



CONSTRUCTION FROM A NEW ANGLE

5

ISSUE 3 • AUG - DEC 2020

# EMBRACING CONSTRUCTION REVOLUTION

BIM - Digitising Construction Beyond 2020 How BIM is Shaping the Malaysian Construction Industry

> A Worthwhile Endeavour A Lifelong Passion in Quantity Surveying

> **Covid-19 Bill** Implications for the Construction Sector

> > Dealing with Non-Certified Steel Wire Mesh

Why this is Illegal





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

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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.

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IBS MANUFACTURER AND PRODUCT ASSESSMENT & CERTIFICATION (IMPACT)

PRODUCT EXHIBIT IN IBS COMPONENT GALLERY

STANDARD DESIGN DEVELOPMENT OF MY IBS OPEN SYSTEM (MYIOS) HOUSE

**IBS MANUFACTURER PROGRAM (IMP)** 

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#### EDITORIAL MESSAGE



## Towards Construction Excellence in 2021

Close to a year has passed since the Covid-19 pandemic shook and changed the world as we know it. Whether we like it or not, we have been forced to adjust to the "new normal" in the way we conduct our business and lives. This issue addresses the one question that remains: What can the construction industry do to thrive during and after the pandemic?

The answer is to embrace and adopt technology as soon as possible so that the industry can immunise itself against unprecedented events in the future as it becomes more adaptable and agile. Technology, especially the ones that promote remote collaboration, will help us sail through the new construction processes that have emerged from this outbreak.

Through the advent of technology, CIDB Malaysia was able to host the very first CR 4.0 conference held in conjunction with the International Construction Week (ICW) 2020 and ASEAN Super 8 Virtual Connect, which forms our Cover Story. The pages within also talk about the latest updates on myBIM Centre and Parcel F, one of the BIM success stories in the nation. We also featured the highly esteemed Dato' Sr. Sri Kandan, whose long and illustrious career in Quantity Surveying has been an inspiration to many. I hope that these write-ups will ignite the "can-do" spark within us to learn, grow and drive towards construction excellence in 2021 and beyond.

Happy new year from all of us at CIDB Malaysia!

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

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Enhances Career Prospects – For Free





Resorts World Sentosa

## Genting Singapore Confirms Delays to Resorts World Sentosa 2.0

Genting Singapore reported slowdowns in the US\$ 4.5 billion expansion of Resorts World Sentosa (RWS 2.0) and disclosed that the project was disrupted due to construction delays caused by COVID-19.

The group is working closely with the government on the mega-expansion plan, but the timing of RWS 2.0 will be affected by the disruption of the construction industry and the global supply chain triggered by COVID-19.

It was also delayed due to the design changes needed to adapt to the health and safety requirements of the post-coronavirus environment.

The affected construction contracts include an attraction called 'Once a Pirate' as well as the extension of Universal Studios Singapore's two new attractions - Minion Park and Super Nintendo World.

Genting Singapore did not disclose how long the construction delays would be, although RWS 2.0 was originally slated to be open in phases between 2022 and 2025. RWS 2.0 would increase the gross floor area of Resorts World Sentosa's leisure and entertainment space by 50 percent with an additional 164,000 square metres.

The Maritime Experiential Museum would be taken over by the S.E.A. Aquarium expansion and rebranded as the Singapore Oceanarium, where the public can enjoy displays of marine life and learn from exhibits of prehistoric sea creatures.

The enhanced waterfront promenade will boast of two hotels, and more dining and lifestyle experiences including a multi-purpose zone for festivals and events.

Resorts World Sentosa current attractions include Universal Studios Singapore, Adventure Cove Waterpark and Dolphin Island.

Genting Malaysia Bhd also recently confirmed the delay of Genting SkyWorlds' opening, from Q4 2020 to Q2 2021. The outdoor theme park in Malaysia, which will feature 20th Century Fox attractions, is a year behind schedule due to the Covid-19 pandemic.

Source: www.blooloop.com

## SpaceX Plans Luxury Spaceport-cum-Tourist Resort in Texas

Elon Musk's SpaceX company plans to add a hi-tech tourist resort to its rocket-making plant in Brownsville, Texas. The location of the resort will be in the village of Boca Chica, some 19km northeast of Brownsville along the Gulf of Mexico.

The news was revealed in the company's job listing for a resort manager that underlines SpaceX's commitment to develop the town into a 21st-century spaceport. "We are looking for a talented resort development manager to oversee the development of SpaceX's first resort from inception to completion," the listing stated.

Currently, Boca Chica Village is the site where the Starship prototype is being developed. The heavy-lift rocket will be used to ferry up to 100 passengers on sightseeing trips around the moon. Passengers can bask in the luxurious resort before and after the trip. The development of "Super Heavy", a 31-engine reusable rocket, is also in the pipeline as it will be used to lift Starship out of the Earth's gravity well.

The massive development plans will involve demolishing about 30 structures within Boca Chica Village. Owners of these structures were offered three times the market value of their properties to sweeten the deal and encourage them to move.

The main attraction of the resort would be Super Heavy and Starship, which would be 120cm tall together on the launch pad, approximately as tall as a 28-storey building.

Source: www.globalconstructionreview.com

SpaceX's Starship prototype next to a Falcon 1 rocket in Brownsville (SpaceX)





The LafargeHolcim-IBM Services digital platform is aimed at optimising road design

# LafargeHolcim and IBM Create Digital Platform to Reduce Road Building Costs

Swiss-based cement maker LafargeHolcim is working with IBM Services to create a digital platform aimed at optimising road design.

The ORIS tool is expected to reduce project costs by up to one-third, and carbon emissions by half, as well as tripling the service life of the road. With an average of 700,000 kilometres (435,000 miles) of new roads being built globally every year, the impact of this tool is potentially significant.

It can be a complex challenge to pinpoint the most sustainable and cost-effective mix of building materials and technologies early in the design phase as roads vary depending on location, climate, vehicle types and traffic volumes. ORIS assesses the most efficient construction and maintenance patterns, given the availability and capability of local materials. Marcel Cobuz, LafargeHolcim's head of Europe, said the company had already entered into pilot projects with road authorities, international financing institutions and engineering firms around the world.

Hervé Rolland, IBM's vice president of industrial solutions, said, "Data-driven solutions and digital technologies have the potential to transform road construction towards more sustainable, circular, low-carbon, low-resource and cost-efficient techniques".

"ORIS is instrumental in recommending appropriate and tailored approaches to road-building, thus minimising costs, environmental impacts and project delays," said Rolland.

Source: www.lafargeholcim.com

## China Plans US\$68bn Transport Spend to Boost Growth in Pearl River Delta

China is planning to spend US\$68bn on improvements to its rail network in the Greater Bay Area of Guangdong, Shenzhen, Hong Kong and Macau.

The Intercity Railway Construction Plan was recently approved by China's National Development and Reform Commission. The plan will encapsulate the construction of 13 rail lines between five hubs, linking the special administrative regions with nine cities in Guangdong to form a more integrated economic unit.

New lines to be launched before 2022 include the Shenzhen Airport to Daya Bay Intercity line, a link between Shenzhen Airport and Pingshan, the Guangqing Intercity North Extension line and the Guangzhou East Railway Station renovation project.

The new lines will bring the total rail network of the region, both existing and under construction, to 4,700km by 2025. The plan aims to reduce hub-to-hub travel times between any two major cities in the network to less than an hour.

Compared to the city-to-city model, the hub-based transport design is better since it makes it easier for passengers to switch between intercity rail systems, airports and city-region transport networks. Guo Wanda, executive vice-president of Shenzhen think tank the China Development Institute, said, "There are still too few railway lines between cities; it's inconvenient to switch from railways to subways, and other services, such as ticketing and road signs, are not integrated."

Currently, the Pearl Delta cities have a combined GDP of around US\$1.5 trillion, approximately equal to South Korea. The government aims to reach a GDP of US\$4.6 trillion by 2030.

The plan also aims to balance out economic development across the region. Presently, the eastern part of the delta is thriving economically. The improved transportation is hoped to increase economic growth in the less developed western areas across the delta, specifically the Zhuhai, Zhongshan and Jiangmen clusters.

The nine cities of Guangdong are, in order of population size, Guangzhou, Shenzhen, Zhuhai, Foshan, Dongguan, Zhongshan, Jiangmen, Huizhou and Zhaoqing.

The plan also benefits the government politically in terms of closely integrating Hong Kong and Macau into the Guangdong region.

Source: www.globalconstructionreview.com



Maximizing Value Through Innovation

INTERNATIONAL CONSTRUCTION WEEK 2020 (ICW 2020) EMBRACING CONSTRUCTION REVOLUTION

This year's ICW 2020 is a landmark occasion that construction industry players will remember for a long time.

Conference

The Covid-19 pandemic may have wreaked havoc in every aspect of life as we know it. But thanks to the marvels of technology and digital innovation, and resilience of the organisers and participants, the show can still go on.

The International Construction Week 2020 (ICW 2020) and ASEAN Super 8 Virtual Connect, which were initially scheduled to take place earlier this year, were held on 17 to 19 November 2020 on a totally virtual platform for the first time in 22 years. Organised by CIDB Malaysia in collaboration with the Ministry of Works Malaysia (KKR), ICW2020 and ASEAN Super8, the events are aimed to provide a forum to encourage discussions among digital construction leaders in order to revolutionise the industry.

Aptly themed 'Embracing Construction Revolution', ICW 2020 will equip the construction sector with the right technologies and reduce reliance on low-skilled labour with low productivity, as emphasised by Senior Minister of Works Dato' Sri Haji Fadillah Haji Yusof in his opening speech when officiating the event.

Thirty exhibitors showcased their products, technologies and shared their industry best practices in ASEAN Super 8 Virtual Connect, which was held simultaneously with ICW 2020. CIDB Malaysia with its subsidiaries, namely, CIDB Holdings, CIDB Technologies Sdn Bhd, ABM, CIDB E-Construction Services Sdn Bhd, CREAM, Construction Labour Exchange Centre Berhad and CIDB IBS Sdn Bhd, occupied a dedicated CIDB Pavilion there.

Touted as Southeast-Asia's most exciting and extensive virtual exhibition for the built environment, ASEAN Super 8 Virtual Connect aspired to digitally connect global built environment industry players with real-time trade opportunities.

#### CR4.0 Conference 2020 — Maximizing Value Through Innovation

A significant component of the annual ICW, Construction Revolution 4.0 Conference 2020 (CR4.0 Conference 2020) offers a platform where all construction players can gather and network albeit virtually this year.

"This is the new normal. Something none of us expected to see and experience in our lifetime. Technology has now taken its place at the forefront and centre of our lives, becoming the critical enabler. Embracing technology is no longer an option. We are to either embrace it, or be swept away by the rising tide," Datuk Ir. Ahmad 'Asri Abdul Hamid, Chief Executive, CIDB Malaysia said in his keynote address.

With the theme 'Maximizing Value Through Innovation', the virtual event aimed to introduce new digital technologies, experts who shared best practices in improving productivity and sustainability. and in redefining the skills and competencies needed to thrive in the construction industry. A variety of speakers from across the industry, ranging from industry players, regulators, and government agencies logged onto Zoom to share their experiences on Industrialised Building Systems (IBS), the game-changing National Building Information Modeling (BIM) e-Submission, and building and infrastructure technologies.

Datuk 'Asri stressed that Construction 4.0 represents a new era of embracing digital technology in construction, including the Internet of Things (IoT), laser scanning, drones, artificial intelligence (AI), augmented reality (AR) and 3D printing. Technology has now taken its place at the forefront and centre of our lives, becoming the critical enabler. Embracing technology is no longer an option. We are to either embrace it, or be swept away by the rising tide



#### COVER STORY

"As part of our efforts to reduce dependency on low-skilled foreign labour, the construction industry must beef up on their practices by using more mechanisation and digital technology in line with Construction 4.0. Only then can they attract the long-term employment of locals," he added.

"

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## Boosting Productivity Levels with BIM and IBS

In the past, there has been a lot of resistance from construction industry players when it comes to embracing technology. As a result, the construction industry experienced a much lower productivity when compared to other economic sectors. According to the Malaysia Productivity Corporation (MPC), National Productivity Report 2020, construction productivity has also fallen below the country's overall results. The total labour productivity of Malaysia in 2019 was RM 93,973 per worker per year, up from RM 92,018 in 2018. Compared to RM44,000 in 2018, the productivity of the construction industry was RM45,300 per worker per year, which is a dismal number. While the construction industry grew year by year, it is still lagging behind other major economic sectors in the country.

"Under the Construction Industry Transformation Programme (CITP) 2016-2020, we set an ambitious goal to double the productivity rate in the construction industry in 2020 compared to the 2011 productivity of RM24,800. Even if we still have some ways to go to achieve that aim, we can see that attempts have been made to improve efficiency as a result of our continuous efforts to promote the use of the Industrialized Building System (IBS) and Building Knowledge Modeling (BIM)," Datuk 'Asri reported.

To date, IBS adoption has increased dramatically from 69% in 2016 to 86% in 2019, in all government projects worth RM10 million or more. The IBS adoption rate rose from 14% in 2016 to 40% in 2019 for private projects worth RM50 million or more. "In the meantime, our studies revealed that BIM's adoption rate has increased from 17% in 2016 to 49% in 2019," he divulged.

In 2017, CIDB launched the National BIM e-submission (NBeS) as part of the CITP initiative. The NBeS Project seeks to digitise the specifications of the Uniform Building by-Law (UBBL) for a more reliable and efficient mechanism for the online building plan submission, review and approval. The NBES pilot project included five residential projects under four local authorities, each under Perbadanan Putrajaya, Majlis Perbandaran Kangar (MPK) and Majlis Bandaraya Melaka Bersejarah (MBMB), and two under Majlis Petaling Perbandaran Jaya (MBPJ).

Prior to NBeS, it takes at least two weeks for a standard building plan to be checked. But with a 3D BIM model, the review process may take from one hour and a half to two-and-a-half days, depending on the model's complexity. Thus, the NBeS initiative clearly illustrates how technology can contribute greatly to making business simpler.

## Embracing the New Normal in Construction

The onset of the global Covid-19 pandemic threw a curveball on every industry, and the construction industry was not spared. Since April, the country's borders have been closed and many illegal immigrants were deported to their home countries. As such, the supply of cheap unskilled foreign labour is a thing of the past, and the old working method of having a huge number of workers on construction sites is no longer feasible.

In addition, physical distancing needs to be maintained in construction sites, offices and dormitories as required by the Covid-19 Standard Operating Procedures (SOPs). This requires scheduling and constant monitoring to limit the number of people working at any one time. Also, all foreign workers in the Federal Territory of Kuala Lumpur and Putrajaya must undergo Covid-19 swab tests before they can be allowed to work at the construction site. If a positive case is detected, all other workers within the same vicinity must also be tested for Covid-19 and the construction site will be closed.

# Construction 4.0 Strategic Plan (2021-2025)

Next Revolution of the Malaysian Construction Industry

"This alone is costing a tremendous amount of time and money to the contractors and project owners," Datuk 'Asri surmised.

"On the other side of the coin, the pandemic has become the catalyst to speed up digital adoption in all Malaysian sectors, including construction. Some of the measures taken out of dire necessity during the lockdown have proven to bear long-lasting process improvements. Thus, it is likely that many of the changes implemented during the lockdown will become the new normal in the construction industry moving forward," he observed.

CIDB

Case in point is the use of digital project management tools, which has become critical in these times. "The digital platform allows project monitoring and status tracking, and scheduling of tasks to be done online. In addition, it can monitor and track resource allocation and budget as well as proper documentation and filing for easy reference," said Datuk 'Asri. "With information available on a digital platform at your fingertips, it is no longer necessary to have frequent faceto-face meetings." "I hope that these changes brought about by the pandemic can open up opportunities for local skilled workers to gain employment in the construction industry," he shared.

A vast number of people were laid off from work since the Movement Control Order (MCO). Therefore, there is no better time than now to implement a long-term plan for the construction industry to train and provide job opportunities for local workers.

#### COVER STORY



"CIDB, through its subsidiary the Construction Labour Exchange (CLAB) is actively looking for placements of workers and youths who have been trained under various skills trade and have been accredited by CIDB. We welcome industry players to contact CLAB if they have vacancies to be filled," Datuk 'Asri said.

#### Construction 4.0 Strategic Plan 2021-2025

One highlight of the event was when Dato' Sri Fadillah launched Construction 4.0 Strategic Plan 2021-2025. The five-year strategic CR4.0 plan promotes the use of emerging technologies to boost efficiency and the ease of doing business. The plan is a guide for government agencies, industry players and academia to respond to the rapid technological developments and identify the best approaches to using them for the betterment of the industry and nation. This will then propel Malaysia as one of Southeast Asia's leading countries in implementing construction 4.0 technologies.

The four strategic thrusts of CR4.0 are:

- Capacity development
- Excellence in research, innovation, commercialisation and entrepreneurship

- Smart integrated technologies, innovation and infrastructure
- Enhanced business environment



Dato' Sri Fadillah explained that the four strategic thrusts are supported by nine strategic objectives that comprise specific areas of focus to drive digital transformation in the industry.

That said, the initiatives and programs outlined in the strategic plan can only be successful through the four enablers, namely:

- **People** Having the right people with the right skill sets is critical to achieve transformation
- Integrated technology
   The adoption of new technology will enhance the

career opportunities for the local workforce and reduce dependency on unskilled foreign labour. As such, a programme must be put in place to ensure that the local workforce in construction industry are trained in the utilization of new technologies. Second, technologies can no longer be applied in a silo as the digital solutions applied must be able to talk to each other and converge for optimisation and to support project implementation holistically.

- **Governance** Strong government support is key in ensuring the success of the construction 4.0 strategic plan. New policies and regulations needs to be put in place and reviewed regularly.
- **Economy** The adoption of digital technology is essential in improving business climates and ultimately, attract investments that will drive the country's economy to greater heights.

Construction industry players will do well to take advantage of the available programmes to enhance adoption of the digital technologies in the work places.

"ICW 2020, ASEAN Super 8 Virtual Connect and the CR 4.0 conference are definitely good launchpads for the industry players to share knowledge on lessons learned and meet thinkers of the construction industry, which will shape the landscape and the way we operate in the future. I am optimistic that the discovery of the latest products and services network, and potential strategic collaboration forged in this historic occasion will lead to countless opportunities towards business enhancements," Dato' Sri Fadillah concluded.



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The construction sector is one of the least digitised industries in the country. It is still catching up on digitalising existing processes that include data collection, communication and collaboration. The digitalisation of these fundamental processes will not only pave the way to future implementation of more advanced technologies, but also enable construction companies to be more efficient and remain competitive. The adoption of building information modelling (BIM) is one of the most effective ways for companies to make the digital leap.

The Construction Industry Transformation Programme 2016-2020 (CITP)'s ultimate goal is to enhance the productivity of the industry through three key drivers: the workforce, technology and processes. CITP recognises BIM, which was first introduced to the country in 2015, as the key technology which, if widely adopted, will multiply the productivity of the construction industry many times over.

"Using BIM in construction is like building a digital twin of the physical structure which enables us to track and manage all facets of the project from construction until operations and maintenance and demolition. This way, a lot of construction issues can be identified virtually and resolved at no cost," said Datuk Ir. Ahmad 'Asri Abdul Hamid, Chief Executive, CIDB Malaysia. "The use of BIM does not only transform the productivity level of a project, it also has a huge potential in increasing the ease of doing business."

Hence, CIDB, through its subsidiary CIDB E-Construct Services Sdn Bhd, has been tirelessly promoting BIM since 2016. These activities include initiatives in education and

# BIM - DIGITISING CONSTRUCTION BEYOND 2020

A look at how BIM is shaping the digital future of the construction industry in Malaysia.



Datuk 'Asri believes the sooner the construction industry players adopt BIM, the faster they will reap its manifold benefits.

formulating training syllabuses, roadshows, mandating industry requirements for BIM adoption and the provision of BIM facilities and platforms, which include myBIM Centre and BIM satellites.

#### One-Stop BIM Resource Centres

Launched in November 2017, myBIM Centre located at Sunway Putra is tasked with the mantle of BIM training and development. The facilities at the country's first onestop BIM resource centre is said to be the best in the nation and even in the Southeast Asian region to date. "myBIM Centre is the brainchild of the National BIM Steering Committee comprising the Ministry of Works, Public Works Department, CIDB and industry stakeholders," said Rofizlan Ahmad, CEO of CIDB E-Construct Services Sdn. Bhd. the operator of myBIM Centre.

"They felt the need to have a comprehensive reference centre for BIM where industry players can obtain pertinent information, software, training, consultation and data," Rofizlan added. "My role is to ensure that the centre is operating at its most optimum capacity at all times."

He is also responsible for pushing forward myBIM Centre's primary goal, which is to promote and encourage construction industry players to take on BIM.

There are six BIM satellites under CIDB's purview across the nation and six other BIM satellites managed by CIDB's partners. All of them are equipped to conduct training, awareness programmes as well as offer BIM adoption consultancy and advisory services.

"Together with myBIM Centre, the 12 BIM satellites offer a platform for industry players to come together and collaborate on BIM projects right down to the organisational level," said Rofizlan.

His team organises round table discussions with BIM practitioners in the industry at least twice a year to discuss issues related to BIM and what can be done to expedite the rate of BIM adoption. This spirit of openness and collaboration amongst industry players is essential for the betterment and growth of BIM adoption rates in the industry.

Rofizlan admits that the road ahead is still long. "It took AutoCAD (a simple drafting tool in comparison to BIM) a decade to be adopted by the industry. BIM adoption will take a great deal longer because it encompasses a whole ecosystem and culture."

"We are on the right track but more can be done," said Rofizlan. "Given that BIM adoption is a costly endeavour, the government can offer incentives and financial



Rofizlan takes his role in running myBIM Centre and encouraging construction industry players to take on BIM very seriously



myBIM lab can seat 21 participants in their 5 islands. The setup is compliant with the current SOP for physical distancing

support to ease the initial financial outlay of construction companies."

"However, construction companies can take advantage of the quality training and certification offered by myBIM Centre at a fraction of the market rate," he smiled.

To date, myBIM Centre has trained and certified more than 7,000 participants. The Centre aims to train 1,000 people annually through its 12 modules. These modules cover all levels of BIM practitioners, such as managers, coordinators, modellers for architecture, structure, infrastructure and mechanical, electrical and plumbing (MEP).

"We have recently introduced a new course in BIM Facilities Management, which will elevate the industry to a whole new level. Ultimately, this programme should help leverage the stakeholders in upskilling and developing competencies for the nationbuilding industry," said Rofizlan.

#### Revolutionising Digital Design and Marketing

myBIM Centre also offers the National BIM Library (NBL) service which helps BIM practitioners right from drawing the BIM model to downloading it from the NBL platforms.

The Library is structured and interactive to allow architects, consultants, engineers and designers familiar with the layout of the object library and online portals to quickly find, download and use the objects for their 3D construction design.

NBL currently holds more than 10,000 objects ranging from IBS precast and connectors to kitchen sinks and medical surgery trays from manufacturers that include Hong Leong Manufacturing Group, Hume Concrete and Sanieuro. Interested users can visit www. mybimlibrary.my for more information about this free tool.

Manufacturers are charged a minimal fee to upload their proprietary objects onto the Library. "They will gain the advantage of having contractors order their materials and products because these components have already been included in the final designs. It is a great way to market their products for sure," explained Rofizlan.

"Essentially, this is the future of construction and manufacturing design, and we are here to facilitate the industry's next big step into a revolutionary world of digital design and marketing."

#### Potential Massive Improvements in Turnaround Times

As a provider of fully-integrated ICT solutions, CIDB E-Construct Sdn. Bhd. is in the midst of developing the National BIM eSubmission (NBeS) for the local authorities including Petaling Jaya City Council (MBPJ), Putrajaya Corporation (PjC), Penang City Council (MBPP) and Kangar Municipal Council (MPK).

The objective of NBeS is to facilitate electronic building plans submission, as well as the checking and approval processes.

NBeS promises to offer immense benefits to the industry by massively improving industry turnaround time, productivity and quality. "The traditional submission and approval process takes 21 days for normal buildings and over 300 days for a complex skyscraper. NBeS will cut this time to two to 48 hours, depending on the file size and complexity of the models, provided that it is submitted in the correct native BIM format," he explained.

"The pilot projects among the selected local authorities have been successful thus far. Our goal is that by 2021, all city status local authorities will require BIM e-submissions through the NBeS platform by its principal submitting person (PSP)," said Rofizlan.

> Construction companies can take advantage of the quality training and certification offered by myBIM Centre at a fraction of the market rate.



Endocrine Centre at Putrajaya stands as one of BIM's success stories.

#### **Moving Forward with BIM**

Since 2019, public projects worth RM100 million and above are required to use BIM, which helped in giving it a kickstart. Rofizlan believes that CIDB's recommendation for the mandatory use of BIM in certain private sector projects by this year will pave the way to a greater adoption rate.

This will undoubtedly be in line with the recently announced Public Works Department (JKR) Strategic Plan 2021-2025, which has set the adoption of BIM to reach 50% next year and 80% by 2025.

Rofizlan lauded the initiatives of companies like UEM Sunrise that has adopted BIM since 2017 and has made BIM mandatory for all of its high-rise projects.

While BIM can be applied for all types of projects, Rofizlan states that highly complexed building constructions, such as hospitals and multi-billion projects would benefit most from BIM as it will help minimise the variation orders (VO). The National Cancer Institute, Endocrine Centre and Parcel F at Putrajaya, as well as several MRT stations, proudly stand as BIM success stories.

"I'm happy to say that myBIM Centre is on its way to being ISO 9001 certified. Currently, the British Standards Institution (BSI) has endorsed 3 out of our 12 modules, and upon completion, all of our modules will be internationally recognised," Rofizlan divulged.









Parcel F, which was developed using BIM, was completed in 2019.



At present, myBIM Centre is able to hold a maximum of two classes with 40 students at a time. Space expansion is in the pipeline to increase its capacity. The wellappointed facilities include a modern, well-equipped and spacious pantry where students can take breaks in comfort inbetween classes.

"In addition to local students, we have also received quite a number of students from our neighbours in Southeast Asia including Singapore and Vietnam, who raved about our high quality of training offered at affordable prices at state-of-theart facilities. With our expansion, more students can be trained and equipped as competent BIM professionals to bring our industry to greater heights," he said.

"I truly believe that BIM can exponentially grow and will become the new industry culture as soon as the younger generation, who are very comfortable with technology, enters the industry to replace the current players and stakeholders," Rofizlan concluded.



The National Cancer Institute (IKN) was built using BIM



Parcel F, Putrajaya

# **BIMMING WITH TRIUMPH** PARCEL F, PUTRAJAYA

Parcel F is a testament that the commitment and perseverance of a cohesive project management team can result in a remarkable outcome.

Parcel F is the first Malaysian government project to implement Building Information Modelling (BIM) from the design stage to facilities management. Construction works began in 2016 at a time when BIM adoption was very low and deemed as not favourable by the construction industry players. This presented several formidable challenges for KLCC Projeks Sdn Bhd, the Project Management Consultant (PMC). Still, in spite of the project's complexities, Parcel F was completed on time with outstanding outcomes.

"Parcel F is truly an ambitious project," recalls Zaidatul Ahmad Zubel, General Manager for the Business & Technical Services Division, KLCC Projeks. From the get-go, it was designed and built to achieve stringent standards such as the Green Building Index (GBI) Gold rating, CIDB Quality Assessment System in Construction (QLASSIC) with a minimum score of 78% and Industrialised Building System (IBS) with a minimum score of 70%.

BIM was always in the picture because since 2011, there was an official directive from the Government to implement BIM up to Level of Development (LOD) 300, which is the Design & Development phase, for major projects.

"The Client, Putrajaya Bina Sdn Bhd made a bold decision to go a step further by implementing BIM up to LOD 500-Facilities Management," said Zaidatul. "This decision augured and resonated well with KLCC Projeks as we are no stranger in embracing innovation, technology and digitalisation in large-scale project management. However, implementing BIM up to LOD 500 presented a new challenge for us, and one that we were eager to take on."

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As the PMC of Parcel F, KLCC Projeks Sdn. Bhd. was in charge of the project's Design Management, Value Management, Cost and Contract Management, Construction Management, HSE Management, BIM Management and Quality Management.

#### Where Traditional Meets BIM

Parcel F's overall architectural concept is based on the analogy of the traditional songket where different threads are intricately woven together to produce a beautiful and cohesive piece. Parcel F is designed as a series of layers, building forms and employs the use of a variety materials, colours and textures to create a true masterpiece.

Sprawled over 34 acres of land in Precinct 1 Putrajaya with a Gross Floor Area (GFA) of 223,293 square meters, the 10-block office complex comprises 9 office towers (ranging from 8 to 13 storeys), a shared 4-storey facilities building, a 3-storey podium and over 2,800 car park bays.

"BIM made perfect sense for this project due to the complexity of the design, the interlinking of the utilities services between one block to another and to ease the coordination works between all trades during the design and construction stage as well as the management of the maintenance works and building assets after completion," Zaidatul explained.

#### **BIMming It**

The BIM system was adopted in the development and management of the building design system through the use of three dimensional (3D) images and smart design information.

As Parcel F was under a Design & Build contract, the contractor, Sunway Construction Sdn. Bhd., was required to convert all Contract Drawings to 3D models and to upgrade the models with the detailed design based on their in-house consultants' design.

Subsequently, they were expected to conduct Coordination and Clash Analysis Workshops, BIM Field Verification (BFV) sessions and



One of the BIM models of Parcel F



The BIM model of Parcel F's pump room

produce the BIM as-built model together with the in-house and checker consultants.

At the same time, a series of Need Analysis and User Requirement Studies were conducted with the client's Facility Management (FM) team to collate all required FM and asset information for the FM operations. All consultants, be they in-House or checker consultants, were required to be involved in all the BIM processes and works.

"The KLCC Projeks' Management Team (PMT) was fully involved in all the BIM implementation stages and processes. They also monitored, reviewed, advised and managed the BIM implementation throughout the project cycle until BIM works are completed and handed over to the Client's Property Management Team," Zaidatul said. BIM made perfect sense for this project due to the complexity of the design, the interlinking of the utilities services between one block to another and to ease the coordination works between all trades 20

#### The Journey



#### **Benefits of BIM**

Construction works began on 24 May 2016 and Parcel F received the Certificate of Acceptance on 25 November 2019. The migration of over 5,800 staff to the new building commenced on 6 January 2020.

"Thanks to BIM, we successfully completed this large project on-time. This is quite a feat as large projects are prone to delays and cost overrun," said Zaidatul. The BIM system was adopted in the development and management of the building design system through the use of three dimensional (3D) images and smart design information.

"About 90% of the design discrepancies and disputes were resolved and finalised before construction. This has greatly minimised the rectification and double handling works and expedited the progress."

In short, the advantages of BIM the team experienced include:

- Structured and better design insight
- Early detection of any possibilities of site issues
- Increased time efficiency by avoiding misunderstandings
- Production of better quality designs
- Efficient exchange of important information between the numerous stakeholders

 Parcel F received the GBI - Provisional DA Gold certification as a testament to its efficiency of resource use.



- 3D models can automatically be used for the FM information system
- Promotes a green environment by minimising paper usage

All 10 blocks of Parcel F was also GBI - Provisional DA Gold certified simultaneously, and will receive the Completion & Verification Assessment (CVA) when it has 50% occupancy or a year after migration, whichever comes later.



Parcel F's overall architectural concept is inspired by the traditional songket where different threads are intricately woven together to form a beautiful and cohesive piece.

#### Challenges Faced & Overcome

KLCC Projeks began their foray into BIM in 2013. "Before Parcel F, we have implemented BIM in one of our projects but did not see much success," Zaidatul recalled. "What made Parcel F so successful was the commitment of all involved to see it through to completion," Indeed, BIM is not a model, but rather a process. As such, the people in the project are the determining factor in making the process run smoothly and efficiently.

According to Zaidatul, most of the challenges were encountered in the earlier stages of implementation, as there was a lot of confusion and misconceptions about BIM. There was also resistance in adopting BIM as it required changing the normal ways of working. "People, by nature, are typically resistant to change," Zaidatul commented ruefully.

Nevertheless, the KLCC Projeks project management team were committed to see this through and fill in the gaps as best as they could. They attended numerous BIM training sessions, conferences and workshops locally and abroad to learn from and share their experiences with other BIM practitioners. With the knowledge and experience gained, KLCC Projeks was able to craft the required BIM Scope of Works and Specifications for the Parcel F Project.

"Another challenge encountered was having no project reference. As such, there were many trial exercises to ascertain the correct processes. Finally, after three months of trial and errors, the correct work processes were developed," she explained.

It was only after the sixth month that the BIM implementation managed to take off to a flying start. "After much perseverance and dedication, we finally saw positive tangible outcomes, such as better collaboration and communication amongst team players, preconstruction project visualisation, improved coordination and clash detection, reduced cost and mitigated risk," she said.

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"I would like to extend my greatest appreciation to our client Putrajaya Bina Sdn Bhd, my superiors in KLCC Projeks, the Project Management Team, the contractor Sunway Construction, consultants and everyone who has contributed in making a virtual Parcel F into a reality," said Zaidatul. "It would not have been possible without all of them."

> What made Parcel F so successful was the commitment of all involved to see it through to completion

#### Invaluable Lessons Learned

The lessons learned from Parcel F have since been used as a reference for future KLCC Projeks' BIM projects. KLCC Projeks is currently managing six high-rise projects using BIM. These projects are located in the KLCC Precinct areas and Putrajaya.

"I'm tasked to head the Business & Technical Services, which includes strategising and implementing various initiatives, monitoring performances and taking remedial actions to enhance KLCC Projeks' competitiveness, speed, accuracy and agility in delivering quality projects," said Zaidatul.

"To date, we have trained 174 employees, which is about 57% of our total workforce, on critical training programs, such as BIM Revit for Architecture, C&S and M&E, BIM Naviswork for 3D Clash Analysis, BIM Naviswork for 4D Project Planning and BIM Cubicost 5D Cost (for Quantity Surveyors)." Significantly, KLCC Projeks has developed its own BIM Standard Operating Procedures (SOP), which is an important guideline for them to project-manage BIM projects effectively and efficiently.

"With the limited availability of guidelines customised for the Malaysian landscape, KLCC Projeks has been referred to by the construction industry players for knowledge sharing on project management experience in BIM," Zaidatul said. To that end, several higher learning institutions have recently approached KLCC Projeks for collaboration in the area of BIM research and development.

#### **BIM - The Obvious Solution**

Zaidatul heartily recommends BIM for all types of projects. She believes that the higher the BIM adoption rate, the more accessible it becomes to all construction players, which in turn will benefit them greatly. "The construction industry needs to be fast in embracing technology and digitalisation as new construction projects have continually pushed the boundaries of design to meet increasingly ambitious demands. BIM is the obvious solution to remain relevant," she emphasised.

She is pleased to note that most of the big and complex projects today have already adopted BIM. In fact, many consultants and contractors are in the process of enhancing and upgrading their company's BIM knowledge and capability.

"Universities are also currently focusing on BIM and how it can be applied effectively in the construction industry. BIM is one of the subjects in the course modules," she said approvingly.

"BIM plays a vital role in driving Malaysia's construction industry, and will continue to shape the built world. Therefore, industry players should be ready to embrace Construction 4.0 which is expected to be widely used in Malaysia by 2025."





A peek at BIMcloud, the AEC industry's first and most advanced cloud-based team collaboration solution

# THE BENEFITS OF BIM SOFTWARE IN THE ARCHITECTURE AND CONSTRUCTION INDUSTRY



When it comes to **Building Information** Modelling (BIM), collaboration is the name of the game. Seamless. transparent, integrated workflows between architects and engineers in a shared experience with cloud-based teamwork and mobile **BIM workflows result** in a more effective building design and engineering reducing risk, increasing trust, and improving quality.

#### By Edmund Lau, Managing Director, GRAPHISOFT, Singapore and Malaysia.

The construction industry plays a crucial role in Malaysia's economy, contributing 4 to 6 percent of the country's Gross Domestic Product (GDP) annually. The allocations made in the recent 2020 Budget show that the Malaysian government prioritises the construction industry as one of the critical drivers of the nation's economic development. In line with this, it is worth noting that the local architectural service sector also serves as one of the industry's key players and has contributed to the country's economic development.

Although Building Information Modelling (BIM) is not a new buzzword within Malaysia's construction and architecture industry, it is now steadily gaining momentum. The Malaysian construction industry has taken very notable steps at the national level to elevate the industry's performance by advocating the adoption of BIM.

However, there are still many factors hindering BIM implementation, including the lack of understanding around the process of onboarding BIM technologies, a shortage of skilled practitioners, unsupportive stakeholders, resistance to changing current ways of work, an absence of collaboration and coordination among various disciplines, and limited availability of usage guidelines. As such, the use of BIM within the industry is still at low levels.

#### Streamlining how the Architecture and Construction Industry Gets Work Done

When it comes to BIM, everything begins with a 3D digital model of the building - a model that is more than pure geometry and nice textures cast over it for visualisation. An accurate BIM model includes the virtual equivalents of the actual building's parts and pieces used for the construction. These virtual elements have all the attributes both physical and logical — of their real counterparts. Like the digital prototype of the physical building, such as walls, columns, windows, doors, stairs, that allow us to visualise the building and understand its behavior in a computer environment, way before the actual construction begins.

BIM applications allow us to virtually simulate the construction process. Instead of just creating drawings from 2D line-work, buildings are virtually modeled from real construction elements and which allows architects to design buildings as closely as possible as to how they would be built physically. Since all data is saved in the central virtual building model, any design changes are automatically followed-up on individual drawings generated from the model.

With this integrated model approach, BIM not only offers a significant increase in productivity, but also serves as the basis for better-coordinated designs and a computer model-based building process. Adoption of BIM will ensure firms of productivity gains and other cost efficiencies made possible through BIM adoption, hence leading to a higher level of competitiveness overall.

#### Design and Analysis:

Human error is inevitable, and this is an area where BIM can help dramatically. With builtin physical and analytical model checking, it increases the reliability and accuracy of the model designed. Those details include information on the exact make, model, specifications, quantities, and materials of everything used in the construction. Furthermore, BIM software, such as, GRAPHISOFT Archicad 24 unites architects and engineers, who can now work on a shared model. This promotes collaboration by creating consistent information models throughout the design and construction process, along with greater standardisation, resulting in less waste and fewer costly revisions on projects.

By allowing members of various teams to check in with each other, regardless of their location, at routine intervals and ensure that designs, systems, and structures are organised, BIM also reduces errors, which makes the process run much more smoothly and protects the initial concept.

With this integrated model approach, BIM not only offers a significant increase in productivity, but also serves as the basis for better-coordinated designs and a computer model-based building process



Projects of any size are now easily experienced on a mobile device with the brand-new BIMx 3D engine utilised by Archicad.



Thanks to over 500 revamped materials in GRAPHISOFT Archicad 24, architects can create even richer, more compelling renderings.

#### Collaboration:

Thanks to the ability to track changes, architects and structural engineers can now co-design the building's loadbearing structure. They can easily compare two different versions of the same design to view various design options and compare content from consultants. Leveraging the cloud, it is possible to suggest design variations, organise the results of comparing models into smart issue lists with assignment names, prioritise tasks and even create an issue log. This allows for built-in transparency and enhanced reliability so that team members can collaborate effortlessly.

#### **Documentation:**

Another critical feature of BIM software like GRAPHISOFT Archicad 24 is the complete documentation sets and the powerful publishing workflow that follows local BIM requirements. This means that architects can focus on their designs, leaving the paperwork to the software, thus enhancing efficiency.

#### Visualisation:

Additionally, BIM offers better ways of communicating the design. It can create high-end visualisations quickly and easily with material surfaces, which result in stunning photo-realistic renderings. With the built-in palette of visualisation tools and workflows, rendering, and VR solutions, it speeds up all stakeholders' and clients' understanding of the design and helps make sure clients are reassured about what they are signing off on.

#### Adopting a BIM Workflow

The move towards a complete BIM workflow requires a high degree of commitment and can sound daunting. After deciding to move to BIM, the next consideration for architectural and construction firms is acting on it.

BIM involves change. The reorganisation of processes and workflows, as well as the learning curve, can be tedious in the beginning. Still, with training and consultation from a good software provider, the benefits far exceed the investment of the software.

Thankfully, the Malaysian government has already embraced many measures to hasten the adoption of BIM, including establishing the myBIM Centre as a one-stop reference, support, services, and capacity building centre. The centre conducts technical training, including collaborating with several universities to train the next generation of construction personnel.

When using BIM during the planning and designing stage, any problem that arises can be resolved at once. However, when the issues are encountered during construction, it could be costly and potentially delay construction. Therefore, the adoption of such innovations is fundamental for companies to remain competitive and deliver projects in a timely and cost-effective manner.

Furthermore, it is only through technology adoption that firms will be able to potentially realise gamechanging innovations such as the recently much discussed concept of "digital twins" (a digital replica or a representation of a physical object or an intangible system that can be tested or changed without negatively impacting it in the real world).

Through BIM adoption, the changes realised are significant, with the rewards far outweighing the initial investment and are only further compounded as your organisation becomes more proficient.



Merdeka 118, the world's second-tallest building was designed by Fender Katsalidis, Australia, and long-time user of Archicad. (Photo credit: MERDEKA 118, FENDER KATSALIDIS, fkaustralia.com)



Merdeka 118 office reception. (Photo credit: MERDEKA 118, FENDER KATSALIDIS, fkaustralia.com)

CAREER

KPK. wantity Surveyors (Semenanjung) Sdn Bhd

Davis Langdon KPK

# A WORTHWHILE ENDEAVOUR

Dato' Sri Kandan revealed his take on success and his accidental-turned-lifelong passion in quantity surveying.

Affable, articulate and incredibly perceptive, Dato' Sr. Sri Kandan was a pleasure to talk to and willing to share his insights gleaned from his long and illustrious career. A quantity surveyor (QS) by training, he worked as a QS Consultant at Konsultant Perkhidmatan Kontrek which later became KPK Quantity Surveyors for more than three decades before he became the Chairman (and currently Honorary Chairman) for AECOM Malaysia.

ceco

"I grew up in Petaling Jaya but was born in Sri Lanka in 1950," he disclosed with a smile. "My Sri Lankan Tamil father went to Sri Lanka to be married as was the custom then. Unfortunately, the communist insurgency that had just sparked meant that he could only return to Malaysia with his new family after it ended. I was a year old by then." Both Sri Kandan and his father had great aspirations on his career path. "My father wanted me to be a doctor while I was keen on being a lawyer," he divulged. In the end, cognizant of his family's economic constraints, he decided to take up any scholarship programme that would accept him.

He was granted a Federal Government scholarship in Quantity Surveying, a field he did not even know existed, at the Technical College, now known as University Teknologi Malaysia. Sri Kandan revealed that he became a QS by a fortuitous accident.

"Even though the interviewer claimed that my skill sets were a good fit for Quantity Surveying, I have always suspected that I was offered a scholarship there because hardly anyone applied for a Government scholarship in quantity surveying," Sri Kandan chuckled.

This, he said, was unfortunate, as QS is a multi-disciplinary profession with excellent career paths. "You need to have a good grasp of construction, finance and law. So, in a way, I did manage to fulfil my law aspirations," he smiled.

According to Sri Kandan, quantity surveyors can enter many industries

other than construction due to the varied nature of the profession. "The possibilities are endless! You find that you can adapt yourself to almost any industry, be it oil and gas, aeronautical or ship building, because in every industry, they would need someone who can perform cost management and advise on contracts."

He worked at the Public Works Department (JKR) for four years after obtaining his college diploma. Then he continued his studies at the Royal Melbourne Institute of Technology in Australia, where he worked full time during the day and went to classes at night. "It was there that I gained a true appreciation for my profession. What I learned in the textbooks was applied to my work in the Q.S. Consulting firm. The learning experience is phenomenal, and I became a better professional because of that."

As such, he strongly advocates for pre-graduates to go for at least a year of internship. "Anything less than that is not adequate. Those who intern for three or six months would not be given the right technical work to do, which they need to build a solid foundation on."

Upon returning from Australia in 1976, he joined Baharuddin Ali & Low as a QS and left to join KPK in 1980 as a Senior QS. "I was made a partner of the firm in 1983 at the age of 32. By then I was certain that consultancy was my forte and have never looked back since," said Sri Kandan.

You can adapt yourself to almost any industry, be it oil and gas, aeronautical or ship building, because in every industry, they would need someone who can perform cost management and advise on contracts.

At KPK, he was also involved in many large and prestigious projects such as the Klang Valley Mass Rapid Transit (KVMRT) Line 1 & 2, Pinewood Iskandar Malaysia Studios, Prince Court Medical Centre in Kuala Lumpur, the KLCC Exhibition and Convention Centre and Traders Hotel.







Sri Kandan believes that the quantity surveyor's role in the construction industry is differentiated, transformative and vital.

In 2012, the KPK Group of Companies merged with AECOM, an NYSE-listed American multinational engineering firm that provides planning, design and engineering, consulting and construction management services.

"This is one of KPK's major achievements as we have always wanted to be part of a global organisation, and expand our offices in Asia Pacific to the world stage," explained Sri Kandan. "More importantly, the merger provided a global platform for Malaysians to work on and through AECOM, local employees were also sent on exchange programmes to other countries," he added.

During the time when he was executive chairman, AECOM had employed more than 800 staff, making them one of the largest consultancy practices in the country. Sri Kandan practices leadership by example. "I, myself, learned by observing the great leaders around me. And as a leader, you must treat people well to be able to draw out the best in them. When you work on their strengths, they will thrive and grow, and the company will also grow with them. So everyone wins."

Among other services, quantity surveyors are responsible for calculating and managing project costs and are involved from the start of the project until the construction is completed to oversee the capital expenditure. They can be found on the site and in the office, and have to quickly respond to issues and specification and costing changes.

"It is a great vocation for people who do not like routine work as no two projects are the same. You will prepare budgetary cost estimates, undertake financial feasibility studies, prepare tender and contract documents, conduct cost analyses, cost design changes, recommend interim payments and ensure a satisfactory conclusion of the final accounts.

> As long as you can convince the client and see to it that the project can be completed within budget, at a reasonable quality and on time, you have done a good job

> > 77

You'll also need to make regular site visits where you'll assess the costs of the completed works," Kandan explained.

To stand out from the rest, a QS must consistently give good advice and actionable suggestions to the client. The main challenge a QS faces in every project is to do a balancing act between cost, time and quality. "As long as you can convince the client and see to it that the project can be completed within budget, at a reasonable quality and on time, you have done a good job," he said. "For when a client's project succeeds, you succeed, too." In 2018, Sri Kandan garnered the 'Prominent Player Award' at The Malaysian Construction Industry Excellence Awards (MCIEA). It was truly a most-coveted achievement as the award recognises the individual who best emulates the qualities and attributes of a prominent construction industry player and has contributed significantly to the development of the Malaysian construction industry. "After 45 years in the industry, I was truly honoured and humbled to not only be recognised by my peers but also by the industry leaders," Sri Kandan smiled, "It a testament to how important a QS work is to the construction industry."

#### A Vital Part of the Team

"I used to be daunted by the thought that unlike architects and engineers who create, the typical QS does not create anything in their daily work," Sri Kandan divulged. "But I soon realised that this is not true at all. Our work in the construction industry is differentiated, transformative and vital."

"What drives me is the knowledge that each of us in the construction industry has the opportunity to contribute in some small way towards building a better built environment and thereby building a better world."



Dato' Sri Kandan was also involved in involved in many large and prestigious projects such as Pinewood Iskandar Malaysia Studios

#### **Qualifying as a Quantity Surveyor**

To become a quantity surveyor, you'll need to complete a degree or higher education course which is accredited by the Board of Quantity Surveyors Malaysia (BQSM)



Do take note that certain universities may have higher entry requirements so, do your own research. It may take 3.5 to 4 years to obtain a Degree in Quantity Surveying. When your Quantity Surveying Degree is accredited by BQSM, you can pursue a professional career as a Registered Quantity Surveyor in Malaysia. Source: www.eduadvisor.my



Built in accordance to the latest GBI standards, the building had to prove to be at least 25% greater in terms of energy efficiency.

# SARAWAK'S FIRST PRIVATE GBI OFFICE

The GBI-rated HSL Tower stands as a showcase of HSL's construction roots using advanced technologies



HSL Tower is ensconced within La Promenade, HSL's flagship 200-acre mixed development, along the Kuching-Samarahan Expressway. Piling works began on October 2014.

HSL's offices occupies the top five levels of the building, the fourth floor comprises office suites for long-term lease, while levels one to three are occupied by La Promenade Mall.

Located at the midpoint between Kuching city centre and Kota Samarahan is Hock Seng Lee Berhad (HSL)'s new headquarters, the 10-storey HSL Tower. The tower is Green Building Index (GBI) certified, one of the eight GBI-rated buildings and the first private GBI office in Sarawak.

Visitors to the HSL Tower will be greeted by the 360-degree panoramic views of Kuching. "They'll see the Penrissen Ranges, Gunung Serapi and Mount Santubong in the distance. They'll also get a bird's-eye view of all 200-acres of La Promenade," said property development general manager Tay Chiok Kee.

The Tower is the first commercial component of the 200-acre La Promenade development, which started with gated residences in 2016. In 2018, the La Promenade development won the 'Master Planning' category in the Malaysia Landscape Architecture Awards.





🔪 A total of 3,700 panels of triple-glazed glass allow natural light to reach into almost every room in the bulding, while preventing heat build-up.

HSL's offices occupy the top five levels of the building while the fourth floor comprises office suites for long-term lease.

Levels one to three are occupied by La Promenade Mall which consists of a supermarket, restaurants, cafes, a convenience store and a gym. It is a lease-only mall with a wellselected tenancy mix.

Indah Cafe, Kuching's top-listed restaurant on TripAdvisor, is the first food and beverage business to open in HSL Tower. It operates the 120-seater staff cafeteria situated on level five. The current physical distancing requirements allows a maximum of 70 people to be present at any one time in the cafeteria.

#### A Well-Thought Out Design

As mentioned earlier, HSL Tower is built in accordance to the latest GBI standards. This meant that the building had to prove to be at least 25% greater in terms of energy efficiency. Jurubina Unireka, a leading green architecture firm in Sarawak that was responsible for Sarawak Energy Bhd's swanky headquarters, among others, was tasked to design HSL Tower.

To comply with GBI's stringent standards, architects from Jurubina Unireka used the twin strategies of minimising heat transfer from the exterior to the interior, while allowing natural light in.

They accomplished this by using a total of 3,700 panels of triple-glazed glass which meant that the office building uses minimal electrical lighting. Natural light reaches into almost every room of this building except for the elevator core.

Floor-to-ceiling glass panels form the internal partitions and a portion on top of all workstations have transparent panels for light to reach the next cubicle. Even the document storage rooms have glass channels at the top of the walls to let in sunlight. On the ground level, light tunnels into the basement act to reduce even more electricity usage.

The retail podium, which includes office suites for lease on level four, has wide central corridors and vast open atriums. Ample parking is available on the basement level and the ground floor.

To facilitate cooling, the eco-glass facade have air gaps in them, reminiscent of a flask, to limit heat transfer. The harsh direct sunlight is kept at bay by external fins strategically mounted around the corners of the building corners and between intermittent floors.

The building's intelligent air conditioning system works with the sensors installed throughout it to regulate the optimum cool-but-notcold temperatures. As part of a vital component of GBI, HSL had to ensure that all furnitures including carpets, chairs and tables, were responsibly sourced. Their administrative workflow incorporates the 3Rs, which is to reduce, reuse and recycle.

The wraparound terraces on the ground floor, levels five, nine and 10 boast of a well-curated foliage of trees per the landscape artists' recommendations.

HSL Tower is equipped with full fibre optic Internet, face scans with buildin temperature sensor for security access and one of the fastest elevators in the state.

Visitors will be impressed at the level of attention to construction detail. The ground floor reception uses high-grade materials that were installed with precision. Patterns on stone accent walls are intricately matched, while the building's main entrances feature chamfered edges. Each floor boasts of disabled-friendly toilets.

The inaugural pile driving at the site for HSL's new headquarters began in October 2014. The construction of the superstructure was completed in mid-2018 and the interior works began. The new headquarters of HSL and the accompanying neighbourhood shopping mall are set to be completed by the mid and end of 2020, respectively. It is said to be among the most modern buildings in Sarawak.

According to managing director Datuk Paul Yu Chee Hoe, HSL is driven by long-term planning, be it the GBI building or landscape master-planning. "Trying out something new or going the extra mile is always going to be challenging and tough, but so far so good. Our new HSL Tower is not just a new building, it is a new way of thinking." Trying out something new or going the extra mile is always going to be challenging and tough, but so far so good. Our new HSL Tower is not just a new building, it is a new way of thinking.

#### **PROJECT DETAILS:**

Date of completion: July 2020 (offices), end-2020 (mall) Architect (Design): Jurubina Unireka Contractor: HSL Bhd



Slated to be fully completed by the end of this year, HSL Tower is said to be among the most modern buildings in Sarawak.



## THE IMPLICATIONS OF THE TEMPORARY MEASURES FOR REDUCING THE IMPACT OF CORONAVIRUS DISEASE 2019 (COVID-19) BILL 2020 FOR THE CONSTRUCTION SECTOR

An insight into the implications of Covid-19 Bill to the construction and property industries.

By Janice Tay, Ooi Chih-wen & Kimmy Khoo of Wong & Partners, a member firm of Baker McKenzie International

On 12 August 2020, Malaysia took a step in joining the likes of countries such as China, Singapore and the United Kingdom in laying the legislative path for Covid-19. The Temporary Measures for Reducing the Impact of Coronavirus Disease 2019 (Covid-19) Bill 2020 ("Bill") was tabled for its first reading in the Parliament with the purpose of providing temporary measures to reduce the impact of Covid-19 in Malaysia.

At the time of writing this article, the Bill has been passed in the lower and upper houses of Parliament and is awaiting royal assent. The Bill has retrospective effect from 18 March 2020 and will remain in operation for a period of two (2) years from the date of publication. This article focuses on the implications of the Bill to the construction and property sectors.

#### Protection from the Inability to Perform Contractual Obligations

The Bill crucially provides relief from the inability to perform contractual obligations within the applicable period of 18 March 2020 to 31 December 2020 (subject to further extension as the Minister of Law ("Minister") may order by way of gazette) ("Relief Period") across seven (7) categories of contracts ("Scheduled Contracts"). The relevant Scheduled Contracts for the construction sector broadly includes contracts for:

#### OPINION

No.	Scheduled Contracts	Affected Parties
1.	Construction work	Contractors / developers / employers
2.	Construction consultancy contracts	Engineers / architects / surveyors
3.	Any other contract related to the supply of construction material, equipment or workers in connection with a construction contract	Suppliers
4.	Performance bond or equivalent granted pursuant to a construction contract or supply contract.	-

#### The other categories of Scheduled Contracts are:

- 1. Professional services contract.
- 2. Lease or tenancy of non-residential immovable property.
- 3. Event contract for the provision of any venue, accommodation, amenity, transport, entertainment, catering or other goods or services including, for any business meeting, incentive travel, conference, exhibition, sales event, concert, show, wedding, party or other social gathering or sporting event, for the participants, attendees, guests, patrons or spectators of such gathering or event.
- 4. Contract by a tourism enterprise as defined under the Tourism Industry Act 1992 and a contract for the promotion of tourism in Malaysia.
- 5. Religious pilgrimage-related contract.

In essence, what this protection means is that the Bill temporarily suspends enforcement of a contractual obligation(s) where the non-performance of said obligation(s) during the Relief Period was due to governmental measures taken to combat Covid-19. These are measures prescribed, made or taken under the Prevention and Control of Infectious Diseases Act 1988 to control or prevent the spread of Covid-19. For example, the measures would include stop work orders, instructions to suspend

construction works and compliance with standard operating procedures during the Movement Control Order period.

The contractual rights of a party to the Scheduled Contracts are generally not affected, but merely prohibited temporarily from being exercised during the Relief Period against a non-performing party.

For example, the right to charge interest for non-payment or late payment during the Relief Period is not affected if the right was provided in the Scheduled Contracts. It therefore can be exercised on 1 January 2021 (assuming the Relief Period is not extended). Hence, seeking protection under the Bill may result in higher costs to the nonperforming party.

#### - Savings

Notwithstanding the above, any contract terminated, deposit or performance bond forfeited, damages received, legal proceedings, judgment or award granted and any execution carried out for the period from 18 March 2020 up until the date of publication of the Act (**'Effective Date'**) shall be deemed valid.

This time period prior to publication of the Act may thus be an opportune moment for parties to enforce their rights under the Scheduled Contracts before the Bill comes into force and rights are temporarily suspended.

The Bill will affect contractors, developers, employers,engineers, architects, surveyors and suppliers



#### Mediation

If there is a dispute on the inability of the party to perform any contractual obligation in the Scheduled Contracts due to the measures prescribed, the Bill provides that this may be settled by way of mediation. It is a voluntary process and parties are not compelled to mediate.

The mediation process including the appointment of mediator, role of the mediation, conduct of mediation and conclusion of mediation may be determined by the Minister. Upon reaching an amicable settlement, a written settlement agreement shall be signed by parties. The mediator will then authenticate the settlement agreement and a copy of the agreement will be furnished to the parties. However, as this process is voluntary, it remains to be seen whether this provision will be effective to push parties to attempt settlement through mediation over the usual litigation proceedings.

#### Amendments

The Bill also contains provisions which modifies sixteen (16) legislations. For the purposes of this article, the discussion surrounds issues on limitation and housing development.

#### • Extension of limitation period

Limitation periods which had lapsed during the period of 18 March 2020 to 31 August 2020 will be extended to 31 December 2020. This means that if the time limited for a claim expires on 19 March 2020, the limitation period will not set in to bar the claim and the prospective plaintiff will have an extended time period until 31 December 2020 to bring a claim. This will apply to section 6 of the Limitation Act 1953 as well as other corresponding laws concerning limitation such as the Sarawak Limitation Ordinance, Sabah Limitation Ordinance and Public Authorities Protection Act 1948.

- Housing Development (Control and Licensing) Act 1966 ("HDA") The Bill provides for relief for both purchasers of housing accommodation and developers with amendments to the HDA as follows:
  - No late payment charges to be imposed on purchasers who fail to make installment payments for the period 18 March 2020 to 31 August 2020 due to the measures taken under the Prevention and Control Infectious Diseases Act 1988
  - 2. The period of 18 March 2020 to 31 August 2020 shall be excluded from the calculation of



With regard to the Bill, it is foreseeable that much has been left to interpretation and the Courts must play its role in clarifying new legislations



The measures in the Bill include stop work orders, instructions to suspend construction works and compliance with the SOP during the Movement Control Order period

- The time for delivery of vacant possession of a housing accommodation
- The liquidated damages for the failure of the developer to deliver vacant possession of a housing accommodation
- iii. The defect liability period after the date the purchaser takes vacant possession of a housing accommodation
- iv. The time for the developer to carry out works to repair and make good the defect, shrinkages and other faults in a housing accommodation

The Minister retains the discretion to further extend such periods upon application of the purchaser/developer. In addition, where a purchaser is unable to enter into possession of a housing accommodation during the period from 18 March 2020 to 31 August 2020, the purchaser shall not be deemed to have taken vacant possession.

#### - Savings

Notwithstanding the relief on late payment charges and liquidated damages above, any late payment charges paid by the purchaser or liquidated damages paid by the developer before the date of publication of the Act shall be deemed to have been validly paid under the HDA and its regulations, and such payment shall not be refunded to the payer.

3. If the limitation period for the homebuyer to file a Housing Tribunal claim under section 16N(2) of the HDA has expired during the period from 18 March 2020 to 9 June 2020, the homebuyer is entitled to file the claim from 4 May 2020 to 31 December 2020

#### Conclusion

The Bill impacts key players in the construction industry where on one hand, it temporarily protects the non-performing party (such as contractors who are not able to carry out their contractual obligations) and on the other hand, it restricts cash flow when the contractual rights to claims cannot be recovered momentarily.

A short term look ahead entails the view that there is potential for an influx of proceedings from affected parties who are not sleeping on their rights seeking to exercise their rights before the Bill is gazetted as an Act of Parliament.

A further look ahead, however, may see disputes arising from the

far-reaching ambiguities of the Bill when it is in operation, such as the inability to perform "any" contractual obligation and whether the inability to perform "due" to the measures prescribed can be read to include direct or indirect causes. It is foreseeable, as with all new legislations, that much has been left to interpretation and that it is only natural for the Courts to play its role in clarifying new legislations.

The unique situations currently faced by construction industry players will need thorough assessment on the impact, particularly, the cost impact resulting from this Bill and the subsequent actions that can be taken, if any.

#### The contracts referred to are:

(i) Asian International Arbitration Centre Standard Form of Building Contract 2019 ("AIAC").

(iii) Agreement and Conditions of Pertubuhan Arkitek Malaysia Contract 2006 / 2018 ("PAM");
(iii) Public Words Department Form 203A (Rev. 2010) ("PWD 203A");

(iv) Institute of Engineers Malaysia Conditions of Contract 1989 ("IEM"); and

(v) Construction Industry Development Board Standard Form of Contract for Building Works 2000 Edition (\*CIDB\*).

#### About Wong & Partners

Wong & Partners, a member firm of Baker McKenzie International, is a Malaysian law firm that uniquely combines its rich local knowledge with broad global capabilities. Since its establishment in 1998, Wong & Partners has grown steadily and now consists of 19 partners and more than 50 associates. The Firm's lawyers are able to deliver comprehensive and integrated advice to clients and are trusted by respected domestic and multinational corporations for their needs in Malaysia and throughout Asia.

#### Disclaimer

The opinions expressed in this article are the authors' own and do not necessarily reflect the view of CIDB Malaysia.

#### OPINION



## TAIWAN INDUSTRIES PROPOSE ANTI-DUMPING DUTIES ON TILES IMPORTED FROM MALAYSIA

Taiwan's ceramic industry heavily relies on the imports of ceramic tiles, with 90% of the local consumption being sourced from imported tiles. In a bid to protect the local industries, Taiwan Ceramic Industries Association has raised a petition to the Ministry of Economic Affairs and Ministry of Finance to impose antidumping duties (ADD) on ceramic tile (HS 6907 – 6908) imports from Vietnam, India, Indonesia and Malaysia, ranging from 10% to 80%. On 15 July 2020, a symposium on "Countermeasures to Taiwan's ADD on Ceramic Tiles Imports from Vietnam, India, Indonesia and Malaysia" was held by the Association of Tile Development of Taiwan (ATDT). During the symposium, it was mentioned that the Taiwan authorities have engaged a third party investigation team to check both the domestic retail prices and export prices (FOB). The purpose of the investigation is to seek proof of the differences between the two prices. According to the ATDT Secretary General, Taiwan has laid out a plan to conclude the ADD issue by July 2021 and no later than January 2022. Currently, Taiwan's tile import inspection complies with the C1 Inspection, which is an inspection without any documentation review or cargo examination. In total, there are three types of custom inspections:

- C1: no documentation review or cargo examination
- C2: documentation review
- C3: documentation review and cargo examination



As for the C2 or C3 types of clearance, the customs brokers should submit hard copies of the declarations. In addition to the ADD investigation, the Taiwanese authorities are considering revising the tile inspection process.

From January 2018 to June 2020, Malaysia was ranked as Taiwan's top sixth import source of tiles (HS 6907 – 6908) with a market share of 7.1% amounting to US\$21.9 million. Apart from Malaysia, the top five import sources of tiles into Taiwan include India with a market share of 21.8%, Italy (20.8%), Vietnam (18.8%), Spain (15.6%) and Indonesia (8.4%).

Malaysian made tiles are highly appreciated among Taiwanese users due to its trendy design, a wide range of applications at a more competitive price compared to Taiwanese produced tiles. It is worth noting that about 30% of Malaysian tiles factories have garnered investments by the Taiwanese businessman.

#### Pre-emptive Action is Required

The action taken by Taiwan Ceramic Industries Association to impose ADD on imported tiles has caused a great disadvantage towards countries that export tiles to Taiwan, particularly Malaysia. Malaysian companies that supply tiles (HS 6907 – 6908) into the Taiwanese market must be aware of the ongoing ADD investigation on the imported tiles by the authorities in Taiwan and take pre-emptive steps to protect their market share.

#### Note 1:

This article is based on the Market Alert (MA) prepared by MATRADE Taipei and the information is correct at the time of writing (10 Aug 2020).

#### Note 2:

The MA is available in MyExport and can be accessed at www.matrade.gov.my

Interested parties may contact MATRADE Taipie at **taipei@matrade.gov.my**.



#### Disclaimer

While every effort has been taken to ensure that the contents of the article (MATRADE'S Insight) are accurate and current, MATRADE cannot be held responsible for any inclusion, omission or error and is not liable for any loss or dispute arising from the use of the information provided.

#### OPINION

By SIRIM QAS International Sdn. Bhd.

# DEALING WITH NON-CERTIFIED STEEL WIRE MESH IS ILLEGAL

## SIRIM QAS International shares how to identify and avoid using CQ Mesh in the construction field.

According to CIDB Act 520, steel wire mesh needs to be certified and obtain Perakuan Pematuhan Standard (PPS). PPS is issued by the CIDB whilst certification can be obtained from SIRIM, an appointed Certification Body or other approved certification bodies. Under Section 33C, any person who deals or undertakes to deal with construction materials specified in the Fourth Schedule without CIDB PPS shall be deemed guilty of an offence. "Deal" means to handle, use, manufacture, supply, market, transfer, sell, or buy, whether wholesale or retail, import, or export.

Regrettably, even after many years of awareness and enforcement, non-certified steel wire mesh (also known as CQ Mesh) is still readily available in the market. Recently, CIDB has received numerous feedbacks and complaints from various industry players on a CQ mesh supplied and used in the construction field.

#### What is CQ Mesh?

Wire mesh is a factory-made machine-welded steel fabric for the reinforcement of concrete conforming to MS 145 : 2014. Generally, CQ Mesh refers to wire mesh that does not comply with those standards, customarily in some or all of the following;

#### 1. Out of mass tolerance (under-size)

This is the most prevalent issue found in the industry, where manufacturers seek to gain extra revenue by supplying wire mesh with mass per meter (kg/m) much lower than the allowed tolerance requirement stated in the product standard. "

Under Section 33C, any person who deals or undertakes to deal with construction materials specified in the Fourth Schedule without CIDB PPS shall be deemed guilty of an offence.

CIDB has received numerous feedbacks and complaints from various industry players on a CQ mesh supplied and used in the construction field.

"

#### 2. Mechanical properties failure

Mechanical properties like tensile, yield, tensile/yield ratio and elongation  $(A_{at})$  play a fundamental role in the integrity of concrete structures. When there's failure in one of these mechanical properties, it could be due to poor steel quality, manufacturing process, or habitually by out of mass tolerance (under-size bar).

#### 3. Absence of rolled on bar mark

Rolled on bar mark is used as a manufacturer's identification mark. Steel wire mesh without the bar mark will not show any sign of traceability from steel wire mesh supplied for construction usage to the actual manufacturers. In the event of loss of wire mesh tagging, which contains wire mesh information, it is still possible to trace and track the product through the rolled on bar mark.

#### 4. Improper identification tag

The proper identification tag with required information is essential to provide necessary product details and certification information to all relevant parties. Typically, CQ Mesh did not come with proper and complete tag information. Instead, it is supplied with hand-written tags with just elementary information.

#### **Misuse of SIRIM Certification Mark**

In certain instances, suppliers of CQ Mesh may use an approved SIRIM Certification Mark on the identification tag to highlight the impression of legitimacy and compliance. Such misuse of SIRIM Certification Mark is an enormous predicament in the industry as it sought to mislead consumers. SIRIM QAS International takes a very grave assessment on this matter and will initiate legal action against offenders.

#### How to Identify CQ mesh?

The following are some necessary steps to ascertain if the mesh complies with MS 145 : 2014 and MS 146 : 2014. The first two checks are visual observations. If both checks get a pass, then perform a humble "Quick Test" to check the mass of the bar.



🕂 Check rolled on bar mark - No rolled on bar mark means CQ Mesh





Figure 1: Certified wire mesh must come with rolled-mark on the ribbed wire





#### OPINION

**Check identification tag** - incomplete information, for instance, mesh reference, steel grade, sheet size, and quantity means CQ Mesh. Non-availability of complete SIRIM Certification Mark is also an indication of CQ Mesh. The tag shall at least have details, as shown in Table 1 below.

LICENSEE'S NAME or TRADEMARK				
MESH REFERENCE	THE GRADE OF MESH			
THE TYPE OF MESH	OF MESH DIMENSION OF MESH			
NUMBER OF SHEET	LOT NO. / MANUFACTURING DATE			
STANDARD NO.				
SIRIM CERTIFICATION MARK				
SIRIM LICENSE NUMBER				



Table 1: Tag template

Table 2: An example of a proper identification tag

Quick test - Cut the wire from the mesh and ensure both ends are trimmed at right-angle to the bar. Weigh the sample (kg) and measure the length (m). Calculate mass per meter by dividing weight per meter. Refer to the table below for the minimum and maximum for weight per meter for preferred diameters.

Size (mm)	Minimum mass per meter (kg/m)	Nominal mass per meter (kg/m)	Maximum mass per meter (kg/m)
6	0.209	0.222	0.235
7	0.284	0.302	0.320
8	0.371	0.395	0.419
9	0.477	0.499	0.521
10	0.589	0.617	0.645
12	0.848	0.888	0.928





# WHAT ARE NOISE HAZARDS AND HOW CAN YOU PROTECT YOURSELF?

As easy as it is to damage our ears, it is easy to protect them as well.

#### By 3M www.3M.com.my

Hearing is one of the basic senses we developed at birth and one that we often don't pay heed to growing up, unless we are faced with a hearing complication.

According to the Department of Occupational Safety and Health

(DOSH), sound is a sensation of acoustic waves while unpleasant, unwanted, and disturbing sound is generally treated as noise. That being said, noise is actually a highly subjective feeling – what is sound to one person can very well be noise to somebody else. Did you know that noise induced hearing loss is one of the most common occupational disease and workers in the industrial jobs are prone to accidents and health problems linked to long exposure of noise?

#### OPINION

#### What is Noise Hazard?

Noise is any sound that the human ear finds unpleasing or disruptive to concentration, and that sound become noise hazards when it begins to interfere with communication, warning signals on the job, and cause chronic health problems.

The higher the level of noise, and the longer individuals are exposed to it, the more risk they have of suffering harm from it. Occupational noiseinduced hearing loss (NIHL) is a major compensable occupational disease in Malaysia which involves substantial economic burden. Exposure to excessive noise also entails largely unrecognized costs to organizations by way of increased employee turnover and absenteeism, lowered performance and possible contribution to accidents.

#### So, how loud is too loud?

We need to first understand that the sounds that we hear are measured by a logarithmic unit known as decibels (dB).

According to the Malaysia Occupational Safety & Health (Noise Exposure) Regulations 2019, the new Noise Exposure Limit (NEL) have been revised from 90 to 85 dB(A) over a time span of 8 hours. An employer must not expose any employees to noise above the NEL and no exposure to maximum sound pressure level of 115 dB(A) at any time and peak sound pressure level of 140 (dB). Hearing conservation training for workers are also required on a yearly basis. Some companies, like 3M can provide training support and a certificate will be issued for record.

Below you will find examples of familiar noise sources and their average decibel readings.

Tip: When you need to raise your voice to speak to someone who is 3 feet away, the noise level may be over 85 (dB).

## Noise may be a problem at a workplace if:

Employees notice a reduction in hearing over the course of the day. Raised voice needed to communicate with someone about one meter away. Employees can't clearly hear instructions or warning signals. Workers experience ringing in the ears or sound heard differently in each ear.

In 2018, the total of Malaysia's Employment Accident Rate reported by the Department of Occupational Safety and Health is just over 35,000. Although it shows a decline since 2017 (which was a total of 42,513), DOSH reported that there are over 6,000 cases of hearing damage related to occupational noise in 2018. That makes hearing damage the most common occupational hazard in Malaysia.

There are many cases in which a worker is exposed to noises that are

exceptionally dangerous for the ears. For example, construction and factory workers who are on-site with exposure to loud noises for more than eight hours on a daily basis are at high risk of hearing damage.

It is important to note that the effects of exposure to loud noises do not happen overnight. This is because hearing damage doesn't solely depend on the actual noise but also the exposure time. As such, preventive measures need to be taken. As easy as it is to damage our ears, it is easy to protect them as well.

#### Ways To Attenuate Hearing Damage.

Although noise-induced hearing loss is the most common occupational health condition in the world, it is preventable.

#### Always wear hearing protection, correctly.

Be sure to always wear hearing protections, correctly when exposed to dangerous noise levels. When worn incorrectly, wearers may experience discomfort and more importantly, it may not offer suitable protection. There are many variants of hearing protection as each model or type is designed to address different worker needs and pain points.

Wearer should ensure the hearing protector tightly seals within the ear canal or against the side of the head. Hair and clothing should not



Examples of familiar noise sources and their average decibel readings

#### OPINION

be in the way. Choosing the right hearing protection for your needs can be difficult as it depends on several factors including level of noise, comfort, and the suitability of the hearing protector for both the wearer and the environment.

The hearing protection should neither over nor under protect the wearer. 3M has an easy to use selection system for E-A-RTM and PeltorTM products that aids the correct selection of hearing protection appropriate to the noise level. 3M E-A-Rfit™ Dual-Ear Validation System is a simpler way to measure wearer's personal attenuation level. The hearing protection fit testing takes the guesswork out of managing compliance hearing in conservation programs.

#### 2. Reduce the noise exposure

Additionally, when the environment at your workplace is noisy but unavoidable, here's what you can do:

- · Reduce noise at the source of the noise. Use quieter equipment and keep equipment well maintained and lubricated.
- Enclose the source of the noise or place a barrier between you and the source.
- Increase the distance between you and the source of the noise.
- Reduce your time in noisy areas.

#### 3. Reduce exposure to chemicals that may cause hearing damage Exposure to ototoxic chemicals may be hazardous to workers health when inhaled, ingested or absorbed by skin. According to OSHA, the health effects can vary based on frequency, intensity, duration, workplace exposure to other hazards, and individual factors such as age.

The ototoxic chemicals are potentially found in manufacturing,

Workers should always always wear hearing protections, correctly when exposed to dangerous noise levels.

mining, utilities, construction, and agriculture industries. The chemical found in paints, thinners, degreasers, glues, and engine exhausts can travel through the blood stream and once it enters the body, the results can damage the nerves in the inner ear.

If there is a choice, using a less toxic or non-toxic chemical may prolong the lifespan of your ears. However, if that is also

unavoidable, you should always wear gloves, long sleeves and eye protection. This is also a common physical hazard that needs to be prevented. You should also wear a respirator or other protective equipment as necessary.

#### The contracts referred to are:

https://www.dosh.gov.my/index.php/list-ofdocuments/download/analisis-kkp/3238infografik-kemalangan-pekerjaan-2018/file



#### INFOGRAPHICS





Avenue South Residences will feature exposed foliage throughout the space. Photo credits: ADDP Architects

## WORLD'S TALLEST PREFAB TOWERS TO STAND IN SINGAPORE BUT CONSTRUCTED IN MALAYSIA

Avenue South Residences in Singapore, which is slated to be the tallest prefabricated buildings in the world, is being built in Senai, Johor.

The 56-storey Avenue South Residences in Bukit Merah, Singapore is set to be the world's tallest prefabricated skyscrapers.

Estimated to be completed in 2026, the two 192-meter towers will be created with Prefabricated Prefinished Volumetric Construction (PPVC) technology—where semi-finished apartment modules are built offsite in Senai, Johor before being stacked on top of each other.

The 988-unit condominium towers will comprise 2,984 total modules. The individual modules, which are a series of six-sided boxes cast in concrete, are manufactured at the Senai factory. The units are then transported to a factory in Singapore to be fitted and furnished i.e., bathrooms installed with Hansgrohe fittings and kitchens with marble backsplashes. The furnished units will then be moved to the 5.6-acre construction site, located next to a stylish park that was formerly a railway corridor.

According to ADDP Architects, the firm overseeing the project, the boxes will be 80% complete by the time they arrive at the construction site. They are then hoisted into position by a crane and bonded together to form a strong frame that supports the load. Doors and other finishing touches will be added later.

In addition to the quality of workmanship being better controlled

in a factory, another obvious benefit of prefabrication would be the reduction of disruption and noise pollution to those living nearby. One unexpected benefit that came to light in these times would be having factory workers building the PPVC modules while observing safe physical distancing, rather than having all the workers on-site.

Since modular homes require less manpower to be present on a building site, this could be a boon during the pandemic when firms are struggling to find workers due to closed borders and strict SOPs. In fact, experts say that firms can expect savings as much as 15% for modular housing thanks to faster construction times, reduced labour costs and economies of scale.



However, PPVC homes may not be cheaper compared to conventionally-built abodes. The average price of a unit at Avenue South Residences is close to SGD\$1.1 million. The good news is, as technology advances and more developers and builders gain expertise in PPVC construction, the prices will become more competitive moving forward.

The luxurious look and feel of Avenue South Residences will forever banish the former impression that prefabricated homes are merely cookie-cutters and void of character.

will Homeowners he impressed at the wellappointed facilities as well as be wowed by the floor dedicated to a verdant foliage that offers astounding views of the Greater Southern Waterfront. Smaller gardens will be thoughtfully placed at various spaces around the two towers so that every resident is within five floors to a green space. By providing this lavish and refreshing respite for urban dwellers, Avenue South Residences has certainly raised the bar for modular housing.





# **No More Delays** with Speedier Approval of CCC

#### COMMUNITY

The days when occupants could not move into their newly completed homes or offices just because the Certificate of Completion and Compliance (CCC) was not issued would soon be over.

MyMudah is a mechanism that facilitates the issuance of CCC for architects and engineers. It includes the 'silence implies consent after 28 days' concept, which will be introduced by the Government for completed buildings. The concept of "silence means approval" means that if a clearance letter is not issued 28 days after the inspection by technical agencies such as Tenaga Nasional Berhad, Indah Water Konsortium and Air Selangor, it automatically means approval.

As such, MyMudah promises to cut down bureaucratic red tape, which has been cited as one of the major causes for delays in project completion.

Malaysia Productivity Corporation (MPC) Director General, Dato' Abdul Latif bin Haji Abu Seman presented the MyMudah concept at the Economic Action Council Meeting No. 19/2020 chaired by YAB Prime Minister Tan Sri Muhyiddin Yassin, where it was duly given the green light.

"MyMudah was introduced as a direct response to regulatory challenges faced by businesses and other stakeholders in the wake of the COVID-19 crisis," said Dato' Abdul Latif.

According to Dato' Abdul Latif, construction delays have been further exacerbated by the Movement Control Order (MCO) where 9,090 buildings has yet to be occupied due to pending CCC clearances by local authorities and technical agencies.

The CCC is a certificate which provides the final sign-off by a Principal Submitting Person (PSP) on a building's construction. The issuance of CCC by the PSP, usually an architect, engineer or draughtsman, requires a total of 21 certifications by architects and engineers to ensure that the building has been made true to its original approved plans by the local authority, is safely constructed and fit for occupation. MyMudah was introduced as a direct response to regulatory challenges faced by businesses and other stakeholders in the wake of the COVID-19 crisis

Over the years, the traditional approval process has garnered complaints by developers and home buyers who could not move into newly completed buildings that have met all safety conditions and with utility services connected because a CCC was not issued.

#### **A Timely Delivery**

As some delays are not caused by safety issues, but due to the lack of response from the technical agencies, the implementation of MyMudah is expected to resolve the hold-ups caused by the relevant agencies.

Malaysian Institute of Architects (PAM) President, Datuk Ar. Ezumi Harzani Ismail lauds the implementation of MyMudah. "The building industry supports this concept as it will cut down the bureaucratic paper works, as the completed buildings have been inspected by Architects and Engineers with all essential services connected and ready for occupation," he said.

The Technical Agencies have started the ball rolling on 1st September 2020 with the issuance of a memo outlining the 'silence implies consent after 28 days' concept to all the industry professionals, relevant professional boards and Local Authorities.

"Of course the caveat is that the building is still subject to a final inspection to ensure that all conditions are met," said Dato' Abdul Latif.

There is also an added benefit to the MyMudah implementation. "With this improvement, we expect to create 65,000 job opportunities in the construction industry and support the economic recovery," added Dato' Abdul Latif.

This figure is derived from 9,090 currently unoccupied buildings multiplied by 23.3% (the value of construction work for non-residential buildings according to the Statistics Department), which is equal to 2,117 projects.

Based on an average of 31 employees per company multiplied by 2,117 projects, this would lead to 65,627 jobs.



The signing of the PenjanaKerjaya MoU between CIDB and SOCSO

## PENJANAKERJAYA ENHANCES CAREER PROSPECTS – FOR FREE

The nation is in the midst of dealing with economic difficulties caused by the Covid-19 pandemic, which include the loss of income for traders, entrepreneurs and workers in the construction industry. In a bid to help alleviate these challenges, the government has recently announced the Hiring Incentive Programme (PenjanaKerjaya).

To this end, CIDB and SOCSO signed a Memorandum of Understanding (MoU) to provide free training programmes for the construction sector. In his speech at the event, Dato' Sri Haji Fadillah Hj Yusof, Senior Minister – Infrastructure, Minister of Works said that he hoped the MoU between CIDB and SOCSO will help SOCSO contributors who have lost their jobs to be trained and placed in suitable fields in the construction sector.

CIDB, via the Malaysian Construction Academy (ABM) and CIDB Technologies, are offering training programmes in a variety of construction-related fields including supervision, management, Industrialised Building System (IBS) and Building Information Modeling (BIM). These programmes are free of charge under PenjanaKerjaya. To date, CIDB has trained a total of 146,357 youths under Technical and Vocational Education and Training (TVET) and 272,008 construction workers.

Employers who have new hires or want to upskill their current workforce can apply for these training programmes.

For more information, visit www.eiscentre.perkeso.gov.my/ hiring-incentive-program/ or contact 03-80915300 (SOCSO).

# Hiring Incentive Programme (PenjanaKerjaya)



The Hiring Incentive Programme, PenjanaKerjaya, is an economic recovery initiative under the Ministry of Human Resource, administered by SOCSO's National Employment Services to promote job creation among employers while increasing employment prospects.





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