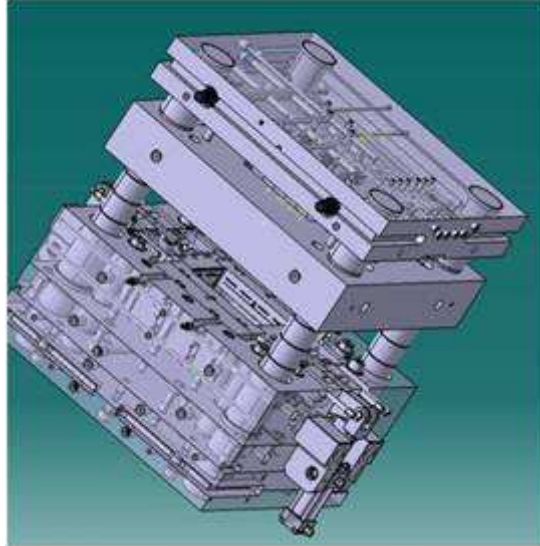
“3D CATIA models are used throughout the extended enterprise. Using digital models means that we don’t have to make prototypes to test new ideas. This accelerates innovation and allows our technical team to run many ‘what if’ scenarios and grid patterns. It also allows us to accurately judge the effects of varying grid thickness across the plate and improve battery design while reducing weight.”



Using the advanced facilities of the same Dassault Systèmes’ software as the automotive OEMs that they supply, ensures that First National Battery maintains and enhances its premier position in the automotive supply-chain.

S.A. Leading **CATIA** Value Added Reseller CDC helps their work by making sure they have the necessary skills and training,

“We get valuable training that keeps us up to date and show how we can get the most out of our system. CDC helps us improve productivity with tailor made courses and software support. This is achieved by understanding our design, engineering and manufacturing systems as well as our data communication needs, with OEMs and suppliers, they are able to deliver significant technical and commercial benefits.”



Thinking Outside the Envelope

Tony Stated, “My experience with several design engineering simulation packages showed me that they often restrict innovation by forcing users to adopt certain kinds of design. This is not the case with **CATIA** which has no such restrictions.

With **CATIA** we can quickly generate solutions in line with our customers’ needs and develop tooling designs that we know will be most effective. The power of **CATIA** means that we never run out of development capacity and the time we save can be counted in hundreds of hours.”

Working with OEMs requires First National Battery to design within prescribed envelopes. This presents opportunities to deploy **CATIA**’s power to get designs right first time, in less time. Tony explained, “Our designers maintain a visual database of component variations, from these elements a selection can be easily modified for incorporation into a new model.”

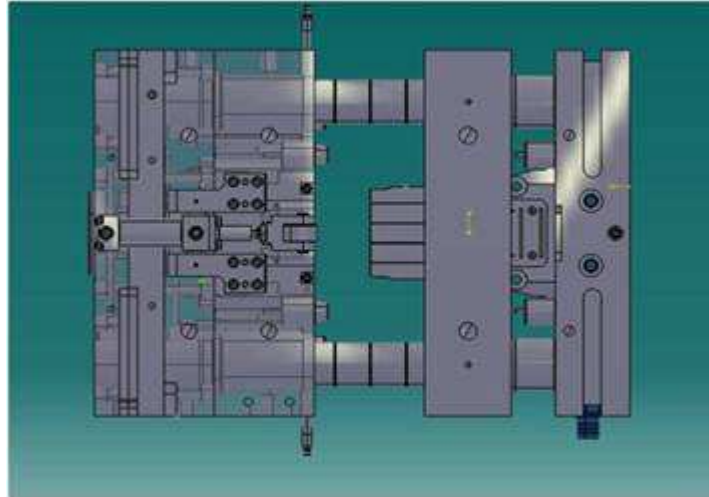
Pushing the Box

One of the extended uses of its 3D data is for marketing. In this context 3D models are excellent for sharing new design principles and other innovations with existing and potential customers. Incorporating engineering models into MS PowerPoint presentations is a powerful way to show complex products to their best advantage. 3D technology is extending its influence through the supply chain.

The company has, with ongoing support from CDC, been equipped to derive maximum technical and commercial benefit from this development. CDC also helps the company stay

in pole position with advice and guidance on which elements of **CATIA** to evaluate for possible deployment.

“With so much on offer to designers, engineers and manufacturers, it is sometimes hard to know which products and services will work best in an organisation. CDC’s experience with companies of all sizes gives us a unique perspective on what will best suit different types of organisations.



To see how yours could be the next electrifying success story, contact:

CDC (CNC Design Consultants)

Tel: +27 11 786-3516 / Fax: +27 11 786-3520

E-Mail: info@cdcza.co.za

Web: <http://www.catia.co.za>

