



Students at NMMU use V5 PLM on practical automotive projects.



DS V5 PLM in use at the University.



Students collaborate using V5 technology.

in practice



By Nick Lerner

Social Engineering

A Mechatronics degree featuring Dassault Systèmes V5 PLM software is bringing positive social and advanced educational benefits along with OEM level engineering development to South Africa.

REGIME CHANGE UNDERWAY

Since the change of regime in South Africa the country has been seen massive foreign investment, which has led to an engineering boom. In response the Nelson Mandela Metropolitan University (NMMU) in Port Elizabeth was formed as a result of a merger between three tertiary educational institutions and has initiated a specific degree course devoted to training students to fill the growing skills gap for qualified automotive industry engineers.

One of the universities' most successful courses is a 4-year degree in Mechatronics - the discipline that integrates mechanical, electrical engineering and information technology into one degree. This course, which was partly inspired by the developments and trends in the German tertiary educational system and the requirements of the auto industry, has proved a boon to graduates, many of whom have found employment at VW, Mercedes Benz, GM or other South Africa located automotive companies.

The University currently has 30 seats of CATIA V5 and DELMIA. Karl Du Preez the University's Head of Mechanical Engineering, in the School of Engineering explained why. "Dassault Systèmes V5 PLM software was selected as the main design-to-manufacture tool for the Mechatronic Degree because it is one of the industry standards among car manufacturers and their suppliers. The need for native files through the supply chain to the OEM is paramount and DS is the only completely acceptable automotive solution in this country."

FREEDOM THROUGH TECHNOLOGY

Karl continued, "We are rolling out an increasing number of CATIA options for our students to use as part of their Mechatronics degree. We teach design concepts rather than software so we let the students learn CATIA with academic support but largely allow students to learn by experience. They can learn as much as they like and of course they love to learn on such a comprehensive system that includes software

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to handle all aspects of the design to manufacture process. Giving students access to this level of software produces very high levels of knowledge across the production chain."

The University has very strong links with local industry and evolved training courses and consultancy to provide for its needs. By working so closely with industry, courses are designed to accord with local manufacturers' needs, producing students who are qualified to appropriate as well as current standards.

The South African Dassault Systèmes Business Partner, CDC, supplied and installed the NMMU system and keeps the software up to date.

ONE FROM THE HEART

The story of NMMU is heartening because in a country where many children are unable to receive a complete education through lack of local teaching provision, the Mechatronics Degree is a shining beacon of advanced technical education. Through this degree young people who would formerly have been excluded from management positions are able to excel as managers and engineers both at home and abroad. Karl added, "We have an active exchange programme for our students which allows them to go to Stuttgart, Germany to

work in laboratories on industry related projects. Additionally, VWSA is sponsoring a professorial chair at our university and currently automotive companies are providing more than 30 bursaries to fund promising students."

A NEW CAR

At present students are working on a number of industry related projects including the development of robotic manufacturing and intelligent welding cells. A group of students is developing a complete new car and all the while honing their skills on the software that is set to remain the industry standard among OEMs and their

Strong links with potential employers through joint advisory committees and other links, as well as day-to-day contact and meetings have ensured that NMMU graduates can make a valuable contribution not just to industry, but to the social fabric of the country by bringing money from their employment, often to some of the most impoverished parts of South Africa •

For more information:
www.3ds.com
www.cdza.co.za

CNC programs are developed using V5 PLM.

