



Engineering in 2011- *Facing up to the challenges*

HERE'S to a new year and a new beginning for Malaysian engineers. And they certainly have much to look forward to this year. Their expertise will be in demand for numerous projects under the 10th Malaysia Plan (10MP) and the National Economic Transformation Programme (ETP) announced by the Prime Minister last year.

JURUTERA met up with Dato' Paduka Ir. Prof. (Dr) Keizrul bin Abdullah, Immediate Past President, and Ir. Assoc. Prof. Dr Jeffrey Chiang Choong Luin, Honorary Treasurer of IEM, for their views on the outlook of engineers in 2011.

Although the world's financial system has not yet fully recovered, Malaysia has reported a better growth rate than expected. For one, Dato' Paduka Ir. Prof. (Dr) Keizrul pointed out that the country is going to embark on the 10MP this year. There is also the construction of the RM36 billion mass rapid transit system (MRT) under the ETP, which will create a knock-on effect on the local economy.

However, he feels that conditions are a little more uncertain for the manufacturing sector as it will depend on how the global economy performs in 2011. Overall, he believes that the infrastructure projects from the 10MP should create a knock-on effect that will be favourable for the manufacturing sector as well.

Dato' Paduka Ir. Prof. (Dr) Keizrul said, "From the engineering point of view, we should be better off than last year. This year, we should concentrate on green technology. Instead of just manufacturing the standard cars of today, local companies should collaborate with foreign car manufacturers to build hybrid cars. With the increasing price of petrol, car owners would want to make the switch to hybrid models."

He believes that one of the major challenges that engineers will face this year is society's growing concerns on climate change and global warming. He said, "Engineers will have to be more conscious of this need. Indeed, we have been looking at how we can translate our effort into a greener output. Currently, a lot of effort is being invested into green technology, green building and ways on how we can be more energy efficient, and I believe this will continue well into 2011."

Dato' Paduka Ir. Prof. (Dr) Keizrul pointed out that engineers have always been a part of everything that society use daily. By choosing to go green, engineers will have to consider how they can give society something as good or even better, but through a more environmentally friendly process. This includes encouraging the public to make the switch to hybrid cars and supporting organic farming.

So how can this be achieved? Currently, despite the full excise duty exemption by the Government under Budget 2011, hybrid cars below 2,000cc are still priced at a premium.

He stated that it is all a question of supply and demand. He believes prices will become more affordable as demand increase.

Another example he provided was the energy saving bulb. Nowadays, many homes have made the switch to these bulbs, firstly because the price of these bulbs is now more affordable, and also because homeowners are now more conscious of the fact that in the long term, they save money. This, he pointed out, will eventually happen for other types of green technology.

Dato' Paduka Ir. Prof. (Dr) Keizrul said, "As a society, we have become very dependent on electricity. Most homeowners these days install air conditioners for the whole house. Instead, we should reduce our energy consumption by not using air conditioners or by using appliances that are more energy efficient."

At the same time, he added that engineers have to increase the energy efficiency of these appliances. An air conditioner that is 10% more energy efficient might make very little difference for a household. However, when millions of households are taken into consideration, even a small change will make a significant difference for the country.

He pointed out that this scenario also applies when engineers design a green building. He said, "They have to look at how they can conserve energy with the orientation of building and the use of natural lighting. All of this falls under green technology. If the engineers want to be successful, they will have to focus on these areas. IEM, on its part, should also highlight this issue in the Bulletin more frequently for its members to know where it stands."

Not surprisingly, in the coming year, Dato' Paduka Ir. Prof. (Dr) Keizrul would like to see more engineers focusing on green technology and the environment. He stated that IEM is currently producing a number of position papers and many of the topics are looking at issues relating to the latter.



Dato' Paduka Ir. Prof.
(Dr) Keizrul

For example, one of the position papers is on the topic of water quality and the environment, while others are focusing on erosion and sediment control, and safety relating to earthquakes and buildings.

At the same time, IEM is organising many seminars, courses and talks related to green technology to create more awareness among its members. A worldwide survey found that almost 50% of the participants have never heard of global warming, and those who have heard of it have no

idea what it is. To clear the misunderstandings, IEM is now making it a priority to help its members understand the issue so that engineers can come up with the right solutions.

He said, "It would be nice to live in a world where being environmentally friendly is part of everything we do. And I believe the engineers are going to be a key player in this whole process, be it designing green buildings or hybrid cars, or appliances that are more energy efficient." ■



Ir. Assoc. Prof. Dr Chiang

Ir. Assoc. Prof. Dr Chiang's wish for this year is that IEM members will work hard on their self-development, not only for the purpose of gaining competency professional development (CPD) hours, but also in pursuit of excellence in their workplace and personal satisfaction in getting the job well done. He pointed out that IEM has always organised well-structured talks, seminars and courses to assist its members to

achieve their targets, and he hopes that members and even non-members among the engineers will register and attend such events.

He said, "From my point of view as the Honorary Treasurer, this will generate much needed revenue for IEM, which can then be pledged by various Technical Divisions into the IEM Building Fund. For those who are not aware, IEM still owes the bank to the tune of over RM10 million for the purchase of the Wisma IEM building, which has been used to provide facilities for talks, seminars and courses for all engineers."

Ir. Assoc. Prof. Dr Chiang believes that the biggest challenge that engineers will face in 2011 will be in the form of competition, *i.e.* competition for the best projects, for the best employed engineers, for recognition through awards, for opportunity to expand locally and internationally, for the latest technology, for financial or research grants, for the best engineering practices, and so forth.

He said, "In fact, such challenges are healthy and are much needed to keep Malaysian engineers on their toes in the face of globalisation. From a personal point of view, I believe the profession will gain tremendously from the competition if the winners are fairly judged on merit. This applies to both private and public engineering projects."

He stated that, in reality, the challenges faced by Malaysian engineers may not be on a level playing field. Hence, for passionate engineers, they may have to rely on their creativity and ingenuity to stay ahead of the pack regardless of the challenges that they face or the competitors that are in the fray.

Through IEM, he pointed out that many opportunities and facilities are provided for members to sharpen their skills and harness their resources to rise up to higher levels of competition. For example, IEM has in place a Business Club, which IEM members are encouraged to join and participate

in many arranged overseas business and trade fairs, or even international business meetings with overseas partners in governmental and business arenas.

IEM is also the only institution that assesses and evaluates graduate engineers applying to be recognised professional engineers. Those who are experienced and eligible should take on this challenge and move up to a higher plane of competition, and contribute their skills to the betterment of the society at large.

Ir. Assoc. Prof. Dr Chiang said, "At the very least, all engineers should take the opportunity to improve themselves and their employed engineers in up-to-date engineering knowledge and technology – all of which are available at IEM, through its many organised seminars, courses and even conferences, in which a number of reputable international speakers are invited."

He believes that, to move ahead, one important issue that needs to be addressed is the soft skills of some of the engineers, in particular, communication skills and people-to-people inter-relational skills. He finds that this is sadly lacking, particularly among the younger graduate engineers, especially those who have not been exposed to overseas training.

Ir. Assoc. Prof. Dr Chiang said, "The usage of the English language among the engineers, in terms of proficiency in speaking and writing, needs much improvement. Only by realising this shortcoming and addressing the problem head-on will they be formidable enough to face stiff competition from anybody, especially incoming foreign engineers from neighbouring ASEAN countries and nearby regions. This will eventually happen with the service sector opening up its doors to international competition."

However, all is not lost. He believes that if Malaysian engineers can take up and overcome such challenges, then the outlook for the coming year should be good. This will, in turn, benefit the society as a whole, and perhaps result in fewer failures and the collapse of buildings and infrastructures. ■

