


POST GRADUATE

VC'S COLUMN

Advancing automotive agenda

DURING its early days, University Malaysia Pahang (UMP) identified automotive engineering and manufacturing as two of its four focus areas. The other two are chemical engineering and industrial biotechnology. Once the focus areas were decided on, real and meaningful niches had to be crafted. This column describes the milestones that UMP has reached in operationalising one of its niches.

The automotive engineering programme is now offered in the Faculty of Mechanical Engineering while the manufacturing programme resides in the Faculty of Manufacturing Engineering. Both disciplines of engineering further have sub-areas of specialisation. For example, the automotive programme comprises studies of the suspension system, engine design, transmission, brakes and an array of other mechanical and electrical systems.

A common thread that potentially synergises the two programmes is tool, die and mould (TDM) technology – the capability to manufacture automotive component parts. TDM technology is the important foundation of today's

modern industries, characterised by mass production.

Known as the mother of crafts, TDM technology is key to the production of machineries, equipment, construction materials, glass containers and household goods. It therefore occupies an important position in our national economy, especially in the modern industrial system where the development and production of many new products, such as automobile and electronic products, are largely dependent on mould design and manufacturing.

The quality of mould design and manufacturing has become a key success factor of a country's development of its manufacturing capacity. In recent years, many countries have attached great importance to innovation and development of TDM technology. Many research institutes and universities have also dedicated themselves to perfecting

the crafts.

UMP too has started devoting itself to undertake tool, die and mould related research. At its Industry Centre of Excellence (ICoE) for TDM, research and the development of high tensile structural components and innovative die engineering (hot stamping) is being actively pursued. In order to augment research in TDM and bring it to the next level, it is imperative that UMP collaborates with those who have gained much greater momentum in studies relating to it. After all, TDM has always been associated with advanced industrialised nations such as Japan and South Korea.

At the beautiful coastal city of Dalian, China, the 2013 Asian Joint Symposium on Die and Mould Technology was held last month to discuss the development of TDM technology. The symposium also became the platform for the establishment of the Asian Education and

Research Consortium on TDM technology. The consortium comprises Dalian University of Technology, China; Iwate University, Japan; Hanbat National University, South Korea; and Universiti Malaysia Pahang. It is an innovative way to build a new platform of education and scientific cooperation in TDM technology for the universities from four Asian countries.

The consortium was established based on the solid foundation of multi-lateral cooperation. Dalian University of Technology has had a close collaboration with Iwate University for a long time. Since 2009, they have been jointly organising industry-university research symposiums on a regular basis, and are successfully promoting scientific cooperation and personnel exchange in casting and moulding.

Meanwhile, the cooperation between Iwate University and UMP has also increased during the past few years with several visits and exchanges among faculties. Therefore, the network of the four universities was established on the basis of previous successful cooperation, which laid a

solid foundation for our future cooperation.

Having about 20 researchers (students and faculties) working on TDM, UMP is set to leverage on its membership of the consortium. Not only can our researchers and students now be connected via the four-university network, each institution is also committed to the idea of roping in the industry in their respective countries to further strengthen our industry-based research capacity. Before too long we should be seeing student attachments in the other three universities for exposure and actual collaborative work.

Given the industrial vibrancy in the countries of the four universities, industry-linked joint certification for TDM training should be in the offing as we at UMP suggested during the launch of the consortium. Through our existing collaborations with local international automotive-related companies as well as the Malaysian Automotive Institute, UMP is poised to play its role in the national automotive and manufacturing agenda.



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