

CIDB's ICW 2016 pushes productivity frontiers

The Construction Industry Board's annual International Construction Week gathers stakeholders from across the sector to drive productivity to greater heights



ICW 2016 was conceptualised to complement the Construction Industry Transformation Programme (CITP)'s emphasis on productivity

ALL eyes are turning to the construction sector this year as headwinds buffet the national economy, particularly given its multiplier effect on other industries as well as the increasing emphasis on affordable housing issues and the viability of industrialised building systems (IBS) in the public eye.

Addressing these challenges and more, the Construction Industry Development Board (CIDB) has launched International Construction Week (ICW) 2016, organised by UBM Asia Ltd and held at the Kuala Lumpur Convention Centre (KLCC) from Apr 11 to Apr 15 with the theme *Driving Productivity in Construction*.

A positive outlook

"The construction industry is recognised as a prime economic mover in Malaysia, and is projected to remain robust in 2016 with high investments in infrastructure projects from both the public and private sectors," said Minister of Works Datuk Sri Fadillah Yusof, speaking at the ICW 2016 launch ceremony.

The sector is projected to see double-digit growth moving forward, added Fadillah, expanding by at least 10.3% annually to contribute approximately RM327 bil or 5.5% of the nation's gross domestic product (GDP) by 2020, with high-impact infrastructure projects such as the Pan Borneo Highway, Klang Valley

Mass Rapid Transit and Light Rail Transit (LRT3) systems accounting for a large part of the figures.

In catalysing and sustaining this forward movement under the 11th Malaysia Plan (RMK-11), the Construction Industry Transformation Programme (CITP) was formulated by CIDB and launched by Prime Minister Datuk Seri Najib Tun Razak to set target milestones and foster best practices in the sector across four broad categories, namely quality, safety and professionalism; environmental sustainability; productivity; and internationalisation.

"This includes the generation of high-skilled jobs for Malaysian youth and small and medium-sized enterprises (SMEs) to reduce the reliance on low-skilled foreign labour. As such, the CITP offers tremendous opportunities to increase the reach, effectiveness and comprehensiveness of training and development in the sector to raise it to world-class levels, which will benefit all industry players," said Fadillah.

Showcasing the best of the industry

Conceptualised to complement the CITP's emphasis on productivity, ICW 2016 featured co-located events catering for every segment of the industry, with Ecobuild Southeast Asia 2016 showcasing

the inaugural IBS Housing Expo (IHE) and the CIDB-IEM (Institution of Engineers Malaysia) Construction Career Fair 2016, among others, with Building Information Modeling (BIM) Day 2016 presenting an onstage demonstration of the BIM process and the 7th Malaysian Construction Summit 2016 gathering a star-studded line-up of speakers from across the region.

Serving as a platform to introduce IBS technology to industry stakeholders IHE 2016 saw the presentation of papers addressing housing issues from domestic players such as Perumahan Rakyat Malaysia (PR1MA) and the Association of Banks in Malaysia (ABM), along with industry forums tackling topics such as housing loans and financing, as well as land approval and planning matters.

“Apart from infrastructure projects, the closest thing to people’s hearts is housing as every family needs a decent and affordable residence of good quality. The availability of affordable housing will have an overall positive spillover on communities at all levels and contribute towards family stability, economic security and a strong foundation for our children’s educational stability,” said Fadillah.

The uptake of technologies such as IBS is seen as a key success factor in the national drive towards affordable homes with the government recently setting a target of 1 million units by 2018. Of these more than 183,000 have been delivered with about 214,000 in construction and 309,000 in the planning stages.

Taking technology further

While technically present in the country since the 1960s in the form of precast elements adopted by the industry to resolve acute housing shortages at the time, IBS utilisation within the private sector still has ample room to grow, particularly with the availability of foreign labour as an inexpensive alternative.

Ironically, IBS was initially envisioned as a means to alleviate social issues associated with large foreign worker populations, though its advantages in the fabrication of quality construction materials at lowered price points have since come to the fore, particularly given sufficient economies of scale with widespread uptake.

In essence, its approach sees the manufacture of building components in offsite facilities, which are then transported and assembled onsite. The system reduces dependencies on site workers while accelerating construction times and reducing

material wastages when compared to conventional methods.

“IBS components are machine-manufactured through the use of industrial moulds, so they tend to be of higher quality than those fabricated onsite. Once logistical bottlenecks are settled and a surplus of components exists, they can be less costly as well,” said Public Works Department (JKR) general works building senior director Ar Prof Datuk Dr Amer Hamzah Mohd Yunus.

The IHE 2016 afternoon session was moderated by Hamzah with CIDB senior general manager Datuk Ir Elias Ismail, PR1MA chief executive officer Datuk Ar Aminuddin Abdul Manaf and Ministry of Urban Wellbeing, Housing and Local Government research and technical legislation division director Aminah Abd Rahman as panel speakers.

It served as a forum for the discussion of case studies and brainstorming of IBS-related issues such as challenges in the delivery of affordable housing units, CIDB green card application procedures, technical ambiguities faced by buyers and more, as posed by developers, IBS manufacturers, academics and other industry stakeholders.

Visualising the construction chain

Other highlights in ICW 2016’s programme included BIM Day 2016, launched by Deputy Works Minister Datuk Rosnah Abdul Rashid Shirlin to promote the use of 3D-modeling technologies in building construction, maintenance and facility management processes throughout the industry, leveraging on the benefits they bring to visualisation and coordination.

“The National Cancer Institute in Putrajaya and the construction of the Malaysian Anti-Corruption Commission building in Shah Alam were among the first government projects which saw the application of BIM techniques in the country. These technologies have the potential to contribute to strategic thrusts under RMK-11, such as *Strategic Thrust 2: Improving Well-being For All* and *Strategic Thrust 6: Re-engineering Economic Growth For Greater Prosperity*,” said Rosnah.

Through BIM, engineers and architects can utilise software such as Autodesk Revit and Tekla Structures to model almost every aspect of the development process and how they interact, from design, supply chain logistics and power consumption to the physical wear and tear on external surfaces over time by wind factors.

The approach is particularly effective for

complex projects which involve detailed planning and technical specifications, with Rosnah adding that the use of BIM is being considered in the construction of four new public hospitals in Terengganu, Johor, Pahang and Kedah.

Despite its advantages, BIM has seen less uptake among developers and local players, with high initial investment costs and technical training often cited as significant barriers to entry, though the introduction of complimentary solutions such as Tekla's BIMsight has addressed these concerns to some degree.

As a step towards familiarising the industry with the intricacies of the BIM process as well as a visual demonstration of its merits, BIM Day 2016 saw a live, step-by-step walkthrough of the modeling process through its various stages from architectural and structural design down to the costing, clash-checking and construction simulation phases.

The onstage workshop was led by CIDB IT construction division senior manager Mohd Harris Mohd Ismail, BOSB World Sdn Bhd founder Ooi Choon Lim and BIM modeler Mark Anthony, and simulated the development of a three-acre plot in Klang Valley.

"This is just a glimpse of how BIM can support and contribute to improved construction practices and provide value to the process as a whole. It differs from conventional works, as the BIM methodology addresses and resolves most issues prior to the construction period," said Harris.

A meeting of minds

IBS and BIM were also touched upon at the 7th Malaysian Construction Summit 2016, organised by the Master Builders Association Malaysia (MBAM) according to the theme *Increasing Productivity through Technology and Processes* and highlighting the necessity of taking the construction sector to new levels of efficiency given both domestic and regional challenges.

"On Mar 18, a new levy for the construction industry at RM1,850 was announced. This is an increase of RM650 from the RM1,250 levy imposed previously per worker. Without a doubt, the industry has to look into increasing the productivity of its workers to remain competitive," said MBAM president Matthew Tee.

"Myanmar, Indonesia, Thailand, Bulgaria and India have also been observed closing the gap with Malaysia at an increasing rate. There is a possibility that these countries will surpass Malaysia's performance in the near future. In order

not to be left behind, the nation needs to identify leading indicators of real growth opportunity, particularly where there are gaps between our current performance and the global benchmark."

Despite these caveats, the domestic construction sector has shown marked progress as well, with growth in productivity over the 2014/15 period estimated at 13.2% according to a report by the Malaysia Productivity Corporation (MPC). Labour productivity was recorded at RM26,895 in 2014, an increase from 2013's figure of RM23,755, with the CITP setting a target value-add of US\$16,500 (RM64,457) per worker by 2020.

Towards achieving these goals, the summit saw the participation of international industry leaders and academics, with luminaries such as MPC development division director (productivity & competitiveness) Dr Roslina Md Isa, Taisei Corporation general manager Toshihiko Makiuchi and Construction & Economy Research Institute of Korea research fellow Dr Wisung Yoo presenting papers on productivity strategies, workforce development and labour cost comparative analyses respectively.

"The Malaysian economy is well-matured, and it may already be leading other Southeast Asian nations in terms of construction technologies and production processes. Its construction industry has accomplished much, including the Kuala Lumpur LRT and MRT systems, and I

believe that almost all mega-infrastructure projects here can be undertaken by the local community," said Makiuchi.

In support of sustainability

ICW 2016 also marked the initiative's third year partnering with Ecobuild Southeast Asia, positioned as the region's leading event for sustainable design, construction and the built environment. The platform incorporates both exhibition spaces as well as technical seminars, serving to connect the entire built environment supply chain in one seamless experience.

Ecobuild Southeast Asia 2016's seminars were organised into streams including quality, safety and professionalism; environmental sustainability; and productivity and internationalisation, reflecting the categories emphasised under the CITP. This year's speakers ranged from industry experts to innovators and practitioners from the Malaysian Timber Industry Board, Nuclear Malaysia and the Malaysia Green Building Confederation.

Key panels addressing sustainability issues included *Green Building: Is the challenge worth it?* by Ranhill Consulting building division director Ir Selvakumar Krishnan and *Solar PV for Building Use* by Malaysian Photovoltaic Industry Association (MPIA) president Ahmad Shadzli Abdul Wahab.

Meanwhile, exhibitors at the event ran the gamut from government procurers, wholesalers and retailers to hoteliers, contractors and consultants, including booths from ZFH Industries Sdn Bhd and Roxsil Silicone Sdn Bhd, featuring wood-plastic composite materials and autoclaved aerated concrete (AAC) wall installation systems respectively.

Planning for the future

Rounding off ICW 2016's holistic assortment of trade events and showcases were platforms specifically targeted at increasing youth participation in the industry, with the Arena of Youth Competition and Rebuild It Green allowing them to showcase their talents at the secondary school and university levels respectively.

"We also have the Open Ideas Competition, co-organised by the Malaysian Structural Steel Association (MSSA), and

the International Highest Early Strength Self-Consolidating Concrete Cube by Universiti Teknologi Mara, the Concrete Society of Malaysia and the American Concrete Institute, Kuala Lumpur Chapter," said CIDB chairman Tan Sri Dr Ir Ahmad Tajuddin Ali.

In addition, the first-ever CIDB-IEM Construction Career fair saw institutions such as UCSI University, Open University Malaysia and the University of Malaya as well as developers such as Sunway Construction Sdn Bhd getting involved to raise awareness of the professional opportunities in the construction sector.

Local graduates have historically shied away from the industry, which is often characterised as "3D," or dirty, demanding and dangerous, and has indirectly led to the nation's current dependence on foreign labour. Changing these perceptions is a critical step towards transforming the sector under the CIMP, as well as achieving the affordable housing goals laid out by 2020.





BIM Day 2016 was conceptualised to promote the use of 3D-modeling technologies in building construction, maintenance and facility management



Ecobuild Southeast Asia 2016 encompassed the inaugural IHE 2016 and the CIDB-IEM Construction Career Fair 2016, among other co-located events