'Green collar' professional

The push for environmentally friendly buildings throws up new and exciting challenges for engineers like Francis Koh

by lim yann ling

MR FRANCIS Koh, a mechanical engineer by training, is an industry member of the new Young Leaders Programme initiative by the Building and Construction Authority (BCA).

The programme commenced last year and for a start, BCA had invited the major firms in the industry to nominate members to participate. Besides networking, programme nominees get to voice their opinions on new policies proposed by the BCA.

CAREERS IN THE BUILT ENVIRONMENT

One new measure is the ambitious target of having 80 per cent of Singapore's buildings attain the minimum green-certified standards by 2030.

This includes getting new projects to meet the minimum requisite for the BCA Green Mark certification. All existing buildings that undergo major retrofitting are also required to achieve these green standards.

This means that M&E systems such as ventilation, energy and water consumption, and refuge handling will need to be more efficient.

According to BCA's chief executive officer Dr John Keung, BCA's Green Building Masterplans will result in substantial energy cost-savings and provide a boost to the "green collar" job market.

"Some 20,000 green specialists at the PMET level are expected to be trained over the next 10 years in the development, design, construction, operation and maintenance of green buildings," he says.

Mr Koh says talented professionals in the building industry are given plenty of opportunities to learn and grow in their jobs.

Mr Koh says that if a building were a human being, the organs — the parts that keep the body functioning — would be the work of M&E engineers.

"This green movement by BCA puts M&E engineers at the forefront, but everyone in the industry is involved in rethinking how buildings work," he says.

"Environmental awareness is a global phenomenon and buildings are a team effort. The number one energy consumption unit is air-conditioning — something traditionally in the domain of M&E engineers — but architects can also take the lead by designing buildings that maximise natural ventilation and natural lighting while minimising heat transmission into the buildings through appropriate shading from direct sunlight."

Learning curve

Even before BCA's green push put his profession at the frontline of the "Green Movement", Mr Koh, 42, has enjoyed every moment of his 17 years in the industry.

"Our work is on a project basis, so every other year, there will be new projects to handle. No two projects are ever executed in the same way, so there is always something new to learn and work on. That makes work very refreshing and I enjoy meeting and working with new people each time," he says.

A completed project that will stand and function well for the next few decades also gives him a great sense of satisfaction.

As the building industry is very global, he and his colleagues also have plenty of opportunities to travel or relocate to offices in Shanghai, Dubai and other parts of the world.

"There is a lot of room for people to grow, as long as they are keen," he says.

His passion for engineering is fuelled by the breadth that the field has to offer. "It's a continuous learning curve," he says.

For example, he is constantly updating himself with the latest software in the market, such as Autodesk Revit — a 3D modelling software that creates a walk-through to detect if clashes may occur among architectural, structural engineering and M&E engineering designs, such as a beam clashing with a duct.

"There are no two ways about it, you learn the fundamentals in school, but the rest you need to learn on the job," says the director at Meinhardt.

Meinhardt is an Australia-based global multi-disciplinary firm offering a full spectrum of integrated engineering services with 30 offices in 17 countries. The company employs some 3,000 staff, of which 400 are located in Singapore alone.

"In this industry, people are our asset. If we spot a talent, we will map out a path to nurture them, provide them with varied project exposure and continuous in-house and external training," he says.

Asked what is the most important thing an engineer needs to excel in the long run, he says: "Everything is a team effort, you need to be able to communicate with all kinds of people, ranging from technical staff to clients and your company management.

"It helps to be sociable and articulate."