

# HEIGHTS



CONSTRUCTION FROM A NEW ANGLE

ISSUE 3 · OCT - DEC 2019



The Malaysian Construction Industry  
**Excellence Awards 2019**  
*excellence has no limitations*

**South-East Asia's 1st Drawbridge**  
An Iconic Gateway To Terengganu

**Dam Engineering**  
An Inspiring Career

**SkyWorld Quality Centre**  
Quality Without Compromise

**Setia Precast's Highest IBS Score**  
Collaboration Is The Key To Success



# MCIEA 2019

**CIDB**  
MALAYSIA 





## An Ode to Excellence

It is my pleasure to showcase the Malaysian Construction Industry Excellence Awards (MCIEA) 2019 in this special Awards issue of HEIGHTS. The 19th edition of the country's most prestigious programme, which culminated in a sophisticated gala event, recognised and awarded the significant contributions and achievements of stellar construction industry players nationwide.

This year saw 144 submissions, giving our esteemed panel of judges a lot of material to meticulously peruse to determine the final 18 award winners. The number of categories was also reduced to five from the 10 of the previous year, as the participants were evaluated on more holistic criteria. What stood out for us this year, are projects with greater emphasis on quality, better stakeholder collaboration and an impressive leadership demonstrated by the industry leaders in their various disciplines. It is truly an honour to document and highlight the stars of the industry within the pages of HEIGHTS.

There are also a few notable mentions of Industrialised Building System (IBS) players such as Setia Precast and Gamuda IBS, corporations that made vital inroads in uplifting the IBS standards in the country while encouraging a greater IBS adoption rate. The recent townhall on 'The Way Forward in IBS' at Kuching, Sarawak was a fruitful time of knowledge sharing and networking among our local and international peers in the modular and prefabrication industry.

There is a great need to form a cohesive and collaborative ecosystem for IBS, moving forward. We also highlight the exemplary SkyWorld Quality Centre, which is a showcase of how QLASSIC standards can promote exceptional home living, while raising the bar in the delivery of quality construction works. Also featured is the marvellous construction wonder that is the Kuala Terengganu Drawbridge, the first of its kind in South-East Asia, which spans majestically over the state's capital.

We hope you find the other segments in within this issue to be of value to you, your work and efforts to bring the construction industry to greater HEIGHTS.

**Datuk Ir. Ahmad 'Asri Abdul Hamid**  
*Chief Executive, CIDB Malaysia*

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We welcome your contribution, while reserving the right to edit for length and clarity.

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Level 25, Menara Dato' Onn,  
Putra World Trade Centre  
No. 45, Jalan Tun Ismail,  
50490 Kuala Lumpur

#### Produced and Printed for CIDB by:

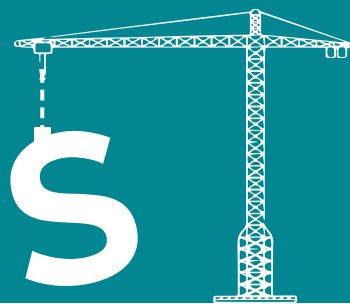
#### MPH Group Printing (M) Sdn Bhd (142270-H)

No. 31, Jalan 2/148A,  
Taman Sungai Besi Industrial Park,  
57100 Kuala Lumpur

#### Cover Photo Credits:

EdgeProp.my

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## India Still Refuses To Join BRI

India has once again stood by its decision of not joining or copying China's Belt and Road Initiative (BRI). External Affairs Minister S Jaishankar shot down these speculations, stated that the concept is not applicable to India.

Speaking at an interactive session at the World Economic Forum (WEF), Jaishankar said, "We are us and not just some other country. It's not just in this initiative but in a whole lot of areas. My own sense is as India becomes bigger, we will find that concepts developed for other countries won't necessarily apply to us. It's not very likely we'll copy models (from others)."

"We have a long-standing position on that. It is connected with sovereign matters. That has not changed," he added. Earlier this year, Foreign Ministry spokesperson Lu Kang pointed out that India could experience adverse effects if it changes its mind and join the BRI family late in the game. India is not alone in its reservations towards the project. Several world leaders have also labelled the project as a debt-trap and potentially unsustainable for its host countries.



Source: *Indiatimes.com* and *thehindu.com*

## Keppel Scouts For Location To Build Floating Data Centres in Singapore

Keppel Data Centres is scouting for suitable locations to build floating data centres near the shores of its home base, Singapore. Modules would be prefabricated onshore and plugged into the floating structure, while water cooling would be an option.

In September 2017, the company invested US\$10 million (S\$13.5 million) in Californian startup Nautilus Data Technologies that has designed floating data centres in various stages of completion in California and Ireland. These innovative data centres can be plugged into shore-side power and data, and cooled using river or sea water flowing beneath them, which are ideal for land-scarce Singapore.

The island's government controls land use tightly, so much so that it can be difficult to acquire land for the construction and development of data centres. It is also much more costly to run a massive data centre on land as compared to at sea. Wong Wai Meng, Keppel Data Centres CEO, told Channel News Asia. The potential of cost savings in terms of energy and total cost of ownership can range from 20% up to 50%.



With these advantages, it is easy to envision that the floating data centre concept will be attractive in such a market.

Keppel Data Centres, one of the three largest data centre providers in Singapore, is a division of Keppel Telecommunications and Transportation.

Source: *Data Center Knowledge*



“  
*The cement sector needs to dramatically reduce the contribution it makes to climate change. Delaying or avoiding this challenge is not an option. This is ultimately a business-critical issue for the sector*  
 ”

## Investors Pressure European Cement Firms to Address Carbon Emissions

**Investors' groups have given a deadline of no later than 2050 to European cement manufacturers to achieve net zero carbon dioxide emissions.**

A document containing steps on how the emissions can be reduced was sent to 161 companies globally by the Institutional Investors Group on Climate Change (IIGCC) which represents 320 investors with a total of £2.4bn (RM123bn) in assets. Recipients include cement manufacturers as well as manufacturers of construction materials such as CRH, Bumi Resources, LafargeHolcim and HeidelbergCement. IIGCC's expectations are in accordance with the Paris Agreement on climate change.

Cement, according to the IIGCC, is the most widely used construction material globally, unleashing 7 percent of global man-made carbon dioxide emissions. This makes it the third largest global emitter after China and the US, if it were a country.

Investors expect that companies engage with policy makers to support cost-effective measures to mitigate

climate change and an orderly transition to a low-carbon economy. Companies are also expected to set short-, medium- and long-term science-based targets to reach the net zero carbon dioxide emission goal.

Stephanie Pfeifer, IIGCC Chief Executive, said, “The cement sector needs to dramatically reduce the contribution it makes to climate change. Delaying or avoiding this challenge is not an option. This is ultimately a business-critical issue for the sector. Major economies such as the UK and France are increasingly adopting economy-wide net zero emission targets.”

Those who do not comply with these demands may ultimately risk divestment and lack of access to capital as more and more investors are eliminating highly carbon-intensive sectors from their portfolios to meet their own decarbonization plans.

*Source: The Institutional Investors Group on Climate Change (IIGCC)*

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FOR INFO



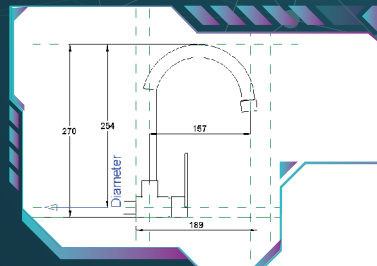
[www.mybimlibrary.my](http://www.mybimlibrary.my)

# NATIONAL BIM LIBRARY

National BIM Library or NBL is a free to use design tool developed by CIDB Malaysia to help facilitate construction industry players to adopt Building Information Modeling (BIM). National BIM Library is a rich object library with multi-discipline 3D objects ready to be downloaded and used by BIM designers. It helps simplify the development a BIM model using the readily available online components in NBL. The intuitive and interactive library allows architects, consultants, engineers, and designers to quickly find, download and use the objects for their 3D construction design. National BIM library holds more than 10,000 objects from IBS precast and connectors to kitchen sinks and medical surgery trays, and the catalog is growing fast.

## Top Benefits of National BIM Library (NBL) For Manufacturers

- New & innovative marketing channel
- Relevant & critical target market
- Product visualization in digitalized model with specifications
- No more catalog printing for cost-effectiveness
- Real-time usage & information for business leads







The Malaysian Construction Industry  
**Excellence Awards**  
*excellence has no limitation.*

# MCIEA 2019

**19** YEARS OF  
**REWARDING  
EXCELLENCE**

It was an evening of laughter, live entertainment and networking where the achievements of 18 industry players were celebrated at the MCIEA 2019 awards ceremony. The event held on 4 October at W Kuala Lumpur Hotel, was graced by Tuan Baru Bian, the Minister of Works and Datuk Ir. Ahmad 'Asri Bin Abdul Hamid, Chief Executive of CIDB Malaysia. Also present were Tuan Haji Mohd Anuar Mohd Tahir, Deputy Minister of Works and Tan Sri Dr. Ir. Ahmad Tajuddin Ali, Chairman, CIDB Malaysia.

Regarded as one of the most prestigious awards in the industry, MCIEA honours developers, contractors, consultants and projects which have demonstrated the elements of quality, safety and health, productivity and sustainability in their operations. The awards provide the perfect platform for winners to gain recognition and serve as a testament to the world-class quality of their work.

A total of 144 submissions were received this year, vying for 18 spots in 5 categories, compared to the previous year's 10 categories, a reduction that reflects a more holistic judging criteria in the selection of winners. The winners were chosen via a stringent selection process by a stellar panel of judges comprising esteemed industry

experts and veterans, representing various stakeholders in the construction industry.

This year's "Prominent Player Award" was conferred to Dato' Sri Ir. Dr. Judin Abdul Karim, Executive Vice President of Malaysian Resources Corporation Berhad (MRCB), who has been instrumental in advocating significant changes within the industry. Dato' Hashimah Hashim, Executive Director of KLCC Projek Sdn. Bhd. received the "Construction Leading Lady Award" in recognition for her manifold contributions and influence in the industry while Dennis Tan Soo Huang, Managing Director of OCNED Water Technology Sdn. Bhd. was awarded the "CEO of the Year Award" for his exemplary and visionary leadership.

As the market leader in terms of size and projects under its belt, it would have been easy for Sunway Construction Sdn Bhd to rest on its laurels. However, the company has gone on to consistently deliver astounding work, leading to it being awarded "Contractor of the Year".

Notable projects that received MCIEA accolades include Equatorial Plaza, winning the "Best Project Award – Building (Major Category)", and The KVMRT SBK Line - Sungai Buloh Maintenance Depot, Administration Building, External & Associated Works, Selangor, winning the "Best Project Award – Infrastructure (Major Category)".

The winners were awarded with certificates and trophies in the electrified atmosphere of the awards ceremony. The full list of MCIEA 2019 award categories and winners can be found on the page 11.

### **Recognising the Stars of the Construction Industry**

First organised in 2000 by CIDB Malaysia, MCIEA has been the premier platform to showcase the outstanding

achievements of developers, contractors and consultants, be they individuals or organisations.

Datuk 'Asri was greatly encouraged to see the quality of submissions increasing by the year. "On behalf of CIDB Malaysia, I would like to extend my heartiest congratulations to the well-deserving winners of MCIEA 2019," he said in the media conference held earlier that day.

"This marks the 19th year that the MCIEA is celebrating the high-achievements of Malaysian construction industry players. In that time, we have seen the construction sector grow tremendously, both qualitatively and quantitatively. However, as we are all well aware, the construction sector is facing challenges in both the domestic and global business environment," Datuk 'Asri stated.

"In order to successfully navigate these economic challenges, the construction sector needs to continuously improve and expand its capabilities. CIDB Malaysia's mission is to transform Malaysia's construction sector into one that is highly-modern, productive and sustainable, as envisioned under the Construction Industry Transformation Programme (CITP) 2016-2020."

He reiterated that the CITP's transformation programme encompasses 4 key strategic thrusts: Quality, Safety and Professionalism; Environmental Sustainability; Productivity; and Internationalisation & Competitiveness. Currently, the CITP is in the last victory lap to drive construction excellence and bring the Malaysian construction sector to the next level of competitiveness, which is the reason why MCIEA came into picture.



*Thumbs up! Minister of Works Tuan Baru Bian (centre) and Chief Executive of CIDB Malaysia Datuk Ir. Ahmad 'Asri Abdul Hamid (second from left) standing among some of the biggest stars in the construction industry.*

MCIEA recognises the stars of the Malaysian construction industry whose work has enhanced the image, performance and quality of the various fields represented in the construction industry. According to Datuk 'Asri, this year's judging criteria has been revised to reflect a more holistic approach to encourage industry players to continue raising the standard of the Malaysian construction sector, in line with the ultimate goal of the CITP.

This is to reflect the reality that for the Malaysian construction industry to move forward, industry players must adopt global best practices. As such, CIDB is encouraging a holistic approach in the effort to provide the impetus for Malaysian construction companies to significantly elevate their capabilities so that we can inspire solid consumer confidence on the domestic front, as well as gaining prominence as industry leaders in the international arena.

More than just an event to recognise the achievements of stellar industry players, MCIEA is also a showcase of the global-standard excellence that Malaysians are capable of. The winners are the shining examples of what the Malaysian industry can be and should aspire to be.

"To our winners, your achievements are a genuine inspiration for local players. We certainly encourage local players to lead the construction industry through their excellence in construction, and raise the standard of the Malaysian construction industry to be highly-modern, productive and sustainable, as envisioned under the Construction Industry Transformation Programme (CITP) 2016-2020," he said.

Datuk 'Asri also conveyed his thanks to the panel of distinguished judges. "It is no exaggeration at all to say that they are the who's who of the construction industry, representing a wide stratum of stakeholders. Thank you for contributing your valuable

time, effort and wisdom to review all the submissions. We at CIDB Malaysia are truly grateful for your input and contribution towards making MCIEA 2019 a great success!"

"I am glad to see that this year's winners and many others have really stepped up over the years to lead the Malaysian industry by example through their excellence in construction, both domestically and internationally. We certainly encourage more industry players to emulate the winners we are celebrating today, to truly become stars of the Malaysian construction industry."

"I look forward to applauding continued accomplishments in 2020 and beyond," he concluded.

## METHODOLOGY

The MCIEA winners' evaluation process consists of both quantitative and qualitative criteria, depending on their respective categories.

For the Best Project Awards, the evaluation criteria encompasses concept, planning and design; construction criteria and recognition from clients.

For the Best Contractor Awards, the company's performance, technical capabilities and adoption of best practices are evaluated. The Grade G7 category winner will receive the Contractor of the Year award.

The International Achievement Awards' evaluation criteria comprises but is not limited to overall company achievement abroad and project-based excellence.

The CEO of the Year Award is selected based on his personal capacity, contributions to the company, industry, nation and society, as well as recognition received locally and internationally.

The Prominent Player Award and Construction Leading Lady Award recognise individuals for contributions to the nation's construction industry. They are selected based on nominations and recommendations from the MCIEA Panel of Judges.

## MCIEA 2019 PANEL OF JUDGES

Chaired by:

**TAN SRI DATO' SRI AR. HAJI ESA HJ MOHAMED**

Managing Director of Akitek Jururancang (Malaysia) Sdn Bhd

**DATO' SRIKANDAN KANAGAINTHIRAM**

Managing Director of KPK Quantity Surveyors (Semenanjung) Sdn Bhd

**YBRS. TUAN IR. HAJI OMAR MAT PIAH**

Director General of the Department of Occupational, Safety and Health (DOSH)

**DATUK ZAINI YUSOFF**

Vice President of the Real Estate & Housing Developers' Association (REHDA)

**DATO' IR. DR. MEOR ABDUL AZIZ HAJI OSMAN**

Director General of Public Works Department

**DATO' DR. IR. ANDY SEO KIAN HAW**

Vice President of Federation of Malaysian Manufacturers

**IR. ZAFRUL MAHMOOD**

Executive Chairman of Ranhill Bersekutu

## MCIEA 2019 AWARD RECIPIENTS

### INDIVIDUAL AWARDS – PROMINENT PLAYER AWARD

#### **DATO' SRI IR. DR. JUDIN ABDUL KARIM**

Executive Vice President, Malaysian Resources Corporation Berhad (MRCB)  
\* Former Chief Executive of CIDB Malaysia (2011-2015)

### INDIVIDUAL AWARDS – CEO OF THE YEAR AWARD

#### **MR. DENNIS TAN SOO HUANG**

Managing Director, OCNED Water Technology Sdn. Bhd.

### INDIVIDUAL AWARDS – CONSTRUCTION LEADING LADY AWARD

#### **DATO' HASHIMAH BINTI HASHIM**

Executive Director, KLCC Projeks Sdn. Bhd.

### CONTRACTOR OF THE YEAR AWARD

#### **SUNWAY CONSTRUCTION SDN. BHD.**

### BEST CONTRACTOR AWARD - GRADE G1 **ROSDEN ENTERPRISE**

### BEST CONTRACTOR AWARD - GRADE G2 **AZMAN MAHMUD ENTERPRISE SDN. BHD.**

### BEST CONTRACTOR AWARD - GRADE G3 **IM ENGINEERING**

### BEST CONTRACTOR AWARD - GRADE G4 **MMA TECH ENGINEERING SDN. BHD.**

### BEST CONTRACTOR AWARD - GRADE G5 **MAMIDOR REKA BINA SDN. BHD.**

### BEST CONTRACTOR AWARD - GRADE G6 **YUAN SENG BUILDING TRADING SDN. BHD.**

### BEST PROJECT AWARD (BUILDING) – SMALL

#### **SMALL & MEDIUM ENTERPRISE (SME) AND HANDICRAFT CENTRE MERSING, JOHOR**

Client: East Coast Economic Region Development Council

Contractor: Pembinaan Saji Jaya Sdn. Bhd

PMC: KLCC Projeks Sdn. Bhd.

Architect: Pakatan Akitok Sdn. Bhd.

C&S: Perunding Ikatan Sdn. Bhd.

M&E: Jurutera Perunding JBI (M&E) Sdn. Bhd.

QS: Adam QS Consultancy Sdn. Bhd.

Landscape: Landarc Associates Sdn. Bhd.

### BEST PROJECT AWARD (BUILDING) – MEDIUM

#### **STATE REGIONAL LIBRARY, KOTA KINABALU, SABAH**

Client: Perpustakaan Negeri Sabah

Contractor: Anjur Jasa Sdn. Bhd.

Architect: Innotech Design Architect Sdn. Bhd.

C&S: Jurutera Perunding Kinakota Sdn. Bhd.

M&E: Sistem Konsult Sdn. Bhd.

QS: Perunding KK Bina Sdn. Bhd.

### BEST PROJECT AWARD (BUILDING) – MAJOR

#### **EQUATORIAL PLAZA, JALAN SULTAN ISMAIL, KUALA LUMPUR**

Client: Hotel Equatorial (M) Sdn. Bhd. & Fenghuang Development Sdn. Bhd.

Contractor: IJM Construction Sdn. Bhd.

Architect: GDP Architects Sdn. Bhd.

C&S: WEB Structures (M) Sdn. Bhd.

M&E: NDY (M) Sdn. Bhd.

QS: Jurukur Bahan FPS Sdn. Bhd.

Landscape: BEP Landscape Sdn. Bhd.

### BEST PROJECT AWARD (INFRASTRUCTURE) – SMALL

#### **SEWAGE TREATMENT PLANT WITH A CAPACITY OF 19,950 PE, JOHOR BAHRU**

Client: Casa Andaman Sdn. Bhd.

Contractor: Alam Sekitar Eco-Technology Sdn. Bhd.

Architect: Zone Architect Sdn. Bhd.

M&E: Perunding OS Sdn. Bhd.

QS: LOH QS Consult

### BEST PROJECT AWARD (INFRASTRUCTURE) – MEDIUM

#### **MECHANICAL WORKS PACKAGE 2 FOR FAST TRACK 3A, MANJUNG 5 POWER PLANT**

Client: TNB Manjung Five Sdn. Bhd.

Contractor: Technoft Sdn. Bhd.

### BEST PROJECT AWARD (INFRASTRUCTURE) – MAJOR

#### **KVMRT SBK LINE - SUNGAI BULOH MAINTENANCE DEPOT, ADMIN BUILDING, EXTERNAL & ASSOCIATED WORKS, SELANGOR**

Client: Mass Rapid Transit Corporation Sdn. Bhd.

Contractor: Trans Resources Corporation Sdn. Bhd.

Architect: Perunding Alam Bina Sdn Bhd

C&S: MMC Gamuda KVMRT (PDP SSP) Sdn. Bhd.

M&E: Aecom Perunding Sdn. Bhd.

QS: KPK Quantity Surveyors (Semenanjung) Sdn. Bhd.

### INTERNATIONAL ACHIEVEMENT AWARD – SME (SPECIAL MENTION)

#### **PROBASE MANUFACTURING SDN. BHD.**

### INTERNATIONAL ACHIEVEMENT AWARD – SME (SPECIAL MENTION)

#### **KIM HIN CERAMIC SDN. BHD.**

# CAPTAINS OF THE INDUSTRY AT THE MCIEA DINNER





“While I'm in MRCB, I'm currently pushing for modular construction, or currently known as IBS, which will be a major improvement for the industry.”



Prominent Player Award  
**Dato' Sri Ir. Dr. Judin Abdul Karim,**  
 Executive Vice President of Malaysian Resources  
 Corporation Berhad (MRCB)

Dato' Sri Ir. Dr. Judin Abdul Karim is a prolific icon who has garnered an impressive reputation in the construction industry. In his illustrious three-decade career, he was at the core of many significant advancements in the nation's construction industry. He has served as Director General of the Public Works Department (PWD), President of the Board of Engineers, Chief Executive of the Construction Industry Development Board (CIDB), President of the Professional Services Development Corporation (PSDC) as well as a board member of the National Centre for Privatization and PPP, Saudi Arabia.

A true visionary, this Chevening and Fulbright scholar pioneered the introduction of many strategies, initiatives, frameworks and programmes which have greatly impacted the industry. His involvement includes the

development of the National Asset and Facility Management (NAFAM), World Trade Organization negotiations and the Mutual Recognition Agreement for APEC Engineers Registration. On the global stage, he presented a paper on Infrastructure Resilience in Malaysia at the Harvard Business School, USA.

Dato' Dr. Judin strongly believes that technology is the formula for success in the construction industry. "The construction industry is one that contributes to the development of this country, and has a direct impact to the public. And in that sense, this drives me to be very involved and very passionate about the work that I do," said Dato' Dr. Judin.

During his stint as Director General in PWD, he also became the president of the Board of Engineers. "At that time, our qualification as engineers

came into question. So we went and embarked on the 'The Washington Accord' programme. We went through several phases of the acceptance until we finally became full members." This was a significant achievement as it meant that the Engineering qualification issued by the Malaysian institutes of higher learning was finally accepted by the USA, the UK and Japan among others.

Another notable achievement was the enactment of the Construction Industry Payment and Education Act 2012 during his tenure at CIDB. "Our industry was rife with late and non-payment issues, leaving small contractors at loss without a viable avenue for recourse. It was high time Malaysia has a specialised Construction Court. We managed to





pull it through and I was able to convince the top judges at the time to approve the Act," he said. Thanks to his efforts, Malaysia became the second in the world after the UK to have a court that is solely focused on the construction industry.

In 2015, the Construction Industry Transformation Program (CITP) was launched under his leadership in CIDB. "The main focus was cultivating systemic change, which is always the challenge. It's all about how to get people to think differently."

He currently serves as Executive Vice President at MRCB Builders Sdn Bhd and was responsible in overseeing the third LRT system in the Klang Valley. "While I'm in MRCB, I'm currently pushing for modular construction, or currently known as IBS, which will be a major improvement for the industry."

As the "Prominent Player of the Year", Dato' Dr. Judin is an indispensable and vital figure in the construction industry -- an agent of change for years to come.





“ Ever since I was a child, I excelled in Maths and Physics. My late father, who was a Quantity Surveyor, encouraged me to take up Civil and Structural Engineering, even though it was an unusual field for a woman to embark on back then. ”

Construction Leading Lady Award  
**Dato' Ir. Hashimah Hashim,**  
 Executive Director of KLCC Projeks Sdn. Bhd.

A well-revered figure in the construction circles, Dato' Ir Hashimah Hashim has been involved in a vast spectrum of high-profile projects such as the Putrajaya Intelligent Garden City, infrastructure works for East Coast Economic Region (ECER) projects and the construction of affordable homes.

“Ever since I was a child, I excelled in Maths and Physics. My late father, who was a Quantity Surveyor, encouraged me to take up Civil and Structural Engineering, even though it was an unusual field for a woman to embark on back then,” recalled Dato' Hashimah. She took her father's advice and had not regretted it a moment since.

Being a woman in construction has its challenges, but she took it all in her stride. “At that time, I was fortunate to be a young engineer based in a London consulting office. Although the Englishmen were polite, I was battling the gender and racial bias as an Asian woman. I had to strive and work harder than everyone else in the team to gain their trust. Over time, once I have proven that I have the intelligence and skills to do my work well, the rest, as they say, is history.” A few years on, when the Berlin Wall was torn down, her company gave her the opportunity to go to East Germany and help develop it. At the same time, she received an offer to return to Malaysia to work on the then-world's tallest building. “It's not every day that you get to work on an 80-storey tower, so I took the opportunity to come back home and work with PETRONAS in 1990 until today.” Her diligence and courage was also instrumental in the

relocation of the PETRONAS Twin Towers from its original groundbreaking site in 1992 ensuring the safety and successful construction of Malaysia's beloved landmark.

She was a committee member of the CIDB CIP initiative working group on the export of construction services and served as the main jury for the Council on Tall Buildings and Urban Habitats (CTBUH) 2016 Awards.

“The idea that only the boys club has access to the construction industry is really not true. There's a lot of opportunities for women to join in the fields of technology, design, design engineering, architecture, costing, marketing and even developing entrepreneurial skills and businesses,” she said. “In our organisation, KLCC Projeks, there are about 35% female executives and an equal percentage are in the managerial capacity. This is a high percentage when you compare it against the average of 15% of women

in the construction industry worldwide." She added that having a significant presence of women in the organisation offers diversity in terms of ideas, problem solving, approaches and methodologies, which, by the end of the day, increases good results and productivity.

Her altruism and passion for community building led her to introduce the "Projek Apprentice" programme (2016-2018) which helps youths understand and plan their career path in the construction industry by offering project management internships in KLCC Projekts. Dato' Hashimah's passion in catalysing change and realising aspirations in the construction industry is an inspiration to all.



“

I would not tell my staff what to do, I'll show them how to do it instead. As such, I keep myself updated with the latest knowledge and technology in my field of work. I also send my people for training as I want them to be specialised and skillful.

”



CEO of the Year Award  
**Dennis Tan Soo Huang,**  
 Managing Director of OCNED Water Technology Sdn. Bhd.

Originating from Malacca, Mr Dennis Tan Soo Huang graduated as a Mechanical Engineer from London 35 years ago. Soon after, he began his career with a Japanese company specialising in wastewater treatment. In 1993, he founded Ocned Water Technology Sdn. Bhd. offering with a wide range of services that revolve around one principle - to conserve and protect the precious gift of water.

Through his visionary leadership, Ocned has carved a niche as a specialist in water, industrial wastewater, sewage treatment and ground water engineering works. "We were at the forefront of environmental and water preservation long before the industry players were even thinking about it. With the shift towards sustainable solutions, we are decades ahead in terms of technological know-how in water

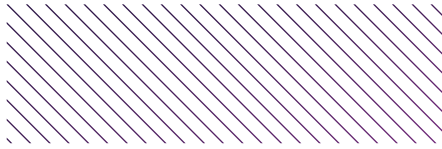


treatment engineering and sourcing and treating groundwater. We see our role as vital in ensuring that solutions for environmental conservation are at hand."

He projected that groundwater would be the next big thing in the industry and has partnered with a groundwater technology specialist from Denmark, a nation that has almost 100% dependency on ground water for drinking and industrial purposes.

Tan serves as Vice President of the Master Builders Association Malaysia where he passionately champions labour and environmental conservation issues. He leads by example and is a firm believer in capacity building. "I would not tell my staff what to do, I'll show them how to do it instead. As such, I keep myself updated with the latest knowledge and technology in my field of work. I also send my people for training as I want them to be specialised and skillful." It is little wonder that Ocned has a very low turnover rate because of his belief and investment in his team's development.

As "CEO of the Year", Tan is truly the personification of leadership flowing from quiet strength and perseverance.



# GALA DINNER TO CELEBRATE MCIEA'S CONSTRUCTION INDUSTRY EXCELLENCE





# COLLABORATION IS THE KEY TO SUCCESS

Kompleks Kediaman Kakitangan Awam Jalan Bangsar

The Ministry of Health (MoD) Government Quarters building in Setia Federal Hill is Setia Precast Sdn Bhd's latest feather in the cap. The 15-storey project garnered the company the highest-in-the-country Industrialised Building System (IBS) score of 93.95, above and beyond the minimum IBS score of 70 mandated for all public projects worth above RM10 million. The significant milestone is a culmination of 23 years of history in the making.

Setia Precast Sdn Bhd specialises in prefabricated construction having built more than 23,000 units of prefabricated affordable residential units in the country under Setia IBS.

It was established in 1996 as a joint venture company, when S P Setia Bhd signed a JV with Taisei Prefab Construction Co. Ltd. (Japan) to build high-rise apartments in Pusat Bandar Puchong. The JV came about to address the acute shortage of construction workers and purchasers' demand of quality. Prior to that, Setia previously worked with Taisei Prefab in developing the PKNS low-cost housing back in the 1980s. In 2001, Setia Precast became a wholly-owned subsidiary of S P Setia when the latter bought over Taisei Prefab's shares and the transfer of technology was deemed to be complete.

Since then, Setia Precast has garnered a solid reputation as the indisputable leader in prefabricated construction. Notable large-scale projects include the development of government apartments in Putrajaya, private developments in Ampang, Setia Alam and Setia Ecohill, the institutional development in Asian Institute of Medicine, Science and Technology (AIMST) University in Sungai Petani, the Specialist Complex and Ambulatory Care Centre (SCACC) at Hospital Kuala Lumpur (HKL) and the commercial development in Setia City Mall, Setia Alam.

The MoD Government Quarters building was a highly collaborative project for Setia Precast, with a number of key deliverables. These include 15 storeys of 2,845 square feet Government Quarters, a community hall, prayer hall, management office and guard house.

"We see ourselves as a one-stop building contractor, where some of the components are produced by us and the rest are outsourced," said Mr Foong Fatt Kee, Setia Precast's Technical Head, who has amassed more than four decades of prefabrication experience.

For this project, Setia Precast produced the precast wall, half-slab, staircase, bathroom slab, fencing, signage, refuse chamber, prefabricated bathroom unit and Prefabricated Prefinished Volumetric Construction (PPVC) guard house. The other project components, such as the prefabricated roof truss, bubble deck slab for the community hall roof, bondex for the water tank floor and greenedge modular panels came from their partner IBS suppliers.

Notably, this 'Open System' in partnering with other IBS suppliers where they shared and interfaced with each other's unique products seamlessly was the key in garnering the top IBS score in the country.

"You may be producing the best precast wall in the industry but if the structure and other simplified solutions have low IBS scores, then the whole project's IBS score will be adversely affected," Foong explained.



**▲** *Datuk' Ir. Ahmad 'Asri Abdul Hamid, Chief Executive for the Construction Industry Development Board (CIDB) Malaysia (centre) presented the award to S P Setia President and CEO Datuk Khor Chap Jen (fourth from left) in the newly completed government quarters building. Also present in the ceremony were CIDB Senior General Manager of the Technology Development Sector Datuk Elias Ismail; and S P Setia Deputy President and Chief Operating Officer Datuk Wong Tuck Wai.*



"Over the years, we learnt that the best approach for IBS is collaborating with other quality IBS industry players. No one can do it all alone as the costs are simply too prohibitive," shared Foong. "If we produce a component that is only used for one project, it doesn't make any fiscal sense." Hence he strongly believed that for IBS to grow, more players must join the ecosystem to create specialised products. "With a larger base of IBS suppliers that meets or exceeds the minimum score of 70, it makes it possible for us to study the architect's layout and then source for the best system to fit it knowing that it can give us the standard of quality that we seek. This will help move the whole industry's value chain."

The IBS Scoring System is an assessment to measure the usage of IBS in a consistent way. In fact, IBS has

been mandated for use in government and private projects since 2008 and 2018, respectively. By embarking on IBS back in the 1980s before it became a mandate, Setia Precast has shown keen foresight on how the technology can help spur the construction industry to greater heights.

"When we first embarked on IBS, the cost was 3 to 5% higher than the conventional way of doing things. However, the advantages afforded by IBS far outweigh the costs and we were able to complete our projects way ahead of our conventional peers. The sooner the structural framework of the construction can commence, the better it is for the developer's cash flow as the buyers can then begin their loan repayment," said Foong. Other advantages observed include the reduction of foreign workers in the factory and on-site, the reduction of construction works, waste and

noise on-site which are in close proximity to existing residential areas, the increase of quality in the finished works and consistency, and a marked increase in the health, safety and environmental aspects.

To Foong, the beauty of IBS was clearly demonstrated in the SCACC at HKL project involving an 8-storey V-shaped block with a 2½-storey car park along Jalan Pahang, Kuala Lumpur. "The site was smack-dab in the middle of one of city's busiest areas with all four sides surrounded by either main roads or existing buildings. IBS helped address the logistics issue as we manufactured the components off-site and transported them to the site during off-peak hours, thus avoiding causing congestion on the roads. There was also only one access and our lorry had to reverse to leave the site," Foong recalled.



Setia Precast's casting yard at Setia Ecohill 2, Semenyih, which has the capacity to produce 3000 apartment units per annum



PBUs being assembled at Setia Precast's USJ Yard

Setia Precast was awarded the IBS Award in the MCIEA 2013 for their success in adopting more than 70% of IBS components for the construction of the SCACC at HKL. The company also won three other MCIEA IBS Awards in year 2005 for Parcel 8 Putrajaya, 2016 for Setia Jati Setia Alam and 2017 for Seri Kasturi Setia Alam. They are also the first in Malaysia to use the Prefabricated Bathroom Unit (PBU) for high-rise residential developments at 24 units in MoD Bangsar, De Cendana and De Cemara.

These awards spur Setia Precast's commitment to continue as the industry's frontrunner in adopting IBS technologies in line with the government's efforts to modernise the sector.

"With IBS, we also managed to cut short our delivery time for residential apartments from 22 months to 16 months. This is a significant increase in terms of speed of construction time and delivery," Foong added. He opined that IBS is suitable for all types of construction projects from single-storey to high-rise residential; from multi-storey car parks to commercial projects as well as government buildings such as schools and hospitals. "IBS is, of course, best utilised on higher-density projects like high-rise apartments. They don't even look like cookie-cutter units, thanks to Setia Precast's expertise in creating intricate prefabricated wall designs, which add a sense of aesthetics, uniqueness and character to each building."

Moving forward, Setia Precast's aspiration is to depart from construction at the site and to manufacture homes and deliver them to the site by utilising PPVC. "I foresee that PPVC will be the next wave in the near future as the Malaysian construction industry addresses the skilled labour shortage. With it being fully fitted with facilities and finishing, PPVC is an ideal solution in urban areas with tight logistics challenges and remote areas with accessibility issues," Foong explained.

With the current enforcement to reduce the intake of foreign workers, IBS is starting to make more sense to the



**SETIA WOOD : PREFABRICATED ROOF TRUSS**

**SETIA PRECAST :**  
**PRECAST WALL**  
**PRECAST HALF SLAB**  
**PRECAST STAIRCASE**  
**PRECAST BATHROOM SLAB**  
**PREFABRICATED BATHROOM UNIT**

**SETIA PRECAST :**  
**PRECAST FENCING**  
**& SIGNAGE**

construction players. "IBS is becoming an affordable option as it uses less labour. If there's a lack of skilled workers for conventional projects, they will face quality problems for sure. Since IBS' components are produced in the factory to precise specifications, there is no need to incur extra costs to rectify non-conformance issues," said Foong. The bulk

## Setia IBS Open System with Other IBS Suppliers

**IBS Score :**

- Part 1 Structure : 44.05**
- Part 2 Wall : 19.90**
- Part 3 Other Simplified Solutions : 30.00**
- Total IBS Score : 93.95**

**BUBBLE DECK :**  
BUBBLE DECK SLAB FOR ROOF OF COMMUNITY HALL

**LYSAGHT :**  
BONDEK FOR WATER TANK FLOOR

**BRICK DOTCOM :**  
GREENEDGE MODULAR PANEL

**SETIA PRECAST :**  
PPVC GUARD HOUSE

of the work for IBS occurs in the initial stages of the project where everything is scrutinised in detail to make sure that it all fits seamlessly together. "This requires a capable technical team and a lot of interaction with our consultants, but once the details are finalised, the project will proceed smoothly with minimal issues."

"We welcome more new players into the IBS arena as we believe that it is vital for us to collaborate with each other and leverage on each other's abilities and strengths. Only then can we unleash the full potential of IBS' buildability and benefits," Foong concluded.



# So 'Dam' Exciting

A career in dam engineering can take you to places you never imagine you would go. Muar-born Ir. Toh Chin Kok can certainly attest to that.

"Dam engineering is both an interesting and challenging career to me. "Most of my work is done on the field, and my work on the office desk consist of designs and reports."

According to Toh, dam engineering work involves a lot of traveling and roughing it out on rugged terrains. "This is true especially when we are in search for a dam site -- more often than not, we find ourselves entering into remote areas, wild forests, untapped rivers, green hills, majestic mountains, and such," he explained. "During a site reconnaissance, we would travel a few kilometres into jungles, up and down the hilly terrains at a few feasible locations in search of suitable dam sites. On and off, my geologist or guide would find some natural mountain water that we could drink to refresh ourselves along the journey."

"At one point, in order to go to southern Laos, we had to cross the immigration at border by walking through a small narrow walkway tunnel from Thailand," he recalled. "Sometimes, on some terrains that are only accessible by 4WD vehicles, we may need to search for shallow streams that we could cross, if there are no bridges available." Certainly, this is a job for adventurous souls who want to make a difference in the communities that they are in.

As Dam Section Head in Angkasa Consulting Services Sdn. Bhd., Toh focuses on dam engineering works which encompass the investigation, design and construction of dams, dam safety assessments, and the rehabilitation of existing dams. He has been involved in emergency preparedness for more than 20 dams in Malaysia, Brunei and Laos. Other international experiences in structural

and geotechnical engineering include projects in Laos, Russia, Indonesia, and Trinidad And Tobago. His recent dam and hydropower project experience and as geotechnical engineer include Emergency Dam Safety Inspection for Don Sahong Hydropower Project In Laos, a tender design for the Upper Padas Hydroelectric project in Sabah and a site reconnaissance for the Baleh Hydroelectric Power Project.

"No two dams are the same. Unlike most other types of construction, dams are often built from a combination of natural and engineered materials, usually store large volumes of water, and are very dependent on foundations and abutments for support. In fact, there is no standard code of practice for dams. Each dam is unique and must be treated individually," Toh explained.

Toh emphasised that investigating the actual sites for the dam and its appurtenances are extremely vital. As dams are built on natural grounds, careful inspection on the terrain and geological structures are carried out to avoid the dam being built on unfavourable grounds. Dams are made mainly of natural and local materials

sourced from ground, e.g., earthfill, rockfill, quarried rock and aggregates for construction. "The suitability of these materials have to be carefully inspected and tested. I once encountered a geologist who stated that some minerals in soils could be verified by tasting it with the tongue!" Toh said.

During construction, engineers would inspect and supervise the construction to verify that it is built in accordance to the design and any deficiencies observed will be solved and recorded in "as-built" documentation.

"Dam engineering spans the entire lifetime of the dam. The investigation, design and construction works constitute the early life of the dam. For the rest of the life of dams, dam engineers would carry out dam safety inspections, dam safety reviews, plans for emergency preparedness or rehabilitation designs, which is the major part of the dam safety management," stated Toh.



Sultan Azlan Shah Dam, Perak, which is the first Roller-Compacted Concrete (RCC) Dam in Malaysia, engineered by Angkasa-GHD Engineers Sdn. Bhd., now known as Angkasa Consulting Services Sdn. Bhd.

**“** No two dams are the same. Unlike most other types of construction, dams are often built from a combination of natural and engineered materials **”**



At Teluk Bahang Dam, Penang



Toh (3rd from left) describing the position of Ahning Dam, Kedah, near the border of Thailand, together with his principal cum mentor Ir. Khor Chai Huat (far left) and other colleagues

In 2001, Toh began his foray into engineering upon graduating with an honours degree in Civil Engineering from Universiti Teknologi Malaysia. Over the next 18 years, he amassed a wealth of experience in construction projects, particularly in high-rise buildings, infrastructure and mega projects involving bridges, major reconstruction and expansion of buildings as well as KLCC Convention Centre. In recent years, he began specialising in dam engineering projects, an opportunity afforded by chance, so to speak.

"In my early years, I focused on the "downstream" aspects of construction and development, where buildings and infrastructures are built. In such projects, you would find that the basic necessities, such as water, electricity and other facilities are already in place," he said. "In my latter years, however, I ventured into the "upstream" part of construction and development, specifically, dams. This type of development is the infant stage of all developments, where most of the things are "harvested" locally, not provided. Working facilities and accommodation are mostly temporary.

You will likely stay at the project campus most of the time and communications to developed communities may be limited."

"I came upon this opportunity quite by chance, actually. A wise senior technical manager once advised me regarding the difference between an engineer and a non-engineering employee — in the long run, if they keep working in the same type of environment, there is a need for the engineer to truly stand out in their profession in terms of the skills that they want to carry in their career lifetime."

"That said, there are many possible career paths for a civil engineer. We must be careful not to be greedy. Just concentrate on what we want instead of getting our fingers into every foreseeable venture," he cautioned.

As such, when he decided to make a change in his career, he was searching for something that could contribute to society and is unique by nature. When he came across an engineering consultancy firm dealing with dams, he found the job that he was searching for.

"It was one of the longest interview sessions I ever had. The principal, Ir. Khor Chai Huat, who interviewed me, took time to describe the niche that is dam engineering in Malaysia and how the country needs more dam engineers. I was completely sold and haven't looked back since!" To attain the status of a developed nation, Malaysia needs at least 200,000 engineers by 2020. There are currently only 70,000 registered engineers in the nation, and even fewer in niches, such as dam engineering.

*“It deals with humankind in its entirety, including the environment, forces of nature, climate and even other lives”*

In dam engineering, Toh had the opportunity to be part of the development of the national guidelines on dam safety management (MyDAMS) for the Malaysian government. "It is the first comprehensive guidelines encompassing the entire life cycle of the dams, from cradle to grave, i.e., legislative requirements, dam safety management, investigation, design, construction, commissioning, operation, maintenance, surveillance, safety review, rehabilitation, emergency preparedness and decommissioning of dams," he said.

There are many rewarding aspects to being a dam engineer, Toh attested. "The smiles on the face of my clients and recognition from my managing director and his management team, when I manage to provide realistic engineering solutions and complete my work on time are rewarding to me. Also, being a successful engineer is only possible with the support of one's team and colleagues. Without them, I may not be the engineer that I am today."

"It was particularly thrilling to hear my three-year-old son, William, utter his first English word, "Construction", fluently. I must have spoken this word so many times at home or during family time that my son picked it up," he smiled.

When asked about the one thing a civil engineer should possess in order to succeed in this field, he said, "Passion. It's more than just having knowledge and competency. When things are designed and constructed with passion, it has the extra edge over the common ones, just like the icing on the cake, there is a reason why some engineering constructions are just better than others."



*The best way to learn and overcome challenges in engineering construction is to learn from a great leader and other experienced engineers. As such, Toh is actively involved in knowledge sharing and programmes that contribute to building the engineering construction industry.*

At Muda Dam, Kedah



Upon graduation, one should aim to be Professional Engineers (Ir.) after obtaining adequate experience. To date, the average starting pay for a graduate engineer currently stands at RM2,800.

Of course, it is also vital to keep abreast of industry advancements and trends in order to remain relevant in the field. "Engineers should also participate in the Institution of Engineers Malaysia (IEM) and any other societies, both local and international, related to the engineering profession of interest. As a member of a professional institution or societies, they could at least be updated on their area of expertise. If possible, engineers should also be a technical committee member in their field of expertise and take part in organising events or programmes as well as meeting other professionals for knowledge and experience sharing. Such involvement directly contributes to building the capacity of engineers in the engineering construction industry. This is in line with CIDB's mission to propel the construction industry to greater heights," Toh advised.

"Engineering is and will always be my greatest enthusiasm. It is truly a wonderful profession. It deals with humankind in its entirety, including the environment, forces of nature, climate and even other lives. However, engineers must be diligent in their work as the stakes are high, and any mistakes may cause fatalities or damage to the property and environment," Toh concluded.





# Pathway To Become A Professional Engineer (Ir.)

*'Ir. stands for "Ingenieur", which represents engineers who meet the highest professional standards.*

**Academic Requirements:** Graduate from an accredited Engineering degree programme.

## Route 1

### Professional Assessment Examination

- Register as Graduate Engineer from Board of Engineer Malaysia (BEM).
- Obtain three years of relevant working experience. At least two years of general training as a basis for professional development; and at least one year of various managerial and technical expertise in engineering practice where; at least one year of the above training must be obtained in Malaysia under the supervision of a Professional Engineer (PE) in the same branch of engineering as that practised by the Graduate Engineer.
- Apply for professional certification (Ir.) from BEM.

## Route 2

### Corporate Member of IEM

- A Corporate Member of the Institution of Engineers Malaysia (IEM).
- Obtain three years of relevant working experience (similar to Route 1b).

## Route 3

### Route for a Professional Engineer from an Overseas Regulatory Body

- A Professional Engineer from an overseas Regulatory Body must first register as a Graduate Engineer to ensure that his/her basic degree satisfies the academic requirements of the Board.
- The applicants are required to fulfil three years of registration as Graduate Engineer before being eligible to apply for Professional Engineer.
- Upon completion of (a) and (b), the applicant must pass the Code of Conduct Assessment based on the Registration of Engineers Act.
- Submit to BEM a certified latest Professional Engineer Certificate issued by a Regulatory Body of other country.
- The professional engineer's status must be equivalent to BEM's professional engineer qualifications eligibility.
- Application must not be cancelled by the Disciplinary Committee.
- Submit a summary of practical experience not less than three years using company letterhead certified by a PE in same branch of engineering where the applicant did his practical experience.



# BRIDGING THE PAST AND FUTURE OF TERENGGANU





The Kuala Terengganu Drawbridge, or Jambatan Angkat Kuala Terengganu, was conceptualized to be a major new icon and landmark in the Kuala Terengganu City Centre (KTCC).

It will play a major role to boost urban and coastal tourism as well as to serve as a catalyst of economic development in line with the East Coast Economic Region (ECER) Masterplan. A new growth area, the KTCC development encompasses approximately 40 acres of land in Muara Selatan (South Bank), and 140 acres of land in Muara Utara (North Bank), and integrates the existing Kuala Terengganu urban areas by merging them into a vibrant Heritage Waterfront City.

The iconic RM248 million Drawbridge spans 638 metres with a 23 metre-wide single-carriageway, connecting the existing central business district of Kuala Terengganu to its natural extended growth area in Kuala Nerus across the Terengganu river.

It also forms the endpoint of a new 'Executive Drive' from the Sultan Mahmud Airport into the city and is meant to be the New Gateway into the city by air, land and sea. The drawbridge allows users to cut their travelling time between Sultan Mahmud Airport and Kuala Terengganu by about 15 minutes. A four-lane coastal road was built to connect the bridge with Kuala Nerus.



*An ICONIC symbol for the future of Terengganu*

## Design and Form

The bridge was originally inspired by the Tower Bridge in London and is designed to allow small and medium-sized fishing boats and cruise boats to pass seamlessly under it while the drawbridge bascule will be raised to allow larger boats, yachts or other vessels to pass through. The clear span of the drawbridge is 50m wide.

There are four 15-storey towers, with each set of two towers connected by a skybridge. Each tower has a lobby from which visitors can take the elevator up to the commercial areas located on the skybridges. At night, the structures are lit up with multi-coloured lights to accentuate its silhouette across the skyline.

The bridge's four towers emulate the minarets of a mosque and to accentuate this theme, Islamic motifs cast in green granite adorn the sides of the towers. The bridge box section employs a unique and singular architectural design as it features vents which provide panoramic views of the surrounding scenery. This would not have been possible without the balanced cantilever bridge with its imposing hammerhead section.

"The bridge deck is designed to be appreciated across a dynamic 360° picturesque view. To achieve this, we intentionally made use of the horizontal curve to integrate harmoniously with the vertical alignment. The super elevation of the bridge deck embodies a design masterpiece which we hope engineers,

architects and layman will continue to study, analyse and be inspired by," said Arizan Arifin, General Manager, Project Implementation Division, East Coast Economic Region Development Council (ECERDC).

ECERDC is tasked with ensuring the Federal Government's vision of shared prosperity is realised in the East Coast Economic Region (ECER). Its mission is to strategically invest in the people and infrastructure in the ECER today, in order to ensure the socio-economic well-being for all people. The Kuala Terengganu Drawbridge is a key component of the ECERDC's strategy to boost economic activity in the KTCC area.


## Construction and Challenges

The design and conceptualisation of this awe-inspiring architectural marvel took two years resulting in a 'must-see' landmark in the area. In that period, a detailed Environmental Impact Assessment (EIA) study was conducted to ensure that the ecosystem at the river estuary remains protected. Given the care and diligence taken in the construction of the drawbridge, towers and skybridges and considering the multiplier value it brings with minimal disruption to the ecosystem, it is well worth the investment.

The design of the project involved two sets of observation platforms called 'skybridges' linking the bridge towers. This required four units of strand jacks to be deployed on cantilever support beams for the lifting work. The jacks were then relocated to the other bank to lift the second structure. The lifting time took seven hours at a maximum height of 55m.

The drawbridge was first opened to the public from 2-17 June 2019, as part of a test run to integrate it into the surrounding traffic system. The bridge was then closed while final tests and improvement works were carried out, which were completed on 30 June 2019. The bridge was officially opened and fully operational on 1 August 2019.



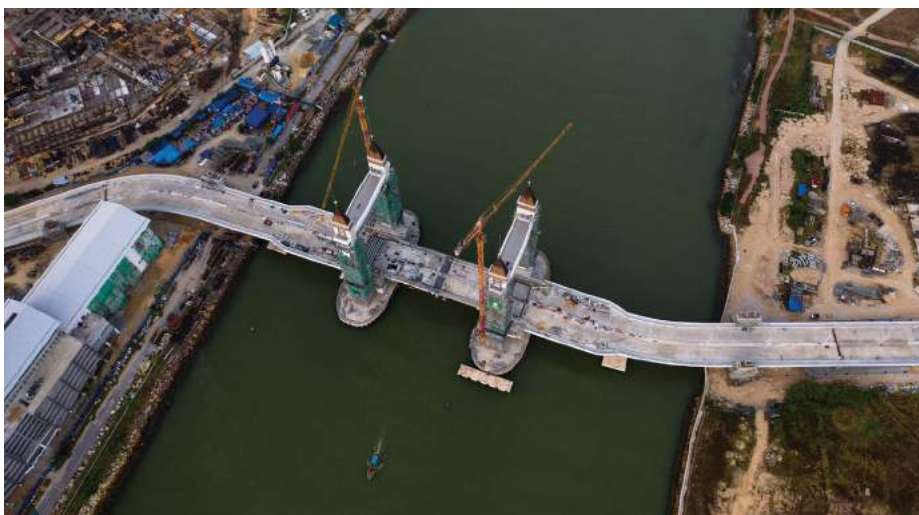
 The Kuala Terengganu drawbridge in the midst of its upward swing to provide clearance for passing vessels.

## Significance

"The Kuala Terengganu Drawbridge's unique profile and presence is befitting of the city's rising significance. This bridge is the end result of multi-disciplinary synergies such as architectural, interior design, as well as structural, marine, geotechnical, civil, mechanical, electrical, landscape and heavy lifting engineering. The material used was normal and light-weight concrete, high performance structural steel, and structural steel sections for the skybridges" said Ahmad Kamal Che Zain, Project Director, ECER Division, KLCC Projeks Sdn Bhd.

Established in 1992, KLCC Projeks is a wholly-owned subsidiary of KLCC Holdings Sdn. Bhd., which has carved a name for itself as a reputable project management company locally and regionally.

As the first drawbridge in South-East Asia, it is envisaged that other Asian countries would want to build their own dynamic mechanical bridges especially over wide rivers and water spill ways. As it is, the Kuala Terengganu Drawbridge has already inspired both Indonesia and Thailand to build their own drawbridges.



 A GATEWAY into the city of Kuala Terengganu

## PROJECT DETAILS:

Client: **East Coast Economic Region Development Council**

Project Management

Consultant:

**KLCC Projeks Sdn. Bhd**

Principal Consultant:

**PJSI Consultant**

Bascule Consultant:

**HDR Engineering (US)**

Contractor:

**Zelan-Hasrat Sedaya Consortium**





# SkyWorld Quality Centre: Breaking New Grounds

*There is no better benchmark than quality.*

built-up area of 7,500 sq. ft. and took a year from planning to completion. Ensclosed within the 28-acre integrated development known as SkyArena @ Setapak, it houses a lounge, a 30-seater mini auditorium and a fully furnished show unit of an apartment containing a living room, bedroom, yard, kitchen, bathroom, balcony, corridor and staircase.

"We make quality the benchmark of everything that we do and it shows in the properties that we develop and the services that we render to our customers," Lee stated. Established in 2008, SkyWorld has an impressive record of consistently received 5-star ratings from more than 86% of happy homeowners. Lee attributed this achievement to SkyWorld's commitment in adopting the Quality Assessment System in Construction (QLASSIC) standards in their development projects.


A testament of SkyWorld's commitment to quality excellence, the quality centre epitomises an urban design that is bold and innovative.

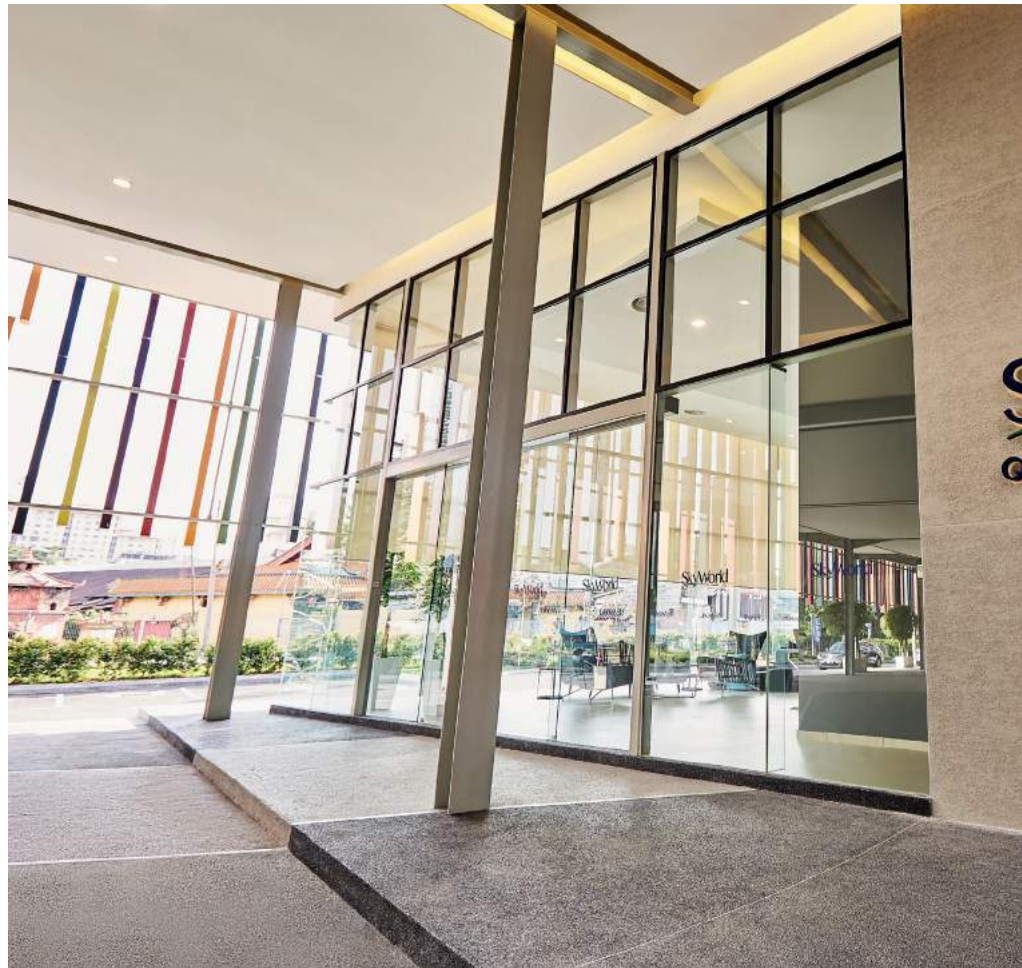
## **When it comes to residential developments, quality can make all the difference.**


"Quality resonates with people," said Mr Lee Chee Seng, SkyWorld Chief Operating Officer. "There is a certain confidence home buyers experience when buying a home because the company that builds it is fully committed to quality."

This passion for quality, the commitment to deliver the best to home buyers and the determination to raise the benchmark are the very reasons behind the first-of-its-kind SkyWorld Quality Centre. The brainchild of Lee, the RM3.8 million single-storey centre spans 13,000 sq. ft. with a



 Mr Lee Chee Seng, Chief Operating Officer of SkyWorld.



 Welcome to SkyWorld Quality Centre

### Champion of QLASSIC

QLASSIC is a construction workmanship quality assessment system launched by CIDB Malaysia in 2006. Developed with the participation of relevant industry stakeholders, QLASSIC is used to evaluate the quality of workmanship for building work projects in Malaysia. A high QLASSIC score denotes that a building is better constructed and achieves a higher quality of workmanship. Currently, the practice is entirely voluntary.

According to CIDB Malaysia, out of the 7,600 projects and developments built each year in Malaysia, only 4.1% of homes are QLASSIC-certified.

Lee stated that SkyWorld has received 76% QLASSIC score for Ascenda

Residences at SkyArena, Setapak, which was completed 3 months ahead of schedule, and received 78% QLASSIC score for the recently completed Bennington Residences at SkyArena. "The current average QLASSIC score in the country is 70%, and we are proud to exceed the market norm," Lee added.

With its quality centre, SkyWorld is paving the way for a greater QLASSIC adoption rate as every homeowner deserves to enjoy good workmanship in their newly handed-over homes. Firstly, it serves as a training centre for its staff and consultants. "When we call for tenders, we insist on taking on contractors and industry players who practice QLASSIC standards. If they do not know what the standards are, we are willing to educate and share the knowledge with them, as long as

they agree to our terms," said Lee. The contractors are then invited to the quality centre to be trained and see for themselves the difference between a QLASSIC-compliant finishing against a non-compliant finishing.

Secondly, it is an educational hub for home buyers and the general public. Visitors are taught how to recognise quality workmanship in each of these spaces through video tutorials and a live demo by the friendly quality centre tour guide on how to check for defects using professional or substitute tools you can easily find at home. Divided into five distinct zones and eight areas, participants can see and feel the common defects for themselves using these tools. "We teach visitors how to pay attention to the important aspects of quality in their own homes so that they won't





“ With its quality centre, SkyWorld is paving the way for a greater QLASSIC adoption rate as every homeowner deserves to enjoy good workmanship in their newly handed-over homes. ”

“ Out of the 7,600 projects and developments built each year in Malaysia, only 4.1% of homes are QLASSIC-certified. ”

accept poor quality as part and parcel of a house buying experience. It is abhorrent to hand over a substandard home to a purchaser who have paid so much for it, and will probably only purchase that one home in their lifetime,” said Lee. “We believe that when we put our customers’ interest ahead of ours by not compromising on quality in any way, it can only bode well for us and the industry in general.”



**Interior Inspirations**  
 The serene, light-filled show apartment comes completely furnished and beautifully decorated. The spaces are designed to exude a sense of spaciousness and connectness, with a unique mix of neutral hues, modern furnishings and natural textures that spark inspiration in a budding homeowner.



The Kitchen in Zone 4 where typical defects are identified in the sink, cabinets, fixtures, electrical switches and folding doors



Ministry of Works YB Tuan Baru Bian (fifth from right) and CIDB Malaysia Chief Executive Datuk Ir. Ahmad 'Asri Abdul Hamid (third from right) at the CIDB seminar on Corporate Liability on Corruption in Construction.

# Honesty, The Best Policy

CIDB Malaysia recently reminded construction industry players to ensure that integrity policies are in place to prevent bribery and corruption. These measures will reinforce the credibility and legitimacy of decision makers, building safeguards to protect public interest and promoting public confidence in the construction sector.

The call for integrity was issued at a CIDB Malaysia seminar, organised to educate construction industry players on the Malaysian Anti-Corruption Commission (MACC) Act. The Act was amended in 2018 to introduce a provision on corporate liability for corruption offences, applicable to Malaysian commercial organisations.

The Minister of Works Tuan Baru Bian, who spoke at the seminar, also underlined the Ministry's commitment to promoting integrity practices, leading the industry by example through its digitalised procurement system. "The construction industry, as any other industry, needs to be governed in order to establish a healthy and thriving business environment. As such, as part of our efforts to lead the way, the Ministry of Works is working towards a fully digitalised procurement system in 2020, known as E-Works," he said.

"E-Works is an online platform for procurement process involving government construction projects, as well as a website for ministries to

advertise tenders. This will reform the governance and procurement system by enabling greater transparency levels, as the platform will make the process more transparent, and help to avoid any compromising practices," he added.

Under the MACC Act, a commercial organisation commits an offence if any person associated with the commercial organisation acted in a corrupt manner in order to obtain or retain business or advantage for the commercial organisation. In this regard, adequate procedures to prevent persons associated with the commercial organisation from undertaking corrupt practices can be raised as a defense against corporate liability.

"This is why it is critical for corporates to have the appropriate systems in place in order to prevent such offences from occurring. Moreover, with strong governance and integrity practices, we will ensure the long-term viability and good reputation of our organisation," said Tan Sri Dr. Ir. Ahmad Tajuddin Ali, Chairman of CIDB Malaysia, to seminar participants.

Persons liable under the MACC Act include Directors, Controllers, Officers, Partner, or any person concerned in the management of the organisation's affairs. Penalties are stiff – with a maximum fine of 10 times the sum of gratification involved, or RM1 million, whichever is higher; or a maximum jail term of 20 years; or both. Aside from the severe penalties, the company would also suffer damage to its reputation, leading to long-term adverse effects to the business.

**“** *The construction industry, as any other industry, needs to be governed in order to establish a healthy and thriving business environment. As such, as part of our efforts to lead the way, the Ministry of Works is working towards a fully digitalised procurement system in 2020, known as E-Works.* **”**

The Seminar also assisted industry players in implementing adequate procedures to prevent corrupt practices, including requirements under the MS ISO 37001:2016 Anti-Bribery Management System Certification.

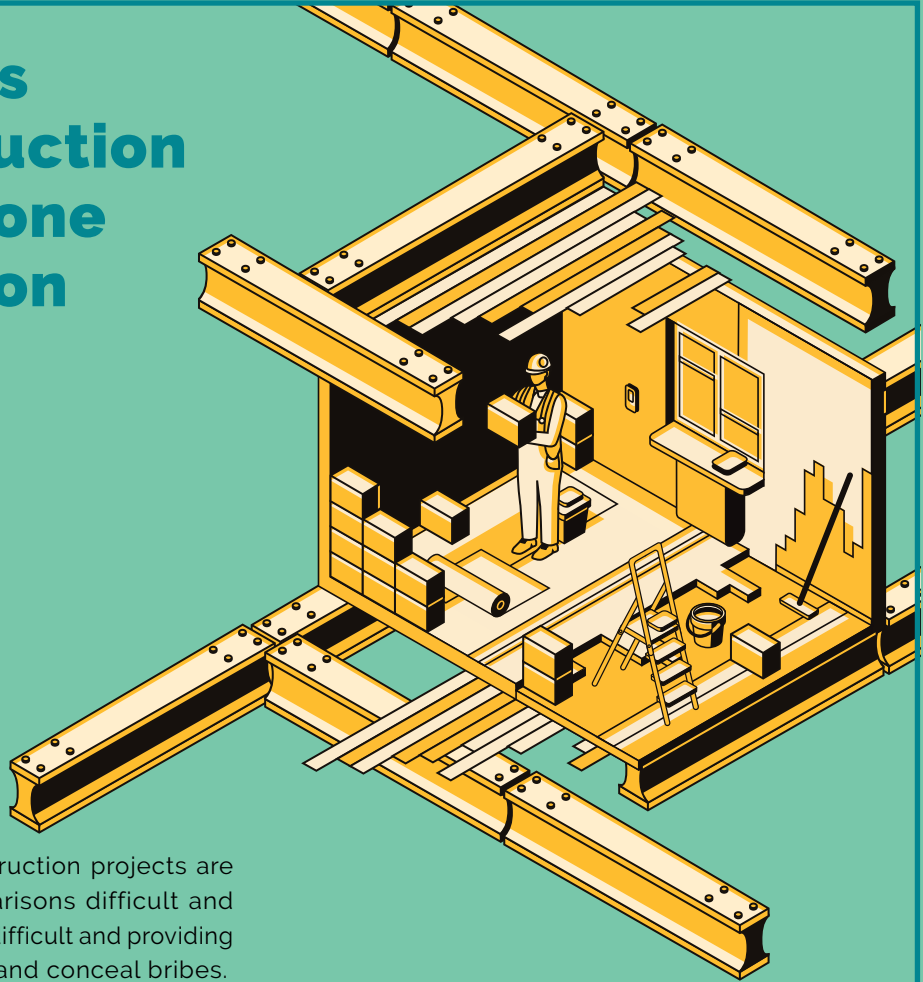
Furthermore, as part of its efforts to inculcate integrity in the construction industry, CIDB introduced the code of ethics for contractors initially published in 2008, as well as regularly organising integrity courses for contractors. CIDB also offers other programmes, trainings and seminars to further support the industry in adopting an integrity framework and procedures.



*In construction projects, materials and workmanship are often hidden, e.g., steel reinforcing is cast in concrete, making the industry prone to corruption.*

## What Makes The Construction Industry Prone to Corruption

The value of global construction output is expected to reach USD17.5 trillion per annum by 2030. Estimates of the value of losses through corruption range between 10 and 30%. Here are some of the features that make construction prone to corruption, as identified by Neill Stansbury of the Global Infrastructure Anti-Corruption Centre (GIACC):



**1. Uniqueness:** No two construction projects are the same. This makes comparisons difficult and provides making comparisons difficult and providing opportunities to inflate costs and conceal bribes.

**2. Complex transaction chains:** The delivery of infrastructure involves many professional disciplines and tradespeople and numerous contractual relationships that make control measures difficult to implement.

**3. Work is concealed:** Materials and workmanship are often hidden, e.g., steel reinforcing is cast in concrete, masonry is covered with plaster and cables and pipes enclosed in service ducts.

**4. Official bureaucracy:** Numerous approvals are required from government in the form of licenses and permits at various stages of the delivery cycle, each one providing an opportunity for bribery.

**5. The scale of infrastructure investments:** Investments in economic infrastructure such as dams, airports and railways can cost tens of billions of ringgit making it easier to conceal bribes and inflate claims.

## The Golden Rule

The Anti-Corruption Training Manual by GIACC for the infrastructure, construction and engineering sectors recommends that individuals and companies should avoid involvement in any corrupt situations. And if they do unintentionally get involved in a corrupt situation, they should withdraw from it as soon as they are aware that it is corrupt.

Additionally, in order to effectively deal with corrupt situations, companies must have reporting and advisory systems in place. Individuals and companies must also be aware of the legal and corporate framework that governs the area that they are operating in.

# CIDB ENFORCEMENT IN NUMBERS

## JANUARY TO SEPTEMBER 2019

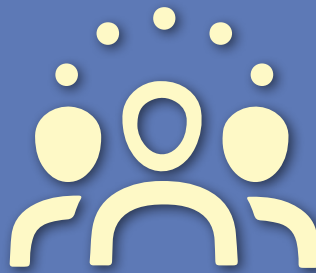
### ENFORCEMENT ACTIVITIES

Site Inspections



2,230

Integrated Enforcement with Other Agencies i.e., Operasi Bersepadu (OPB)



29

Special Operations



7

### ACTIONS TAKEN

Notices Issued



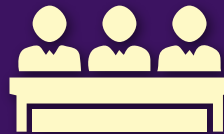
14

Investigation Papers Opened



881

Disciplinary Proceedings



62

Value of Compounds Issued



RM7.9 million

Warnings Issued



11

Penalties Issued



46

Contractor Registrations Suspended



5

# NATIONAL FIBERISATION AND CONNECTIVITY PLAN 2019 - 2023 AT A GLANCE

## MARKET OUTLOOK

Malaysia's economy is forecast to grow by 4.9% growth on average between **2019 - 2023**

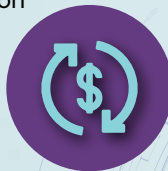
A strong consumer market will cushion the downturn and capex should recover from the 2018 fall.

*Source: Deloitte Thailand's Economic Outlook Report 2019*

## CATALYSING THE MALAYSIAN CONSTRUCTION SECTOR

- National Fiberisation And Connectivity Plan 2019 - 2023 (NFCP) is expected to benefit the domestic construction and built environment by creating 20,000 job opportunities, including the rural areas, in the construction, operation and maintenance of digital infrastructure.
- The government has allocated **RM21.6 billion** for the NFCP as part of a preparation to face the global challenge in digital economy.
- NFCP will include various technologies such as, fibre, wireless and 5G.

The Malaysian Communications and Multimedia Commission (MCMC) to finance at least half of the required investment under the NFCP, with corresponding investments by private telecommunications players via a matching grant mechanism.



Setting up a 5G ecosystem development grant worth **RM50 million**.

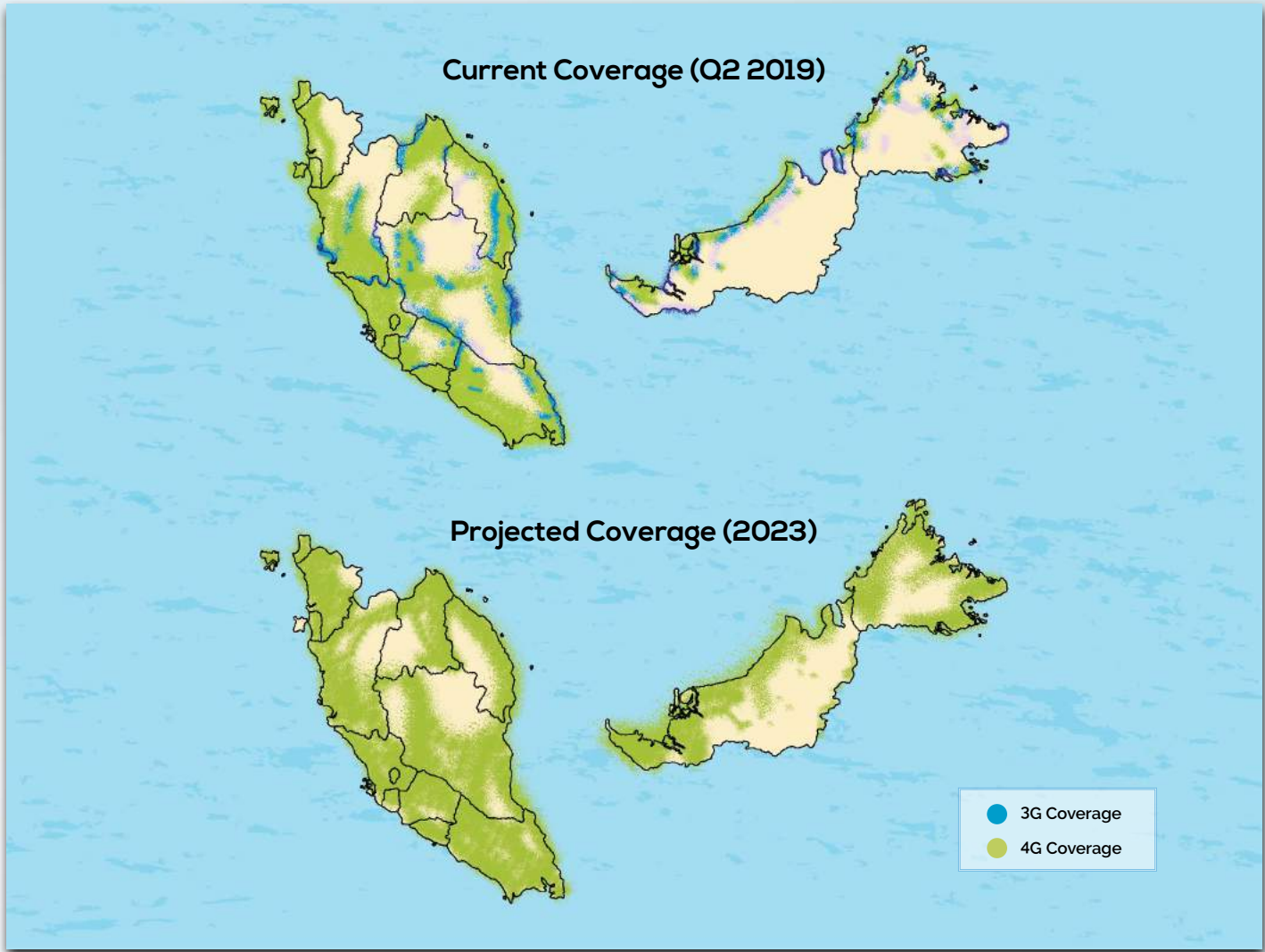


**RM210 million** to accelerate the deployment of new digital infrastructure for public buildings, particularly schools, and high-impact areas such as industrial parks.



**RM25 million** contestable matching grant to spur more pilot projects on digital applications that leverage fibre optics and 5G infrastructure

**COVERAGE AREAS  
(WEST & EAST MALAYSIA)**



**THE NFCP'S MAIN TARGETS ARE:**

- To have an entry-level fixed broadband package at 1% of the Gross National Income (GNI) by 2020.
- To have Gigabits (Gbps) availability in selected industrial areas by 2020, and all state capitals by 2023.
- 100% availability for premises in state capitals and selected high impact areas—with a minimum speed of 500Mbps.
- 20% availability for premises in sub-urban and rural areas with up to 500Mbps by 2022.
- For fibre networks to cover 70% of schools, hospitals, libraries, police stations, and post offices by 2022.
- Average speeds of 30Mbps in 98% of populated areas by 2023.
- To improve mobile coverage along the Pan Borneo Highway (upon completion).

**NFCP WILL FOCUS ON:**

- State capitals and major cities;
- Rural areas and underserved groups to bridge the digital gap;
- High-impact areas, e.g., industrial areas;
- Mobile coverage areas without fiber network connection to telecommunication tower (to support 3G, 4G and 5G services);
- Schools, hospitals, libraries, police stations and post offices;
- FELDA community and indigenous community;
- Sectors like SMEs, education, health and agriculture and major transport facilities.

# TOP TRENDS TO LOOK OUT FOR IN 2020

As 2020 draws closer, it's a good time to look at the trends that will impact the construction sector. Keeping on top of trends will help future-proof your company, making it relevant for the long-haul and prepare it to meet the Fourth Industrial Revolution 4.0 (IR 4.0) head on. This year has seen interesting developments in the construction industry on the local and global front. Here are the top trends in 2019 that we think will shape the industry through 2020.

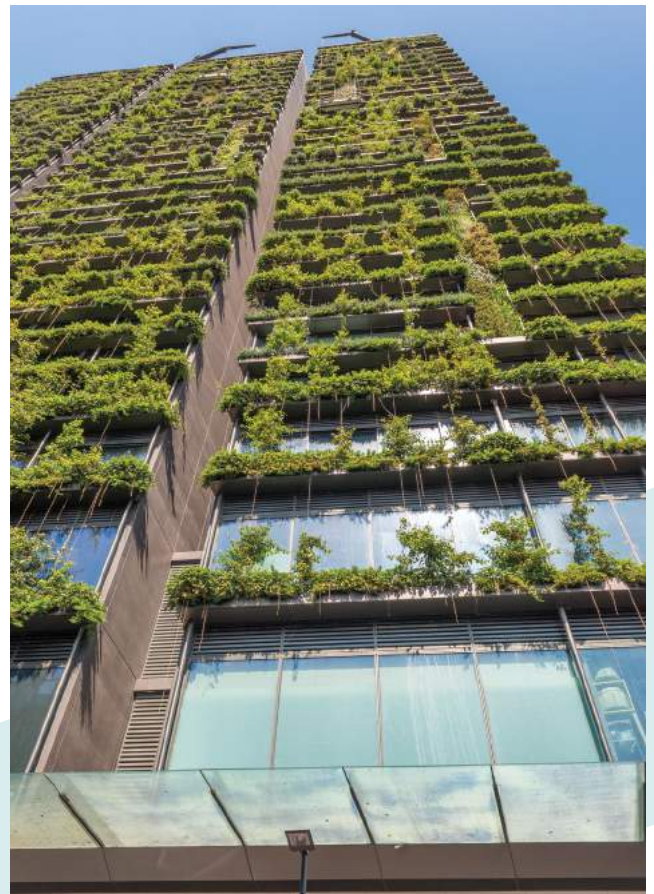


## 1) Sustainable Initiatives

Sustainable properties are deemed more appealing to invest in these days. There is a growing movement to be rid of the carbon economy as soon as possible. According to the Global Status Report 2017, the related emissions from buildings construction contributes up to 11% of global carbon emissions. With the need for more buildings and infrastructure to support an increasing population and global development, constructing environmentally-friendly buildings are the way to go, moving forward.

Green construction is a growing trend that looks for ways to incorporate sustainability into the construction process. It covers all stages of a project, from planning, design, construction, maintenance and demolition, where they are conducted in an environmentally responsible and resource-efficient way.

Other green construction trends that are gaining traction in the industry include carbon scrubbing building facades, bricks made of recycled materials, thermally driven air conditioners, self-healing concrete and replacing the raw materials used in IBS that contribute a significant amount of carbon footprint with materials with lower energy emissions. Construction companies can leverage on these sustainable trends and begin planning and implementing their transition towards sustainability now.





## 2) Blockchain

Building Information Modeling (BIM) is gaining wide acceptance in the industry as it provides a structured process for the planning, design and construction of infrastructure and buildings. However, the same may not be said when it comes to payments especially when it involves various intermediaries in the contract processing.

Enter blockchain, a decentralised ledger technology, that can benefit construction in the area of streamlined contract processing. It helps eliminate paperwork via smart contracts, ensuring that the contractor is paid immediately and automatically upon the completion of work, without the need for invoice submission. Payment is released after all parties within the blockchain have verified and agreed upon it. Blockchain heralds the introduction of automation and the reduction of admin and payment hiccups that have long been the bottleneck and cause of delays of construction projects.



## 3) Modular and Prefabrication Construction

Modular and Prefabrication Construction, or IBS as we call it, will continue to rise in popularity next year. Currently, IBS is used by 78 per cent of public developments and 31 per cent of private developments. In January 2018, the government mandated that private developments valued at RM50 million and above would need to use IBS technology. This is in line with the objective to increase IBS adoption rate to 50 per cent by the private sector by 2020.

There will also be a growing shift to the more efficient Prefabricated Prefinished Volumetric Construction (PPVC). PPVC are free-standing three-dimensional (3D) modules that are built on an off-site prefabrication facilities that come fitted with complete internal finishes, fixtures and fittings, which are then delivered and installed on-site.

## 4) 3D Printing

Known as additive manufacturing back in the 1980s when it first made its foray, 3D printing is now being experimented with to 'print' entire buildings or create construction components layer by layer, according to its digital model. This may allow for a faster and accurate construction of complex or customised components while reducing waste and lowering labour costs.

Last year, construction 3D printing made waves in the industry in the heels of a 3D-printed home by Austin-based company, Icon. The 350-sq. ft. home was printed in 47 hours and cost US\$10,000, as a proof-of-concept in addressing homelessness worldwide.

Other companies from China, the US and Europe are printing prototype houses worldwide with the aim to decrease construction cost and time in addressing the housing needs of the future.



### 5) Building Information Modeling (BIM)

BIM is a way to construct a building or infrastructure digitally so that contractors can visualise the construction before building it. This helps them accurately estimate how much a particular material is needed thus reducing the amount of time, labour and materials wasted on a project. By visualising how building materials will hold up, architects and engineers can make the appropriate recommendations. Issues identified can also be solved at the planning and designing stage, which is not as costly as encountering those problems during construction.

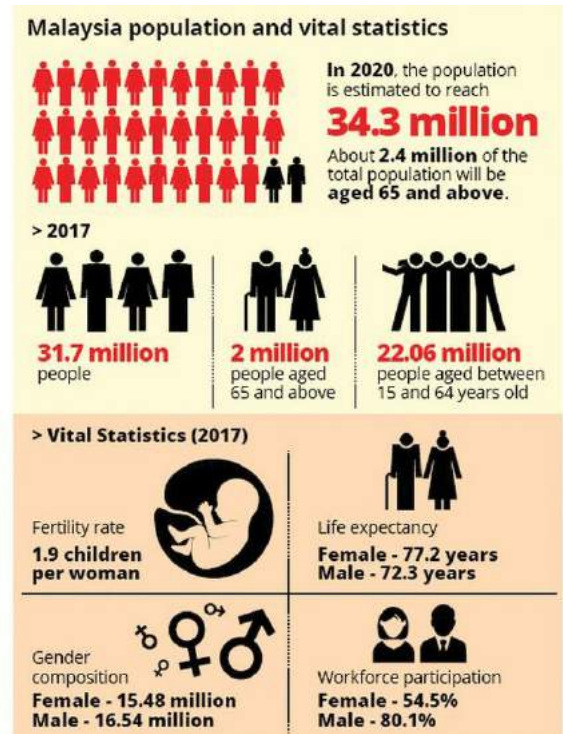
In terms of sustainability, planners can use BIM to optimise the energy levels needed to run the building by identifying areas for energy improvement and usage in that building. They can also use the energy model capabilities to calculate the correct energy and water requirements for the building, which helps reduce waste and costs. BIM also offers other benefits such as shortening the time taken to get the building and planning approvals.



### 6) An Ageing Society

A major factor driving change in the world is the ageing population. In an article published by The Star, by 2020, 2.4 million (about 7%) of Malaysians will be 65 years and above, putting the nation at risk of being an ageing population. It has big implications on the construction industry in terms of productivity, the size of the labour force and budget shifts in the healthcare industry. After all, ageing societies need more hospitals, elderly care homes and healthcare facilities.

Possible remedial actions for the ageing society issue include encouraging more women participation in the construction workforce and the extension of retirement age to 60 and beyond as and when necessary. Construction companies can also look for opportunities to meet the growing demand in the seniors housing and healthcare sector.



Source: The Star

### 7) Labour Shortage

The shortage of skilled construction workers is felt on a local and global scale. In Malaysia where the development is growing at a rapid pace, it is a challenge to source and retain skilled local labour leading to a dependency on foreign workers.

As such, construction companies will need to find effective solutions to address the labour shortage. This can include turning to IBS to complete projects with fewer workers and to collaborate with Technical and Vocational Education and Training (TVET) in developing the nation's human capital.



## 8) Construction Management Software

The construction industry has historically been perceived to be a slow adopter of new technology. However, that is slowly but surely changing as new technologies are being incorporated on construction sites to address the key challenges faced by the industry.

The investment in new technology such as construction management software will help boost productivity levels through better scheduling and planning as well as collaboration features. Digitalisation through the use of construction management software makes work processes more efficient thus reducing the need for extra labour. It also allows project managers to track the budget and expenses throughout the project to avoid cost overruns. Companies that invest in such a system will have a significant advantage over the others who don't.



## 9) The Sharing Economy

Unless one is living under a shell, most of us have been impacted by the sharing economy, such as Grab and Airbnb, companies that have disrupted the taxi and hotel industries without owning a single vehicle or home. The notable feature of the sharing economy model is maximising the use of assets when they are idle, thus generating revenue for the owners and making it affordable for the end consumer.

The sharing economy model has impacted the business-to-consumer (B2C) segment and has the potential to bring significant impact to the business-to-business (B2B) environment, specifically in the construction industry. Construction companies that are not making full use of their fixed assets or even factory space can rent their machines or space to other contractors on a sharing platform, for a fee. This allows fellow industry players to share fixed costs, increase asset utilisation and efficiency, while generating a new revenue stream through the sharing economy.

## 10) The Rise of Data Centres

Technology companies are one of the largest contributors of capital spending globally and they are showing no signs of slowing down. Accompanying this trend is the need for more data centres. The global data centre construction market's CAGR is expected to be close to 9% during 2019-2023, according to Technavio.

There is a growing interest in the energy-efficient green data centres to address the issue of the traditional data centres' power-hungry and high carbon emissions nature. Green data centres use low-emission building materials and efficient waste recycling. Thus, the focus on green data centres will drive growth in the construction sector.





# OPPORTUNITIES IN OMAN'S CONSTRUCTION SECTOR

In the 2019 budget, the government of Oman allocated USD9.6 billion for infrastructure development, industrial and services projects. This includes USD3.12 billion for infrastructure developments and USD6.5 billion for the development of industrial and services sectors.

The numerous projects which have commenced include the USD7 billion Duqm Refinery, the centrepiece of the Special Economic Zone in Duqm (SEZ), which in itself is a major enabler in the sultanate's ambition to diversify its oil-reliant economy.

## **A Focus On Development Spending**

The Oman construction market is booming with over USD213 billion worth of projects. According to a report

from Mordor Intelligence, the Omani construction market is expected to register a CAGR of 6% over the forecast period, 2019-2024. Meanwhile, Fitch Solutions reported that Oman's construction sector will grow by 11.5 per cent in 2019 and 9.4 per cent on an annualised basis from 2019 to 2023. Of the total value of construction projects, more than 29% is allocated to urban construction sector; 27% to oil and gas sector and 15% to the utilities business.

Many of the projects started late last year, for example, the redevelopment of historical Mina Sultan Qaboos (MSQ) port into a USD2 billion integrated mixed-use waterfront destination. The landmark development was initiated through a public-private partnership with a UAE developer and the Oman

Tourism Development Company (Omran). Another major tourism project is the USD13 billion Madinat Al Irfan development, which has seen increased momentum following its partnership with another UAE real estate firm.

The government of Oman is focused on development spending to enhance its investment climate to enable greater participation from the private sector, including having a greater role in projects and job creation. The government does not intend to cut spending to ensure the completion of all ongoing development projects. Among the strategic projects cited are the construction of hospitals in Salalah, Khasab, and Suwaiq; water networks in a number of wilayats; catering



“

*The government of Oman is focused on development spending to enhance its investment climate to enable greater participation from the private sector, including having a greater role in projects and job creation. The government does not intend to cut spending to ensure the completion of all ongoing development projects.*

”

facilities, air cargo terminals and aircraft maintenance hangars at Muscat International Airport and Salalah Airport; Al Sharqiyah Expressway and Adam-Thumrait road dualisation projects; infrastructure projects for Liwa City Housing Complex; housing in Batinah and Salalah; and schools.

### **An Opportunity To Capitalise On**

Oman is one of the first countries in the region to embark on a diversification strategy to open up new revenue streams apart from oil – which still

accounts for some 74 per cent of its earnings. The construction industry and tourism are among the key sectors currently being explored, while the sultanate intends to maintain its focus on infrastructural development as demonstrated by its 2019 budget. Oman will continue to pursue private sector participation to drive forward its ambitious infrastructural development plans, particularly in boosting its power generation and water desalination capacity, and expanding its road and transport network including airports, railways and sea ports. This presents

an opportunity for Malaysian construction and building materials companies to export their services and products to Oman.

Interested parties may contact MATRADE Dubai at [dubai@matrade.gov.my](mailto:dubai@matrade.gov.my).

By: **MATRADE'S Insight**

#### Disclaimer

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## SEFAHAMAN



# The Way Forward for IBS

**▲** MoU signing ceremony to conduct IBS-Precast Concrete Panel management training between Akademi Binaan Malaysia (ABM) represented by ABM Sarawak Chief Operating Officer, Abdul Rahman Ahmad, and Sarawak Consolidated Industries Berhad represented by Mohd Ariff Bin Abd. Samat. Also present at the MoU were CIDB Malaysia Chief Executive, YBhg Datuk Ir. Ahmad 'Asri Abdul Hamid (second from right), Ahmad Farrin Mokhtar, General Manager of IBS Division (far right), YBhg. Datuk Ir. Elias Ismail, Senior General Manager of the Technology Sector (second from left) and Mohd Merzan Hashim, Director of CIDB Sarawak (standing on the left).

CIDB Malaysia has revealed that the public sector has shown a threefold increase in the Industrialised Building Systems (IBS) adoption rate, from 24% in 2014 to 81% as of June this year. This significant milestone is a testament to the Government's tireless efforts to increase construction productivity and efficiency, in line with the Construction Industry Transformation Programme (CITP) 2016-2020. This announcement was made in the recent Townhall for Bumiputera IBS contractors in CIDB Convention Centre, Kuching, Sarawak.


Jointly organised by ABM Sarawak dan CIDB Malaysia, the Townhall was officiated by Datuk Ir. Ahmad 'Asri Abdul Hamid, Chief Executive of CIDB Malaysia. Also present was Datuk Ir. Elias Ismail, Senior General Manager (Technology Development Sector) of CIDB Malaysia. Themed "The Way Forward for IBS in Sarawak, the event served as a platform to facilitate discussion amongst the contractors on what lies ahead in paving the way for a more productive construction industry in Malaysia with emphasis on Sarawak. The event was attended by industry players from both the public and private sectors eager to learn the best practices in IBS implementation shared by the panel of local and

global experts including Sarah Bachmann, CEO of National Precast Concrete Association Australia.

The Townhall's discussion on IBS represented an important step in the effort to raise construction industry productivity levels.

“  
The public sector has shown a threefold increase in the IBS adoption rate, from 24% in 2014 to 81% as of June this year.  
”




 *The swanky CIDB Convention Centre Sarawak, where the townhall was hosted, was built with IBS.*

In his speech, Datuk 'Asri emphasised that IBS is especially important in states like Sarawak as a modernised and more productive construction industry will lead to increased wages and attract more skilled local workers. "This would have wide ranging socio-economic benefits as it could stem the out-migration of youths and help spur the local economy of the state."

Additionally, the Public Works Department (PWD) has created 130 IBS Pre-Approved Plans (PAPs) that comply with IBS and modular coordination requirements. The PAPs cover 19 categories of building models, including those for schools, hospitals, offices, and mosques, among others. This ensures that IBS can be implemented for a wide range of projects and buildings.

**“**  
*IBS is especially important in states like Sarawak as a modernised and more productive construction industry will lead to increased wages and attract more skilled local workers.*  
**”**

*The Spring shopping mall in Kuching, Sarawak was constructed using IBS* 

Datuk 'Asri commended Sarawak for having proven that IBS can work within the state, citing that IBS elements have been used in the construction of The Spring and Giant Petra Jaya shopping malls, which use pre-fabricated hollow core slabs produced by Sarawak Consolidated Industries Bhd (SCIB). "I was made to understand that some other projects that adopted IBS include Tanjung Bako Wharf, Kuching International Airport's new extension, and Sekolah Kebangsaan Gersik." He was also pleased to note that 50 dilapidated schools in Sarawak have been rebuilt by the PWD using IBS. "This shows that IBS is indeed a viable method to bring us forward as an industry."

Other notable points raised include the challenges faced in the country's adoption of IBS, namely, logistical issues, a lack of IBS providers, an undeveloped IBS materials ecosystem, a shortage of IBS design consultants and a poor perception of IBS leading to poor demand. As such, the industry players and stakeholders would do well to take advantage of the Townhall session to share their experience and expertise on the latest technologies in IBS. Forearmed with the such knowledge, they can gain more confidence to adopt the IBS methodology and discover solutions to overcome those challenges. In addition to the informative talks and presentation, there was also an exhibition booths area, which offered participants ample opportunity for networking and getting to know the IBS producers and industry players' products and services, which is key towards building a stronger IBS ecosystem.



# CIDB and Gamuda IBS Collaborate To Enhance Construction Productivity In Malaysia

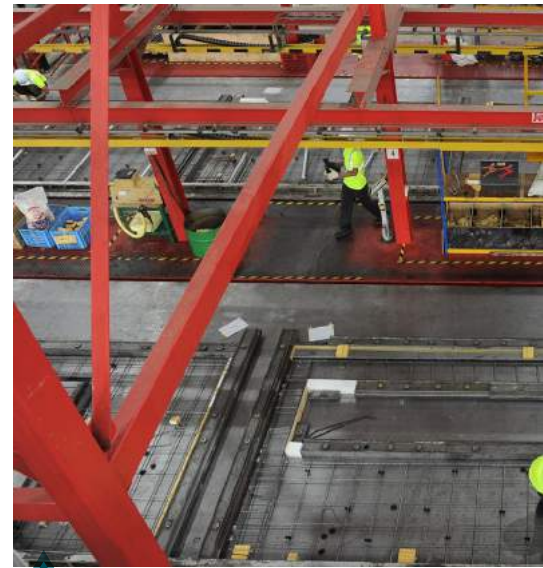
CIDB Malaysia through its subsidiary, Construction Research Institute of Malaysia (CREAM), recently inked a memorandum of understanding with Gamuda Industrial Building System Sdn Bhd (Gamuda IBS) to share information and resources that will spur the productivity of the construction industry. CREAM was represented by CEO Dato' Ir. Rohaizi Mohd Jusoh, while Gamuda IBS was represented by Gamuda Engineering Managing Director Datuk Ubull Din Om.


CREAM was incorporated in 2004 as a corporate vehicle for carrying out CIDB's research and development function. Whereas Gamuda IBS, a

leader in the precast sector, sits as a member of the CREAM research task force, providing its digital IBS factory as a platform for the study.


The MoU signing ceremony was witnessed by Works Minister Tuan Baru Bian. Also present were CIDB Malaysia Chairman Tan Sri Dr Ir. Ahmad Tajuddin Ali and Chief Executive Datuk Ir. Ahmad 'Asri Abdul Hamid.

"The strategic collaboration between CIDB and Gamuda IBS marks a significant step for the Works Ministry, through CIDB, to spur the adoption of the online design tool Building Information Modelling (BIM) and IBS



 Gamuda IBS factory in Banting

by the housing industry in Malaysia. This collaboration produces important benchmarks that will guide government policymaking and implementation. It will prepare the construction sector for a new digital ecosystem, in line with the objectives of Industry4WRD, the national policy for Industry 4.0 and the Construction Industry Transformation Programme 2016-2020 (CITP)," said Baru Bian after gracing the signing of the MoU between CREAM and Gamuda IBS, and upon touring the latter's factory in Banting.

 Minister of Works, YB Tuan Baru Bian (seventh from right) together with the other guests during his visit to the GAMUDA IBS factory to witness the MoU signing ceremony between Construction Research Institute Of Malaysia (CREAM) & Gamuda Industrial Building System Sdn Bhd (GIBS)







*CIDB and CREAM will leverage on Gamuda IBS' digital IBS technology, its processes and operations for research purposes.*

Datuk 'Asri stated that the collaboration between CIDB and Gamuda IBS is a timely one as the industry gears itself towards achieving the Productivity goals as outlined in the Construction Industry Transformation Programme 2016-2020 (CITP). "Working together with GIBS is certainly a significant step forward in bringing the construction sector to the next level, as the industry moves towards adopting technologies like IBS and BIM that can cut down construction time, increase safety standards, and even reduce wastage," he said.

Through this research, CIDB and CREAM will leverage on Gamuda IBS' digital IBS factory, its processes and operations for research, including:

- i. Design in BIM platform
- ii. Quantity taking and ordering of materials
- iii. Robotics manufacturing and digital controls
- iv. Digital tracking and delivery of panels, pods, etc
- v. Production planning and management
- vi. Quality of finished product
- vii. Product certification by relevant authorities

The Gamuda IBS operating model will also be benchmarked against local IBS players and foreign precast, manufacturing and modular construction companies. In addition, the research sets out to understand and develop a sustainable business model to assist small and medium enterprises (SMEs) in IBS manufacturing.

"Gamuda IBS has taken a bold step in pursuing an advanced way of building that will raise productivity and upskill the local workforce with the latest technological tools. We are proud to partner with CIDB, and we are ready to support the construction industry with the company's digital IBS technology," said Dato' Ubull Din Om.

IBS and BIM technologies work hand-in-hand to increase construction efficiency, as they shorten the construction period and only require one-third of the labour force, compared to conventional methods. These technologies also reduce dependency on foreign labour as well as create a more skilled workforce.



*The MoU signing ceremony between Construction Research Institute Of Malaysia (CREAM) & Gamuda Industrial Building System Sdn Bhd (GIBS) was represented by Dato' Ir. Rohaizi Mohd Jusoh, CEO of CREAM (seated second from left) whereas Dato' Ubull Din Om, Managing Director of Gamuda Engineering represented Gamuda Industrial Building System Sdn Bhd (Gamuda IBS) while witnessed by Works Minister YB Tuan Baru Bian (standing, middle back), YBhg. Tan Sri Dr. Ir. Ahmad Tajuddin Ali, Chairman of CIDB Malaysia (standing, extreme left) dan YBhg Dato' Lin Yun Ling, Group Managing Director of Gamuda Berhad (standing, extreme right).*



CIDB IBS Sdn Bhd is a subsidiary of CIDB Malaysia that provides services to support the government and industry players in addressing gaps in the implementation of IBS initiatives under Construction Industry Transformation Programme (CITP) 2016-2020. Productivity as one of the goals for CITP 2016-2020, can be achieved through implementation of Industrialised Building Systems (IBS). Known as a method of achieving better quality and productivity in construction, a lot of projects had started to implement IBS.

Alongside with the increasing IBS implementation, CIDB IBS Sdn Bhd is here to assist the construction industry players through various programs, training and services we have developed.

**IBS MANUFACTURER & PRODUCT ASSESSMENT & CERTIFICATION (IMPACT)**

Providing Verification, Validation, Testing & Certification (VVTC) services, supported by IBS Manufacturer & Product Assessment & Certification - IMPACT and portal as well as IBS certification to manufacturers of IBS products.

**TECHNICAL & ADVISORY**

Offering IBS-related technical consultancy to project owners, professionals, manufacturers and contractors. Commercialisation of new IBS products (either independent or for the IBS Open System) developed by various R&D centres

**IBS DESIGN TRAINING**

Conducting IBS Training program to introduce accurate, effective and efficient Structural Analysis and design methods using advanced design software and customized Excel sheets for the design processes in the context of Malaysia's Industrialized System (IBS) design environment.

Hands-on approach training will also be provided to develop in-depth knowledge on precast concrete design method.

**SUPPLY CHAIN MANAGEMENT (SCM)**

Providing IBS Open System that caters for the affordable housing and renovation sub-sector ; developing standard components for Pre-Approved Plans (PAP) and offering Supply Chain Management (SCM) through IBS Virtual Warehouse

**IBS MANUFACTURER PROGRAM (IMP)**

IMP is a general IBS training program to develop & establish competitive, sustainable and high performing vendors via a structured capacity & capability program.

IMP is also a program to assist vendors in building the capabilities they need to compete in local and regional markets.

**OUR FACILITIES  
NEW IBS COMPONENT GALLERY  
IBS VILLAGE  
IBS TRAINING ROOM**

**WE WELCOME VISITORS TO VISIT OUR GALLERY & IBS VILLAGE\***

\*APPOINTMENT HAS TO BE MADE PRIOR TO VISIT



IBS MANUFACTURER AND PRODUCT ASSESSMENT & CERTIFICATION (IMPACT)
PRODUCT EXHIBIT IN IBS COMPONENT GALLERY
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