



Mirgor increases design productivity by 30% with CATIA PLM Express

In order to maintain its leadership position in Argentina's automotive and consumer air-conditioning market, Mirgor needed to develop innovative products in line with evolving customer requirements and specifications. Upgrading to CATIA PLM Express has increased design department efficiency, improved product quality, and strengthened the company's leadership role.

Founded in 1983, Argentina-based Mirgor S.A. develops and manufactures climate control solutions as well as components such as instrument panels, wheels and small parts for the automotive sector. The company has six factories throughout Argentina and its principal automotive customers in the region include PSA Peugeot Citroën, Mercedes Benz, Volkswagen, Renault, and General Motors.

In addition to its climate control solutions, Mirgor expanded its portfolio to include the design and production of heat exchangers and air-conditioning systems for consumers. Working with CATIA provides the company with benefits such as more realistic and precise designs, and the ability to design in context. Over the last 12 years, Mirgor designers have reported a 50% reduction in the time spent on new product design, modification and re-engineering.

LEADERSHIP GOAL IN COOLING SYSTEMS MARKET

Despite these improvements, Mirgor wanted to be even more productive and ensure its leadership position in Argentina's cooling systems market by supplying better products in line with new customer specifications. In 2007, Mirgor acquired CATIA PLM Express including the CATIA Analysis and Digital Mock-Up (DMU) modules.

"The Dassault Systèmes solutions provided greater dynamism and interactivity to our design process," said Walter Calvanese, head of Mirgor's Technical Office. "They facilitated designers learning abilities, and made it possible for them to handle greater product design complexity. With CATIA PLM Express, our designers saved time by reducing modifications thereby increasing design productivity by more than 30%. The solution helped reduce the number of downstream errors by making it possible to detect and correct them early during the design stage and provided greater design validation by tapping into structural behavior tools during the virtual testing stage."

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OPTIMIZED CONDENSER DESIGNS FOR GENERAL MOTORS

CATIA was a clear asset for Mirgor when working for General Motors in Latin America. Mirgor participated in the Chevrolet Corsa 4200 project as part of a General Motors contract to develop an air-conditioning condenser for the Chevrolet Corsa model.

With the help of Dassault Systèmes and Latin America business partner Teckdes, Mirgor redesigned the brackets using CATIA Analysis. It used finite element analysis to virtually test the brackets using a variety of physical performance criteria and by testing performance behavior using vibration scenarios that represent a moving car. "The results surpassed our expectations," said Calvanese. "By virtually simulating the vibration sequences, we were able to reach the best design, which we knew would not be impacted by external forces such as car vibrations. We produced initial samples and sent them to General Motors' plant in Brazil so that they could complete track durability tests. We were confident that the part design would not fail," affirmed Calvanese.

Product trials consisted of driving a car on different types of roads and in adverse climatic conditions for 50,000 km over a period of six months. The designs were tested every 10,000 km to make sure there was no deterioration of the brackets. "The road test was declared a success by General Motors Brazil. At once, negotiations started with GM Argentina, with the objective to produce the parts right here in Argentina. Today, Mirgor is in charge of designing these condensers for General Motors Argentina," said Calvanese.

For more information: www.mirgor.com.ar

Teckdes

Teckdes is a leader in sales, consulting and services for PLM solutions with more than 12 years of experience in end-to-end project development. Teckdes has nearly 40 employees covering three main business areas from design and engineering to consultancy and implementation of PLM solutions. Teckdes is a Dassault Systèmes LATAM certified business partner. Teckdes clients include Toyota, PSA, Renault, Mirgor, Unilever, Coca-Cola, Nestlé, and Arcor.

