

IBS the future model

While the method is revolutionising the construction industry elsewhere, it is not widely accepted locally



by Matthew Tee

ERECTING a 30-storey hotel tower in 15 days is mind-blowing. The lightning speed at which the tower was recently completed in Hunan, China has had a “shock and awe” effect on

the construction industry.

Developer Shangdong Broad Group’s remarkable achievement was made possible by the adoption of the Industrialised Building System (IBS). IBS involves assembling pre-fabricated components on site. It is hailed as the future of construction because it helps speed up completion, lessens the number of site workers, lowers waste and produces a finished product of quality.

While IBS is revolutionising the construction industry outside our country, unfortunately it is not widely adopted here.

IBS has already been used in Malaysia. The Pekeliling Flats in Kuala Lumpur and the Rifle Range Flats in Penang were built in 1966 using IBS.

The industry was abuzz then and IBS was supposed to revolutionise and upgrade the construction sector, thrusting it into the forefront to assist the country in becoming an industrialised nation by 2020.

A Treasury circular was even introduced in 2008 that made mandatory the use of at least 70% of IBS content in all Public Works Department projects with a value of above RM10 mil. In addition, two IBS roadmaps – the first for 2003-2010 and the second for 2011-2015 – were implemented to promote IBS.

Yet almost 50 years later, our IBS adoption is low compared to that of neighbouring countries, with the local construction industry struggling to accept it. Singapore has overtaken us in the adoption of IBS. Ironically though, major IBS components are supplied from Malaysia. This shows our contractors have access to quality IBS components which can be used instead of exporting them to our neighbour.

Given this scenario, many may think Malaysian contractors have only themselves to blame. I think there is more to it.

Studying Singapore’s home environment can better help us understand our predicament.

LEVY

While Malaysia imposes the same rate of levy on both conventional and IBS construction methods, Singapore has a high levy for the use of conventional construction.

LABOUR

Cheap, unskilled foreign workers are available here but Singapore imposes a strict quota and the foreign workers it permits in are skilled.



SHARIL AMIN ABDUL RAHIM/FocusM

While Malaysia imposes the same levy rates on both conventional and IBS construction methods, Singapore has a high levy for the use of conventional construction

MACHINERY

Our heavy-lifting equipment are second-hand and the models are old while new models are readily available in Singapore.

LEGISLATION

In terms of design and cost-effectiveness, there is no mandatory use of BIM (Building Information Modelling) for bid-submission purposes; it is mandatory to use BIM in Singapore. To move forward, the government should take a holistic approach; to encourage the use of IBS and provide incentives for a changeover.

The government should look into the following four areas of concern:

HIGH IMPORT TAX

Review the high import tax on heavy machinery and the permit procedure that discourages the industry to upgrade and invest in new machinery, especially that which can lift pre-assembled components.

LABOUR

The easy availability of cheap and easily-trained foreign workers has made us complacent, and there is no necessity to adopt new technology. The low-skilled, low-value-added business model is serving us well. The reality is that over time, the cost of foreign labour will rise.

INCENTIVE

The initial cost of IBS adoption is high compared to the conventional method. Incentives should be given to encourage the changeover to IBS. Tax rebates for heavy-lifting equipment, special loans with attractive interest rates and lower levies for the use of IBS would be helpful.

COMPLIANCE

IBS compliance must be standardised

in Uniform Building By-laws and be applicable in all states. There must be a push to adopt the standardisation for common finished components and for the adoption of modular design that would give designers a variety of choices.

When materials are in common form, there are economies of scale for IBS manufacturers and buyers. The IBS and the construction industries will be more productive and efficient. It can lead to more R&D and more innovative building products.

I am rooting for the adoption of efficient construction methods that will result in higher-quality work and timely project completion.

The Master Builders Association Malaysia (MBAM) recently organised a second seminar on IBS with the Construction Industry Development Board (CIDB) and participants heard from renowned international IBS practitioners.

The speakers included Zhang Ziyi of Shangdong Broad Group China, who presented the remarkable construction project called the T30 Hotel, completed in 15 days. Yujiro Hamada of Sekisui Chemical Company spoke about the Sekisui Helm Modular Housing System which revolutionised the mass-housing industry in Japan; and Khoo Peng Beng of ARC Studio Architecture + Urbanism gave a presentation on the multiple-award-winning project The Pinnacle @ Duxton, Singapore.

At the seminar, MBAM vice-president Tan Sri AK Nathan spoke about the benefits of “composite structures” in his many projects in the Middle East.

Such seminars act as a catalyst to move the IBS value chain up to the next level, from its current prefabrication stage to mechanisation, automation, robotics and finally reproduction.

To jumpstart IBS after this long lapse, the government should immediately

re-energise the adoption of IBS by starting with PR1MA, just as it did when constructing the Pekeliling and Rifle Range low-cost flats.

The government should now require that all PR1MA projects use a certain percentage of IBS. Currently, there is no such requirement.

The challenge for the government is to deliver the large number of homes under PR1MA. IBS is the best solution in view of the cost target, the large quantity, quality and the necessity to complete the affordable homes under PR1MA on time.

For IBS to be successful, one must see how contractors can benefit from economies of scale.

A continuous flow of projects adopting IBS will permit the amortisation of investment. Stop-gap measures to promote IBS followed by a “cooling” period during which few projects implement IBS will not help.

On the other hand, property developers prefer being allowed to have a higher plot ratio, to absorb the additional cost of adopting IBS.

This should be sustained over the next five or 10 years in order for them to have more time to amortise their investment in IBS over a period.

I look forward to the day a Malaysian company emulates the feat of Shangdong Broad.

We embraced IBS half a century ago when we built the Pekeliling and Rifle Range Flats; there are quality IBS components readily available and the early IBS adoption has set us on the right path.

The right push from all parties and our resilience will help Malaysia achieve another success story! **FocusM**

Matthew Tee is president of the Master Builders Association Malaysia (MBAM)