

A winner in the palm

THE invention of a palm oil-based multi-way magneto-rheological (MR) fluid valve, believed to be the first of its kind by a team of researchers from Universiti Kuala Lumpur Malaysian Spanish Institute (UniKL MSI), has won them an Innovation, Innovation & Design Exposition 2015 gold medal.

Team leader Muhammad Husaini Abu Bakar said the team came up with the invention of palm oil base as an innovative approach to replace a common MR fluid, which uses hydrocarbon oil as a carrier fluid.

This product potentially replaces a conventional hydraulic servo valve used in industry and is capable to improve energy efficiency. Its high precision and compact size give a significant improvement in the hydraulic system.

"We are filing for a patent and the product using palm oil as the main element in MR fluid has given a new potential application of this commodity as a smart material where its state can change from liquid to solid with the presence of a magnetic field," said Husaini, a lecturer in Manufacturing Section at UniKL MSI.

In the same competition, UniKL MSI also won three silver medals for Project Window Grill Assembly Jig (WinGA) under the supervision of Mohd Riduan Ibrahim, Portable Multipurpose Dryer (EZ6s) under the supervision of Nuraida Md Hassan and Convenient Step Ladder (COSTEP) led by Zulkarnain Abdul Latif.

Invention, Innovation & Design



Husini (second from the right) with his team won the Gold Medal in IDEX 2015.

Exposition (idex2015) is an annual international exhibition and competition organised by Universiti Teknologi MARA (UiTM). Situated in Kulim Hi-Tech Park in 1999, UniKL MSI was established

in response to industry demand, especially in technical engineering. Besides having a great collaboration with Spain, UniKL MSI also collaborates with Feiran Technology Sdn Bhd and Dassault

Systemes, which offer Product Lifecycle Management (PLM) Professional Certification Program for all Institusi Pendidikan MARA students in various fields of mechanical engineering, especially

automotive. To fulfil the industrial demand, UniKL MSI designed comprehensive bachelor and diploma programmes, each acting as a catalyst in ensuring accomplishment of the need itself.

As the university that shares the technology and expertise with Spain, UniKL MSI provides high-technology workshops and laboratories with modern equipment, apparatus, machines and tools originally adopted from Spain.

The section houses consist of several laboratories and workshop, including Material Engineering Laboratory, Thermal Laboratory, Fluid Mechanics Laboratory, CAD/CAE Laboratory, Engine Performance Laboratory, Automotive Structure Laboratory, Automotive Powertrain Laboratory and Automotive Chassis and Vehicle Dynamics Workshop.

Specialising in the automotive components industry, UniKL MSI caters for a number of workforces in the automotive field to support the rapid growth of this industry.

By 2020, the predicted number of cars worldwide will reach one billion and this massive development may be sustained with sufficient graduates from UniKL MSI.

■ For details, look out for the advertisement in this *StarSpecial*.