CIDB MALAYSIA

HEIGHTS

CONSTRUCTION FROM A NEW ANGLE

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NATIONAL CONSTRUCTION POLICY 2030
Digitalising the Construction Sector

THE ADOPTION OF TECHNOLOGY IN THE CONSTRUCTION INDUSTRY
The Time is Now

MITEC
The story behind Southeast Asia's largest exhibition centre

MAKING HOUSING AFFORDABLE
Is it realistic or a pipe dream?

INTERNATIONAL CONSTRUCTION WEEK 2021

The Next Normal in Construction

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Leveraging on Digital Transformation to Boost Productivity

As we step into the first quarter of 2022, we are starting to experience the beginnings of pre-pandemic levels of growth as the economy opens up. There is much to be done to continue in this growth trajectory, and we would do well to learn from the brightest minds in the industry.

This issue of HEIGHTS features key highlights from the ICW2021 conferences, delivered by notable leaders in their respective fields. The articles serve to inform readers about some of the insightful events that have occurred around us since the outbreak of the pandemic. They give an idea of what has been done thus far and how one can navigate around difficult challenges by learning from people who have tread similar paths and leveraging on technological advancements.

Even in the face of harsh restrictions in several countries, as mentioned in the article 'Impact of Covid-19 on the Construction Industry in Asia & What Lies Ahead', businesses found the means to re-establish and continue operations. And, as described in the article 'Reshaping the Future of Work,' the obstacles that Lendlease faced to do this has accelerated their digital transformation at an unprecedented rate.

As gleaned from the workshops and conversations in the ICW 2021, more construction leaders now view digital transformation as an urgent priority and have plans to address it.

However, they continue to encounter numerous roadblocks, including a digital skills gap that threatens to obstruct the digital growth that businesses require.

While the construction industry is still recovering from the initial effects of the pandemic, it must leverage digital transformation to boost productivity, improve employee health and safety, and drive long-term growth. Bridging the digital skills gap is critical if we want to see continued growth in our industry. If all industry players move in this direction, then the outlook for 2022 promises to be a hopeful one.

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

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CIDB Malaysia
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THE NEXT NORMAL IN CONSTRUCTION

INSIDE OUR SPECIAL FEATURE

The three-day, fully virtual International Construction Week 2021 (ICW 2021) saw 61 exhibitors from China, South Korea, Taiwan and Malaysia and a turnout of 1,277 unique visitors from 29 countries and regions. About RM6.1m estimated sales were generated throughout the event.

The ICW 2021 was the ideal platform for industry players to showcase innovations, source for suppliers, make valuable contacts, stay updated with the latest industry trends and gain new industry insights into the construction industry today.

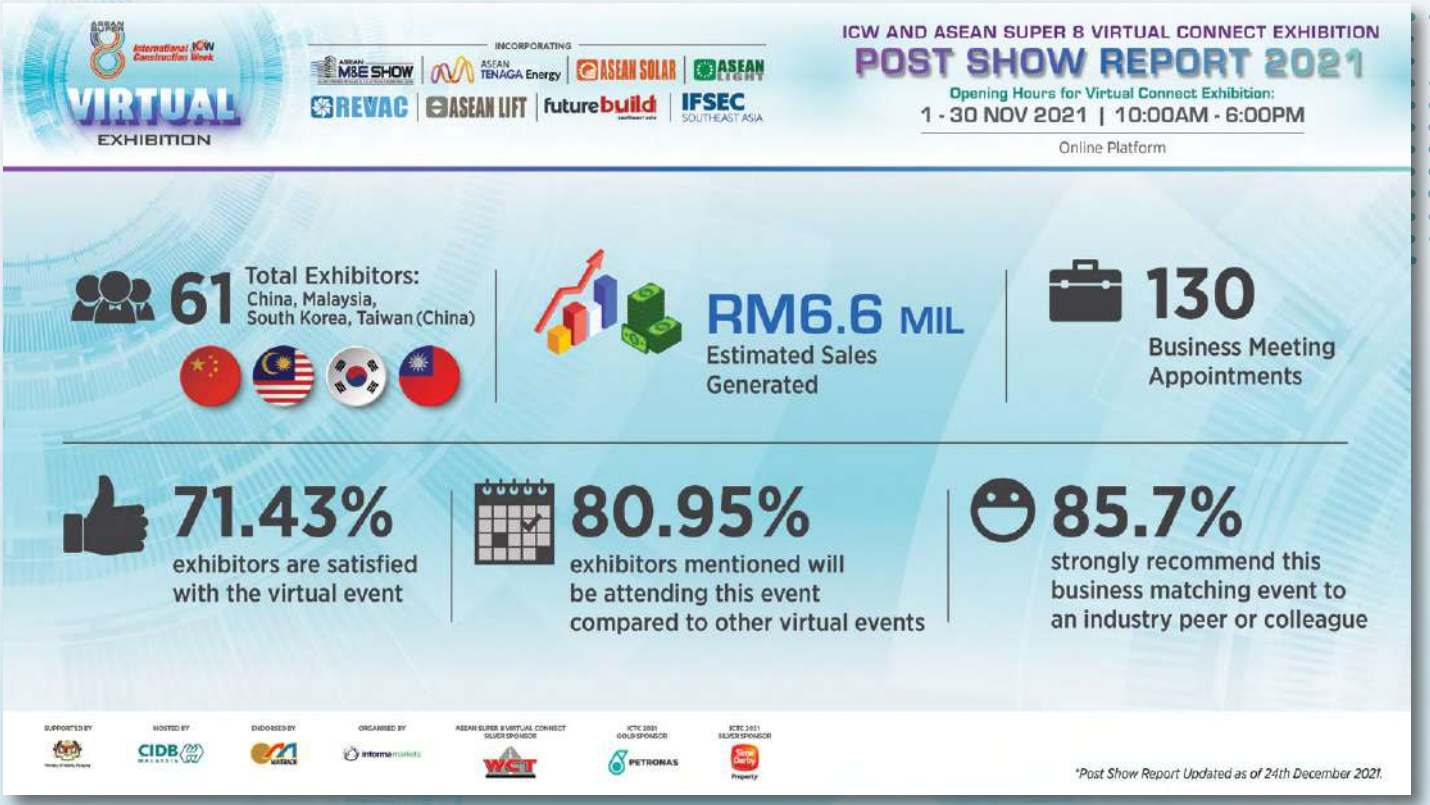
ICW has been hosted by CIDB Malaysia annually since 1998. Last year's ICW featured 6 conferences and 20 webinar topics presented by 93 globally recognised construction industry experts. The event was attended by 3,152 conference and webinar attendees comprising policymakers, C-level management, engineers, consultants, surveyors, project managers, architects from various fields in the construction sector.

"The ICW 2021 came at just the right time as the construction sector in Malaysia and globally is striving to get back up and running," said CIDB Chief Executive Datuk Ir. Ahmad 'Asri Abdul Hamid. "This has been a truly compelling three days of content, innovative and thought-provoking ideas and important connections."

The upcoming ICW 2022 will be held on 8 – 10 November 2022 at Malaysia International Trade And Exhibition Centre (MITEC), Kuala Lumpur.

ASEAN Super 8 lobby

ASEAN Super 8 pavilions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ICW AND ASEAN SUPER 8 VIRTUAL CONNECT EXHIBITION
POST SHOW REPORT 2021
Opening Hours for Virtual Connect Exhibition:
1 - 30 NOV 2021 | 10:00AM - 6:00PM
Online Platform
61 Total Exhibitors:
China, Malaysia,
South Korea, Taiwan (China)
RM6.6 MIL
Estimated Sales
Generated
130
Business Meeting
Appointments
71.43%
exhibitors are satisfied
with the virtual event
80.95%
exhibitors mentioned will
be attending this event
compared to other virtual events
85.7%
strongly recommend this
business matching event to
an industry peer or colleague
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POST SHOW REPORT 2021
Opening Hours for Virtual Connect Exhibition:
1 - 30 NOV 2021 | 10:00AM - 6:00PM
Online Platform
Total Visits:
3,554
Unique Visitor:
1,277 From 29 Countries & Regions
Business Engagement
44,782
TOP 10 COUNTRIES
Malaysia 88.25%
Singapore 3.21%
Philippines 2.19%
Indonesia 1.49%
Australia 0.47%
India 0.47%
Korea, Republic of 0.47%
Thailand 0.38%
Hong Kong S.A.R.,(China) 0.31%
Netherlands 0.31%
TOP 5 VIRTUAL PLATFORM ENGAGEMENT
EXHIBITION HALL
CONFERENCE & WEBINAR
INNOVATION SYMPOSIUM
AI BUSINESS MATCHING
COMMUNITY EXCHANGE
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1 - 30 NOV 2021 | 10:00AM - 6:00PM
Online Platform
ICW AND ASEAN SUPER 8 VIRTUAL CONNECT EXHIBITION HIGHLIGHTS
OPENING CEREMONY & LAUNCHED OF NATIONAL CONSTRUCTION POLICY (NCP) 2030
By Dato' Sri Ismail Sabri bin Yaakob
Prime Minister of Malaysia
WELCOME REMARKS OF ICW & ASEAN SUPER 8 VIRTUAL CONNECT EXHIBITION 2021 BY:
YB DATO' SRI HAJI FADILLAH BIN HAJI YUSOF
Senior Minister
Minister of Works
YB IR. HJ. YUSUF BIN HJ. ABD. WAHAB
Chairman
CIDB Malaysia
DATUK IR. AHMAD' ASRI ABDUL HAMID
Chief Executive
CIDB Malaysia
TAN SRI DATO' SERI PANGLIMA MOHD AZUMI MOHAMED (RTD.)
Co-Chairman
Informa Markets Malaysia Sdn Bhd
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20 Webinar Topics
93 Speakers
INNOVATION SYMPOSIUM
7 Key Pillars
30 Innovation Symposiums
COMMUNITY XCHANGE
8 Community Xchange Discussion Topics with 430 Networking Engagement
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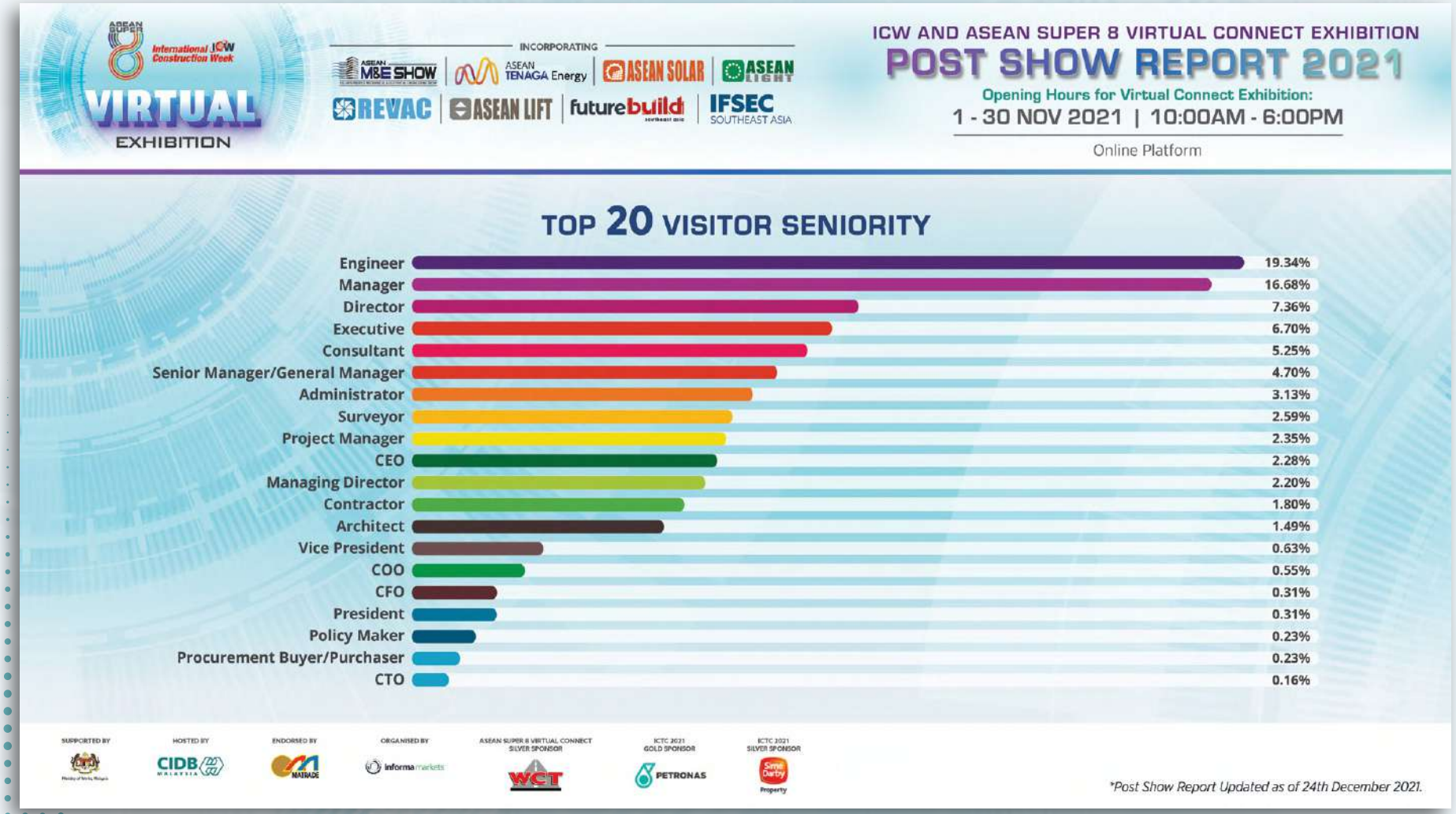
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Opening Hours for Virtual Connect Exhibition:
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TOP 20 VISITOR SENIORITY
Engineer 19.34%
Manager 16.68%
Director 7.36%
Executive 6.70%
Consultant 5.25%
Senior Manager/General Manager 4.70%
Administrator 3.13%
Surveyor 2.59%
Project Manager 2.35%
CEO 2.28%
Managing Director 2.20%
Contractor 1.80%
Architect 1.49%
Vice President 0.63%
COO 0.55%
CFO 0.31%
President 0.31%
Policy Maker 0.23%
Procurement Buyer/Purchaser 0.23%
CTO 0.16%
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POST SHOW REPORT 2021
Opening Hours for Virtual Connect Exhibition:
1 - 30 NOV 2021 | 10:00AM - 6:00PM
Online Platform
TOP 30 INFLUENTIAL VISITOR PROFILES
7.60% Construction Engineering
7.13% Consultant
6.19% Government
5.25% Facility Management
4.93% Government Agency
4.23% Administration
3.21% Building / Property Management
3.13% Business Development
3.12% Security / Loss Prevention / Risk Management
2.96% Sales
2.90% Project Management
2.82% Education / Training
2.11% Business Owner
1.80% Marketing
1.41% Corporate Management
1.41% Electrical
1.41% Senior Management
1.33% Facility / Property Management
1.25% Project Manager / Engineer
1.02% Operation Management
0.94% Maintenance / Quality Control
0.94% Manufacturers
0.94% Technical Management
0.86% Contracting Firm
0.86% Developer
0.78% Energy Management
0.78% Research / Development
0.70% Decision Maker
0.70% Design Department
0.63% Financial Management
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NATIONAL CONSTRUCTION POLICY

DASAR PEMBINAAN NEGARA

2030

NATIONAL CONSTRUCTION POLICY 2030 (NCP 2030)

The NCP 2030 aims to transform the nation's construction sector towards the digitalisation era.

Launched by the Prime Minister at the opening ceremony of ICW 2021 and ASEAN Super 8, the National Construction Policy 2030 (NCP 2030) aims to transform the whole construction sector towards the digitalisation era. Themed 'Digitalising the Construction Sector', the NCP 2030 by the Ministry of Works will drive the country's construction industry towards international recognition and competitiveness. The Policy serves as a key reference and guide for both the public and private construction sectors in achieving inclusive and sustainable national development by 2030.

A CATALYST FOR INFRASTRUCTURE DEVELOPMENT

The NCP 2030, which is based on the Shared Prosperity Vision 2030 (WKB 2030), envisions a developed and sustainable nation with an inclusive economic distribution. In essence, WKB 2030 seeks to accomplish three primary goals: reorganise the economy at all levels of society, reduce inequality, and build the nation.

The NCP 2030 will act as a catalyst for infrastructure development as part of the drive to restructure the economy and alleviate income and wealth inequalities. One of the goals highlighted in this strategy is the empowerment of Bumiputera entrepreneurs and Small and Medium Enterprises (SMEs) to compete with other significant players in the sector.

Furthermore, the Ministry of Works (MoW) aims to empower human resource management through reskilling and upskilling efforts to produce a highly-skilled workforce in domestic and worldwide markets. Through local projects that have won construction service projects abroad, this endeavour will also help professionalise the overseas workers' skills. To safeguard the quality

Figure 1: The objectives of NCP 2030

Figure 2: The 9 Pillars of IR 4.0

and productivity of the construction sector, the MoW scrutinises the hiring of experienced and accredited foreign workers before entering the country's labour market for local projects.

SUPPORTING THE 9 PILLARS OF THE IR 4.0

The NCP 2030 aims to embrace innovation based on the 9 Pillars of IR 4.0 depicted in Figure 2. It will guide stakeholders in adopting emerging technologies, best practices, as well as inclusive and sustainable plans.

The nine pillars are digital technology applications that must be incorporated into each workflow and process of the construction sector for it to be more sustainable and competitive.

The digitisation by IR 4.0 has paved the way for a modern world landscape to overcome its reliance on human resources and prepare for the future of work. Digitalisation impacts the efficiency and effectiveness of operations because it allows for the transformation of analogue information into digital information that is easier to generate, analyse, store, and administer in all areas. This allows digital data to be communicated swiftly, allowing stakeholders to make more informed decisions. The use of technology and automation can help the construction industry become more

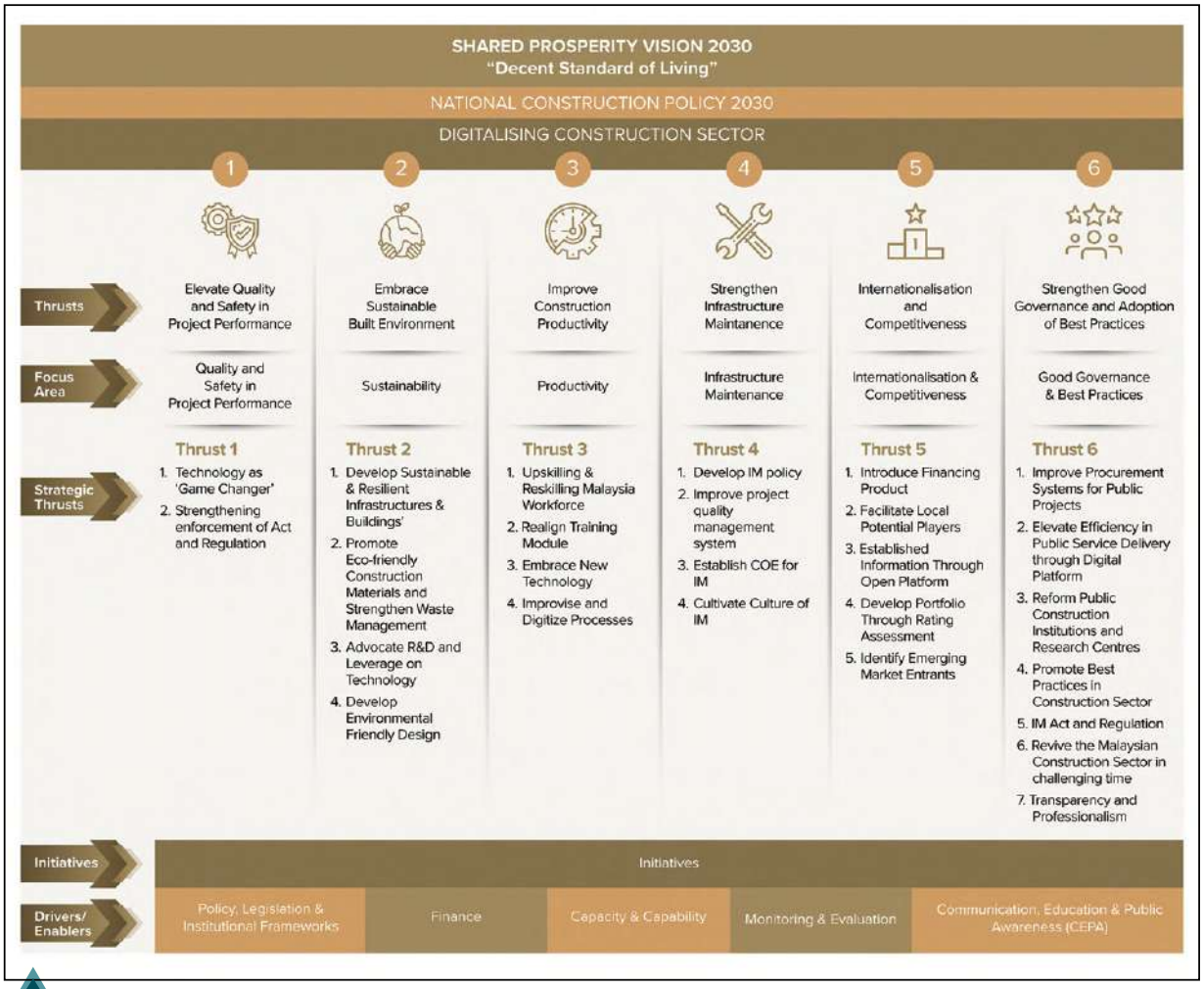


Figure 3: The NCP 2030 Framework

competitive globally by increasing productivity and quality.

Thus, stakeholders and industry players must be conscious about strengthening the construction sector in line with current digital economic needs to achieve the NCP 2030 objectives.

THE NCP 2030 FRAMEWORK

The NCP 2030 is developed to ensure local construction trends evolve with the requirements of IR4.0 and international trends. This will help ensure continued growth and competitiveness regionally and globally.

Through specific policies and initiatives, the NCP framework promotes technology and innovation in the construction sector, such as BIM, IBS, the "Construction Information for Your Convenience" (CONVINCE) portal, and many more.

These measures will position Malaysia's construction industry to become more relevant, competitive, and viable in the IR4.0 era. Expanding markets creates new market opportunities, particularly in the infrastructure maintenance segment. In the next ten years, this segment is predicted to encourage the domestic construction sector to be more active and generate more job opportunities while also establishing itself as a new economic activity for the country.

THE 6 THRUSTS OF NCP 2030

The NCP 2030 Framework lists the six thrusts and associated strategies for achieving the goals of the NCP 2030. (Figure 3).

Trust 1: Strengthen Quality and Safety in Project Performance Across the Construction Sector

This thrust seeks to provide a single, synergistic total project performance

system to increase quality and safety. It aspires to foster efficiency among industry players to prioritise safety management and quality standards as a prerequisite for being relevant and competitive.

Thrust 2: Embrace Sustainable Built Environment

Gas emissions, inefficient waste management, and building sector implementation have a significant environmental impact. Construction waste is a significant problem in the construction sector. To address these issues, MoW focuses on supporting sustainable development across the life cycle of the building sector.

In the face of global change, the construction industry must align its strategy with the SDGs. In all aspects of national construction development, the construction sector can assist the country in meeting its international sustainability commitments.

Thrust 3: Improve Construction Productivity

This push intends to change construction training institutions to develop a supply of knowledgeable and highly competent construction workers. To achieve this specific goal, the MoW plans to alter the image of the construction sector from the 4Ds of Asian neologism: "Dirty", "Dangerous", "Difficult", and "Demeaning" to 1D "Dignified" through technology and skill training.

As a result, the reliance on unskilled foreign workers will be reduced indirectly, while domestic labour supply would be offset, and construction workers will receive higher wages.

Thrust 4: Strengthen Infrastructure Maintenance

The MoW is establishing a holistic chain of construction processes to assist in designing and managing a complete construction cycle in Malaysia, particularly in the long-term management of the built infrastructure that will save costs. This will indirectly increase and expand the value of the infrastructure.

More importantly, the development of the infrastructure maintenance sector will provide an economic boost by creating new opportunities for sector players through infrastructure maintenance capacity building. This comprises training for infrastructure maintenance contracting businesses, employee training, and facility management system certification.

Thrust 5: Strengthening Internationalisation and Competitiveness

There is a growing need for Malaysian companies to maintain dominance in the local market and explore opportunities in global markets. Globalisation and free trade has enabled Malaysian construction companies to compete in a bigger market while remaining competitive domestically.

Local sector operators should be better equipped to meet international standards to increase their local and global competitiveness. The strategies include introducing implementable financing products for international construction projects, establishing accurate, real-time and complete national construction sector information through an integrated and open platform, and encouraging Malaysian construction enterprises to participate in international building projects.

Thrust 6: Strengthening Good Governance and Adoption of Best Practices

Good governance is crucial to delivering the best services to society. Thus, the MoW is committed to ensuring that the construction sector upholds sound governance principles while optimising all resources, including environmental conservation.

Inefficient construction project management has been linked to poor construction quality, delays, cost overruns, inefficiency, and significant environmental damage. Transparency in public procurement is another serious issue in this area.

So the Ministry, through its agencies, tries to improve construction project management through excellent governance and best practices to ensure public and stakeholder satisfaction.

TARGETED OUTCOMES

Under the NCP 2030, the construction sector is targeted to attain five following outcomes in the next 10 years:

1 Technology Adaption and Adoption in the Malaysian Construction Sector

By 2030, at least half of the industry's cycle will achieve digitalisation, including the procurement and monitoring phases. Building Information Modelling (BIM) is expected to automate these two phases fully.

Using BIM will improve the sector's environment by facilitating communications among project team members, including architects, engineers, surveyors, and semi-skilled and unskilled labourers. This

will help with project management and monitoring.

Technology adoption helps reduce project costs while increasing project quality and value. It will also enhance our nation's productivity and reduce reliance on unskilled imported labour while balancing the domestic labour supply. This will enable the economy to transition from a labour-intensive to a knowledge-based economy, leading to a "Dignified" 1D construction sector.

The Construction Industry Transformation Program (CITP) 2016-2020 established QLASSIC and SHASSIC for quality and safety assessments to improve public and private infrastructure projects. Material standards are one of the variables considered to build better and safer infrastructure.

Using BIM technology in infrastructure projects and QLASSIC and SHASSIC evaluation tools allows for continuous quality and safety monitoring. This will improve project management during and after development. Both technology solutions will help the industry boost the value and quality of the said projects and optimise their costs from the start.

2 Steering Towards the Sustainable Development Goals (SDGs) 2030

Through the NCP 2030 strategic thrusts, the Malaysian construction sector is anticipated to align with the SDGs goals depicted below in Figure 4.

Figure 4: Sustainable Development Goals by United Nations

Through the NCP 2030 strategic thrusts, the Malaysian construction sector is anticipated to align with the SDGs goals.

These goals address the present global concerns we face, such as poverty, inequality, climate change, environmental degradation, peace, and justice. Because all 17 goals are interconnected, the NCP2030 is intended to address the SDGs' guiding principle of "leaving no one behind." The Malaysian construction sector will emphasise holistic development to create better and more sustainable development for all.

3 Enriching Shared Prosperity Vision (WKB) 2030

The NCP 2030 aims to achieve all of the WKB 2030 objectives, including development for everyone, resolving wealth and income inequities, and constructing a cohesive, wealthy, and dignified nation.

The NCP 2030 is expected to support the WKB 2030 directed outcomes in terms of:

i. Strengthening the ecosystem of the construction sector;

ii Turning infrastructure maintenance into a new economic activity;

iii. Reinforcing human capital with a skilled workforce in the construction sector through reskilling and upskilling at public and private universities/colleges/ training centres;

iv. Elevating the labour market of the construction sector by upgrading its image, reducing foreign workforce dependency, promoting equality of gender and inclusion of disability groups;

v. Establishing and improving more quality and inclusive infrastructure through proper and structured states development for all levels of the society to increase the index of social wellbeing; and

vi Transforming the public service delivery in the construction sector and its related services that will encourage good governance and best practices in the construction sector in general.

4 Infrastructure Maintenance as a New Focus for Economic Activities

Compared to our neighbour, Singapore, infrastructure maintenance in Malaysia is neither aggressively promoted nor progressing as rapidly. As a result, the NCP 2030 is expected to be aggressive in infrastructure maintenance initiatives, whether public or private. Infrastructure maintenance is estimated to provide at least 30% to 50% of overall infrastructure development. This contribution rate is based on the 100% use of BIM technology and evaluation tools such as QLASSIC and SHASSIC for at least 30% of new projects in Malaysia.

5 Stabilising the Balance of Payment

Since the construction sector plays a vital role in influencing the balance of payment (BoP), the NCP 2030 is expected to stabilise Malaysia's Balance of Payment through the following mechanisms:

i. By boosting the local workforce through reskilling or upskilling and technology adoption, significant improvements are predicted in low-skilled labourers' cash outflow to their home countries. Cash outflows should decrease as reliance on low-skilled foreign labour decreases.

ii. To reduce reliance on imported items and materials by having local manufacturers produce and supply products of greater quality at lower prices using the latest technology. This will promote the use of local products in the construction sector.

iii. Local players must actively participate in local market shares, especially megaprojects. This creates a harmonious economy and stronger market shares, which will help in nation-building and economic growth. The formation of the government equity guarantee and other financial aid mechanisms and foreign collaboration funds also aims to boost the Malaysian construction sector's competitiveness and capabilities in the global market, improving the balance of payments.

iv. Local participants must adapt to and keep up with new technologies. When participating in projects, the contract should clearly state the parameters of knowledge and technology transfer.

FORGING STRATEGIC COLLABORATIONS

As one of the national policies that specialises in the construction sector, NCP 2030 will be supported by other agencies on construction and construction-related services to ensure that its objectives are achieved. The support will be realised through strategic collaborations between agencies, such as technical working groups, inter-agency planning groups and other endeavours.

THE ADOPTION OF TECHNOLOGY IN THE CONSTRUCTION INDUSTRY

In his keynote speech at ICTC 2021, CIDB Chief Executive Datuk Ir. Ahmad 'Asri Abdul Hamid shared why the time to adopt the new construction technologies is now.

The construction industry is an economic driver of both developed and emerging nations. Construction drives job growth and improved productivity as it creates solutions to address social, energy, and environmental challenges worldwide. In the 'Future of Construction' report dated September 2021, Oxford Economics stated that spending on construction accounted for 13% of the global GDP in 2020, and they expect this to reach over 13.5% in 2030.

The construction sector in Malaysia employs 1.2 million people, accounting for 9.5 per cent of the overall workforce. It contributes 4.6 per cent directly to the national economy and has a multiplier effect of 2.03 due to its connections to over 120 different industries, of which 90% of the firms comprise SMEs (Small and Medium Enterprises) (SMEs). Due to the Covid-19 pandemic and the movement control orders enforced, the Malaysian construction industry GDP decreased 19.4 per cent in 2020.

Unfortunately, the construction industry has yet to embrace digitalisation in a significant manner, unlike other industries that had radically adopted new technology to survive during the pandemic.

The construction industry has an average productivity rate that is lower than most other sectors. The reason for this is the limited adoption of new technologies or best practices and the continued reliance on low-income foreign labour. This leads us to believe that improving workforce quality, technology adoption, and business processes in construction can enhance productivity rates.

Governments and stakeholders worldwide realised that change is necessary now more than ever, especially during this pandemic which has revealed the many areas that need our attention. The World Economic Forum established an initiative called the 'Future of Construction', which encourages all stakeholders to collaborate and find innovative solutions towards higher productivity, greater sustainability and enhanced affordability, leading to better build quality at lower costs.

Professor Klaus Schwab, the World Economic Forum's founder and executive chairman, stated that the pandemic represented a rare but limited window of opportunity to reflect, reimagine, and reset our world.

The pandemic has been a huge wake-up call to all of us. Technology must be the primary driver of the industry's ongoing evolution. That is why ICTC 2021 carried the theme 'Impact of Covid-19 Pandemic on Technology Adoption'.

The Malaysian Transformation Roadmap Journey

The construction industry in Malaysia embarked on a transformation process when the Construction Industry Transformation Plan (CITP) was introduced in 2016. The 5-year

The construction industry is an economic driver of both developed and emerging nations.

> *"Construction drives job growth and improved productivity as it creates solutions to address social, energy, and environmental challenges worldwide."*

plan was conceived to transform the Malaysian construction industry into one that is world-class and values productivity, sustainability, and quality by 2020.

The CITP's four strategic thrusts below aim to approach the transformation process holistically:

a. Quality, Safety and Professionalism;
b. Environmental Sustainability;
c. Productivity; and
d. Internationalisation & Competitiveness

The goal was ambitious: to overhaul the entire construction value chain through digitalisation, innovation, and overall quality improvement, supported by industry capacity creation, education, retraining, certification, and more. The ultimate goal is to develop a more world-class culture in the construction sector, ensuring higher levels of quality and productivity, fewer workplace accidents, and a smaller environmental footprint.

I am pleased to report that the CITP achieved a success rate of 90% or more across all its efforts under its four strategic thrusts. After the five-year plan concluded, the general construction workers' productivity increased from RM27,000 per worker in 2014 to RM45,000 in 2020.

Mapping the Way Forward

While the CITP has achieved significant milestones, we want to ensure that the Malaysian construction industry continues to evolve with the times Building on the foundation of CITP, CIDB has launched the Construction Strategy Plan 4.0, a five-year plan to transform the Malaysian construction industry by empowering smart construction for the future society. The vision is for Malaysia to be the region's leader in implementing Construction 4.0.

The four strategic thrusts below will drive the implementation of the Construction Strategy Plan 4.0:

a. Building Capacity
b. Research, Innovation, Commercialisation and Entrepreneurship
c. Smart Integrated Technology, Innovation & Infrastructure
d. Enhanced Business Environment

These will form the ecosystem to foster the necessary changes. The Plan also identifies 12 emerging technologies that will change the face of construction, which are :

a. Building Information Modelling (BIM)
b. Pre-fabrication and Modular Construction
c. Autonomous Construction
d. Augmented Reality & Virtualisation
e. Cloud and Realtime Collaboration
f. 3D Scanning and Photogrammetry
g. Big Data & Predictive Analysis
h. Internet of Things
i. 3D Printing and Additive Manufacturing
j. Advanced building materials
k. Blockchain
l. Artificial Intelligence

The National Construction Policy 2030 will take this even further, focusing on several key areas to bring the construction industry forward. Themed 'Digitising the Construction Sector' NCP 2030 will focus on accelerating technology adoption in all work processes before, during and after construction.

We are particularly interested in supporting the construction industry to adopt cutting-edge construction technologies. Our goal is for the industry to transform how infrastructure, real estate, and other built assets are designed, constructed, operated, and maintained.

Increasing Productivity through the Use of Technology

Adopting such innovations and new technology is required for businesses to remain competitive and deliver

> *"The construction industry has an average productivity rate lower than most other sectors."*

projects on time and within budget. And this shift must occur swiftly and on a large scale.

For the past few years, CIDB has been actively driving the adoption of two major technologies: the Industrialised Building System (IBS) and Building Information Modelling (BIM).

By using IBS, the industry can benefit from shorter project completion timelines and higher work quality, resulting in greater cost-efficiency.

On the other hand, BIM is one of the essential technologies that significantly impact the efficiency of the built environment's full life cycle management. BIM accurately represents the built environment in 3-D on computers, and information sharing among all stakeholders are real-time and comprehensive.

Several steps have been taken to facilitate the adoption of BIM. These include establishing the myBIM Centre as a one-stop resource for reference, support, services, and capacity building. Technical training is held regularly, and partnerships with several universities have been established to train the future generation of construction personnel.

When implemented together, IBS and BIM will effectively transform the construction sector.

IBS and BIM adoption can shorten project completion schedules as well as improve efficiency and build quality

New construction technologies, such as the Internet of Things (IoT), artificial intelligence (AI), augmented reality (AR), 3D printing, and other cutting-edge technologies, represent new opportunities to boost the construction industry's production and efficiency.

Following the goals of the National Construction Plan 2030 and the Construction 4.0 Strategic Plan 2025, CIDB will continue to advocate for the adoption of these technologies in the Malaysian construction industry.

It's Time to Change

The time for change is now. Do we want to go backwards by keeping the same old paradigms and ways of doing things, or do we want to take advantage of all the new technologies available today? Those who hesitate risk being left behind and becoming irrelevant. Let's answer the clarion call for change together to ensure a brighter future for our industry and country.

> *"While the CITP has achieved significant milestones, we want to ensure that the Malaysian construction industry continues to evolve with the times"*

IMPACT OF COVID-19 ON THE CONSTRUCTION INDUSTRY IN ASIA AND WHAT LIES AHEAD

Despite the setback from the pandemic, the predicted growth rates for the three most prominent nations in Asia, China, India and Indonesia, remain positive.

The Covid-19 pandemic has significantly impacted the Asian market, and the construction industry was one of the hardest hit. The sector faced a massive shortage of labour, long lockdown periods, a surge in raw materials prices, a cost increase due to pandemic prevention, and difficulties in adhering to the project schedule.

Nevertheless, the sector has shown remarkable resilience during the worst of the coronavirus pandemic. This resilience is due in large part to efforts by the governments implementing a series of initiatives to aid industry players during the time of crisis, including stimulus efforts and mass vaccinations.

China

As the pandemic's first global epicentre, China's construction

sector experienced its weakest growth in 30 years, expanding by just over 1%. The Chinese construction sector is mainly reliant on rural migrant labourers who returned to their hometowns for the lunar new year celebrations and cannot return to work sites following the lockdown in early 2020. More than 54 million people were affected, and progress on construction projects was severely hampered.

Nevertheless, in less than two weeks, China accomplished an astounding construction feat in February 2020 by constructing two facilities in the pandemic's core, Wuhan, to isolate and treat COVID-19 patients. The two-storey buildings, mostly made of prefabricated rooms and components, were called "instant hospitals." On 3 February, the 1,000-bed Huoshenshan Hospital (meaning Fire God Mountain) opened its doors. Five days later, a sister hospital, Leishenshan (which means Thunder God Mountain), opened with an additional 1,500 beds. They were officially closed on 15 April 2020 due to the nation's successful efforts to combat Covid-19.

> *"As the pandemic's first global epicentre, China's construction sector experienced its weakest growth in 30 years, expanding by just over 1%."*

Significant government stimulus efforts in China, mainly focused on infrastructure, have seen construction activity rebound in 2021 and will support efforts in 2022.

These efforts include the Chinese government granting requests for extensions of time (EOT) to project completion dates. The government made a conscious effort to strike a balance between the employer and the contractor, with each party sharing losses, liabilities, and costs ensuing from the pandemic.

But over the medium-term, as forecast by Oxford Economics in the 'Future of Construction - A Global Forecast for Construction to 2030' report, less emphasis will be placed on infrastructure projects, and more attention will be placed on developing non-residential real estate investment.

The government has signalled that infrastructure spending is less important by issuing fewer local government special bonds for infrastructure spending. This is part of a broader movement in China's economy, as the country shifts away from its former growth model, which emphasised heavy industry, infrastructure and investment, and toward consumer-led growth. This will result in additional construction in the nonresidential sector, such as

Leishenshan Hospital at Wuhan

> *"Significant government stimulus efforts in China, mainly focused on infrastructure, have seen construction activity rebound in 2021 and will support efforts in 2022."*

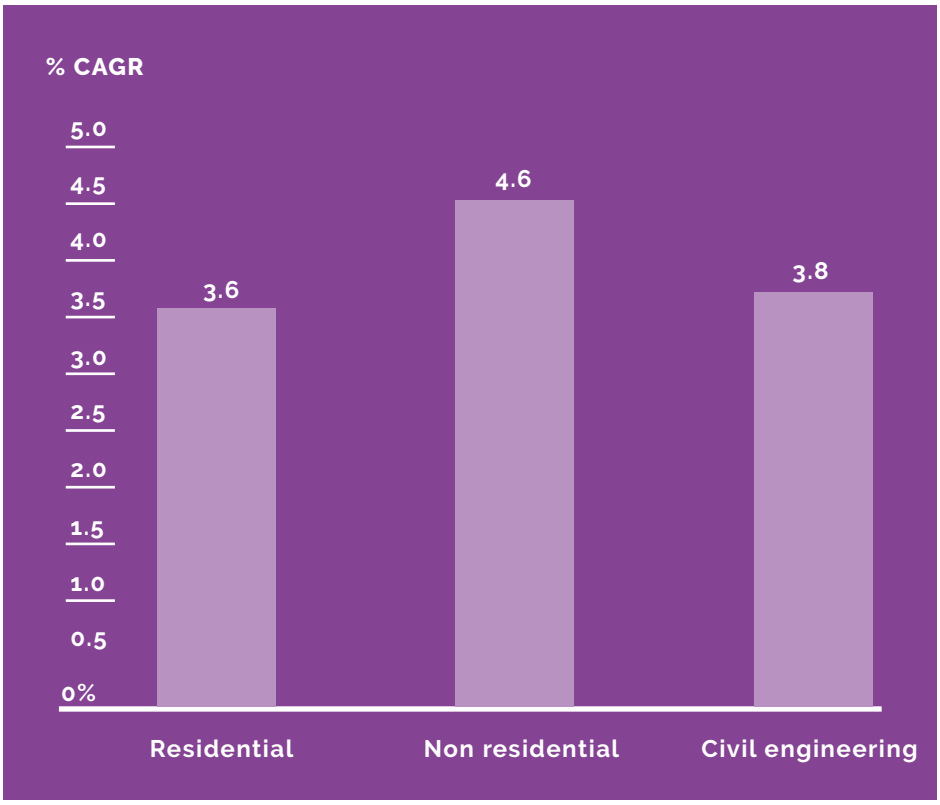


Figure 1: Growth in Chinese construction 2020-2030 (Source: Oxford Economics/ Haver Analytics)

retail, entertainment, health, and education buildings. The relatively high vacancy rates in Chinese office and business space, on the other hand, will put a damper on new commercial buildings.

Residential construction in China is expected to continue to be essential. But there won't be a repeat of the incredible surge in new home-building that supported China's population urbanisation. However, there will be a substantial amount of renovation and maintenance work to perform to support the mass of housing blocks erected across China over the past 20 years, often to poor building standards.

China's growth would progressively decrease in the long run as the country's economic status matures. The double-digit growth surge in construction seen in the 2000s will not be repeated. However, there will be construction opportunities in some of China's emerging first-tier cities and special economic zones that will maintain construction growth. Over the next five years, Oxford Economics forecast construction to grow 3% to 5%.

In June 2020, China's Ministry of Foreign Affairs said that 30%–40% of Belt Road Initiative (BRI) projects were impacted by the pandemic, while a further 20% had been seriously affected. According to numerous media outlets, during 2020, several BRI projects were paused to allow countries affected to focus on the spread of the pandemic. In recent months, a number of these projects have been restarted.

India

According to India's Construction Industry Development Council (CIDC), the pandemic caused the overall output of the construction industry to decrease by about 11%. This was mainly because the workers and other staff members have temporarily returned to their home cities.

The Indian government extended the time of completion for projects, and the pandemic impact was declared as force majeure.

Many rural infrastructures were built by returning workers in their local areas, aided by the Prime Minister's housing and toilets schemes. The government's welfare scheme for jobless rural employees has benefited more than 40 million workers.

The Indian construction industry is now returning to normalcy. CIDC observed that even during the pandemic, many major worksites in India experienced high productivity due to improved transportation and reduced political interference.

Oxford Economics reports that the industry will have two central drivers: demand for new homes and huge infrastructure needs over the next decade. The need for new infrastructure is directly tied to the country's growth trajectory. As the

> *"Even during the pandemic, many major worksites in India experienced high productivity due to improved transportation and reduced political interference."*

Indian economy grows, the demand for new transportation infrastructure, electricity grids, and utility works will become increasingly important. Government land changes are seeking to make large-scale infrastructure projects easier to implement, but such reforms are proving tough to enact.

Strong population growth and the requirement for additional housing for India's increasing urban middle class are driving demand for new homes. Strong urbanisation trends would fuel significant demand for new residential dwellings. At around 35%, India remains one of the world's least urbanised countries. In comparison to China, population urbanisation was 35% in 2000; in the 20 years following, construction growth has averaged more than 10% each year.

"Strong population growth and the requirement for additional housing for India's increasing urban middle class are driving demand for new homes.."

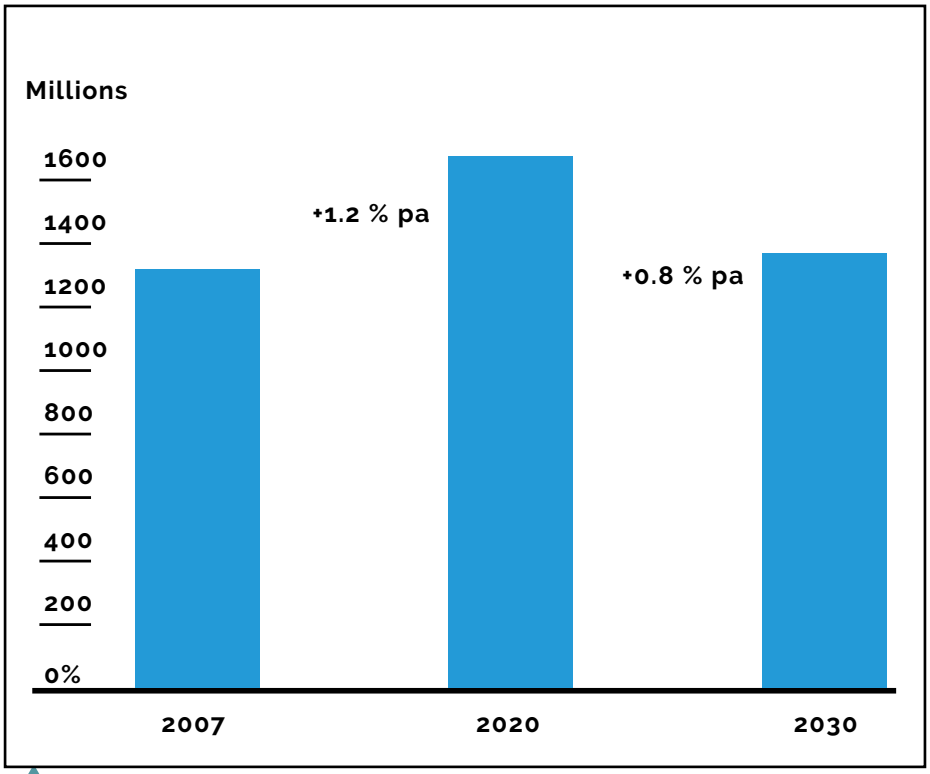


Figure 2: Population in India (Source: Oxford Economics/Haver Analytics)

It is tempting to compare India to China around 20 years ago, but such a comparison should be approached with caution. The decentralised nature of Indian democratic politics makes it far more difficult for a reforming government in Delhi to enact new changes, as evidenced with the GST bill and attempts at land reform. This was certainly not the situation in China, where a highly centralised, authoritarian government system made big reforms relatively straightforward to implement. As a result, Oxford Economics expects that Indian construction will increase at a rate of 7% to 8% per year, as compared to the double-digit growth experienced by China during its construction boom over the last 25 years.

Indonesia

Indonesia accounts for over 40% of ASEAN's economy and population, and investors are particularly drawn to the country's robust economic growth and resiliency.

The construction industry has been viewed as the bedrock of Indonesia's economic and social progress and is one of the country's top 5 largest economic drivers. According to GlobalData's Construction in Vietnam 2019 report, Indonesia's construction sector grew at a 5.8% annual rate in 2019 and was predicted to continue growing through 2021 – 2024.

Unfortunately, due to the pandemic, it fell to 2.9% in Q1 2020, -5.39% in Q2 2020, and -5.67% in Q5, before registering its first 12-month positive growth at 4.42% in Q2 2021.

> *"That the Indonesian government initially earmarked nearly half of the 2021 budget to infrastructure development but was compelled to reallocate funding for healthcare."*

Fitch Solutions Country Risk and Industry Research reported that the Indonesian government initially earmarked nearly half of the 2021 budget to infrastructure development but was compelled to reallocate funding for healthcare. According to Fitch, the country's construction recovery is "primarily dependent" on government infrastructure expenditure.

Fitch also reported that more than half of construction contracts are allocated to Indonesian state-owned enterprises (SOEs), which are involved in most major infrastructure projects, such as the Patimban Deep-Sea Port in West Java and work on the Jakarta Mass Rapid Transit System.

In the midst of Indonesia's infrastructure boom, these SOEs have amassed massive debts and are under increasing financial strain, resulting in delays and cash flow issues.

This has been hampered further by a spike in construction material prices throughout 2021, which Fitch expects to normalise by 2022.

Significantly, three years after the enactment of Law No. 2 of 2017 on Construction Services (Construction Law), the Indonesian government finally passed the Construction Law implementing regulations (Government Regulation No.22 of 2020 on Implementing Law No.2 of 2017 on Construction Services (GR 22/2020)), which took effect on 23 April 2020.

GR 22/2020 attempts to clarify certain aspects of the Construction Law, notably 12 specific issues listed in the Construction Law that will be governed further by their separate government regulations. These modifications cover, among other things, the scope of "Construction Services User," limitations on construction consultancy business activities, construction services classifications and subclassifications, market segmentation, construction work contracts, and dispute resolution.

Indonesia's construction outlook remains bright, buoyed by infrastructure projects and the recently announced new capital city in East Kalimantan. The plan to relocate the capital, which was supposed to begin in 2021, has been postponed until 2022 or 2023. The construction of a state palace, as well as upgrades to airports, harbours, and access roads, will be among the new-capital projects postponed.

The Indonesian government approved a budget of IDR2.7 quadrillion (US$190.1 billion) for 2022 in September 2021, with IDR1.9 quadrillion (US$133.8 billion) allotted for central government spending and IDR770 trillion (US$54.2 billion) allocated for regional administration spending. Simultaneously, the government announced plans in the budget to allocate IDR384.8 trillion (US$27.1 billion) to the infrastructure sector.

According to GlobalData, the industry is predicted to increase at a 6.1 percent annual rate between 2022 and 2025, thanks to investments in the 2020-2024 National Medium-Term Development Plan (RPJMN). The government intends to create numerous transportation infrastructure projects as part of the plan to promote economic growth. During the period, the government intends to build 2,500 km of new toll roads, 3,000 km of new national roads, 38,726 km of bridges, and 31,053 km of flyovers and underpasses. The industry's output over the forecast period will also be boosted by the Electricity

> *"Indonesia's construction outlook remains bright, buoyed by infrastructure projects and the recently announced new capital city in East Kalimantan.*

Procurement Plan (RUPTL) 2021-2030, under which the government expects to add 40.6GW of extra capacity by 2030, 4.7GW of which will be solar, and 51.6 percent of the capacity will be from renewable sources.

Continued investment growth, combined with healthy consumer spending amid a rapidly increasing middle class and favourable business environments, will bolster Indonesian construction. East Kalimantan offers a substantial possibility for construction, particularly near the end of the projected period. However, downside risks to Indonesia's short-term development are related with the global economy's increasingly gloomy outlook amid intensifying US-China trade tensions, which could impact the construction sector.

Outlook for Malaysia

Closer to home, Oxford Economics expects that the Malaysian construction sector would remain subdued in the short term, despite the government's revival of several large infrastructure projects including the East Coast Rail Link (ECRL) and LRT3. The sluggish property market, driven by a huge number of unsold private dwellings amid poor housing demand and excessive office vacancies, continues to push down construction investment. Nonetheless, Oxford Economics anticipates a surge in the second half of the projected period as excess capacity is gradually consumed despite fairly respectable economic growth. Furthermore, Malaysia's favourable demographics will support long-term growth, notably in the housing sector.

Future Growth

According to Oxford Economics, growth will be concentrated in a small number of countries between 2020 and 2030. China will account for 26.1% of world growth on its own. India is predicted to account for 14.1% of global growth, while Indonesia is expected to account for 7.0%.

Global construction output is expected to be 35% higher in the next decade to 2030 than in the previous decade to 2020. In the decade to 2030, construction output is expected to total US$135 trillion.

Infrastructure is expected to be the fastest-growing construction industry between now and 2030. Oxford Economics forecasts 5.1% annual growth in infrastructure construction output globally from 2020 to 2025, driven by record levels of government stimulus and the acceleration of pipelines of global mega infrastructure projects.

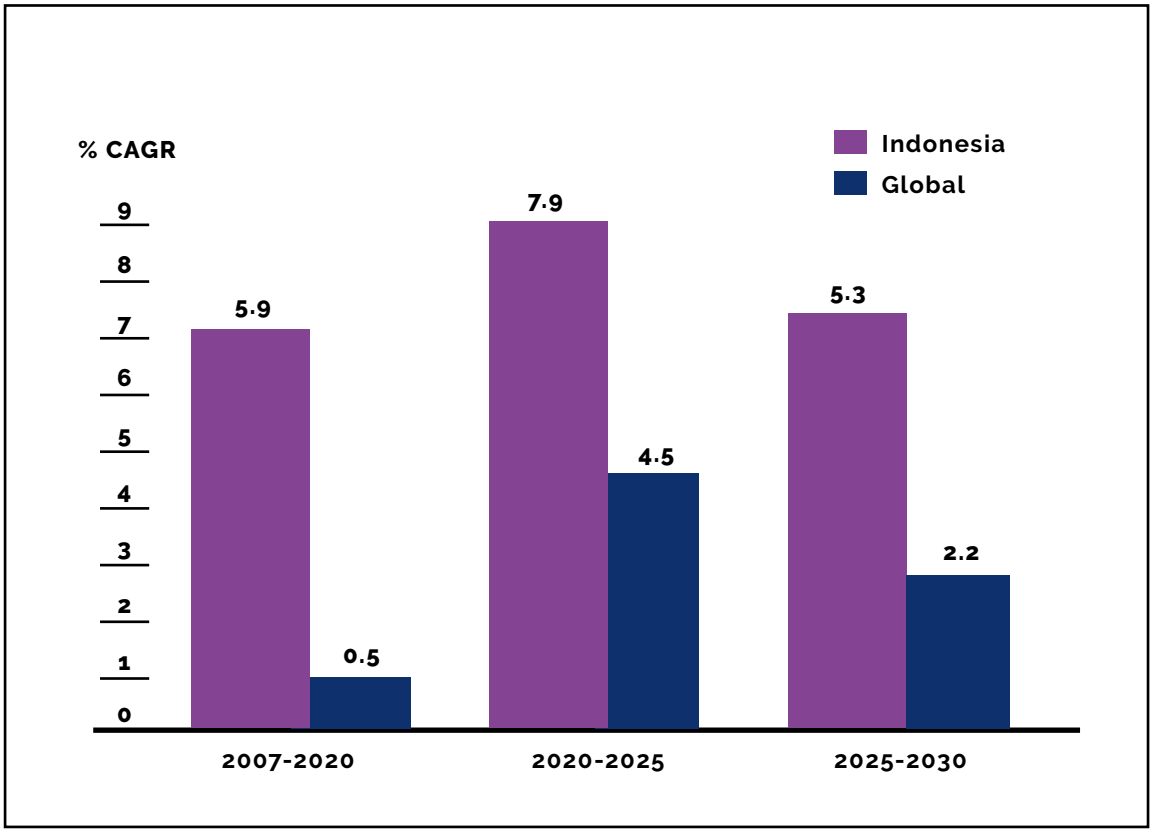


Figure 3: Construction growth in Indonesia (Source: Oxford Economics/ Haver Analytics)

RESHAPING THE FUTURE OF WORK

As the risks Covid-19 pose continue to evolve, renowned real estate & investment group Lendlease, is embracing flexibility in reshaping the future of work while building on the lessons and practises executed during the crisis on The Exchange TRX project.

> *"Stopping a project of that scale is akin to trying to turn a large ship when you are mid-stream."*

Lendlease is a global real estate and investment firm focusing on transforming cities and building strong, connected communities. They are headquartered in Sydney and have offices in Europe, the Americas, and Asia.

The Exchange TRX is Lendlease's largest integrated development in Asia, which is set to open in phases between 2021 and 2025. When completed, it will consist of six buildings of apartments, offices, and a hotel, with 3,800 residential units and a workforce of 45,000.

Many will flock to The Exchange TRX because it is also intentionally built as an unrivalled shopping destination with over 500 experience stores to energise the entire district. Its 1.3 million square feet of next-generation retail space will contain a 10-acre rooftop park, likely to be a world first.

The onslaught of the Covid-19 pandemic has undoubtedly brought about unprecedented business challenges to this ambitious project. "The two Full Movement Control Orders imposed by the Malaysian government as part of their mitigation efforts resulted in full shutdown of our project site at The Exchange TRX from 17 Mar to 29 May 2020 and 2 June to 18 July 2021," said Stuart Mendel, Managing Director of Lendlease Corporation, in his presentation at ICW 2021's Navigating Work, Workforce, Worksite forum.

The project had about 3,000 construction workers and 300 management staff. "Stopping a project of that scale is akin to trying to turn a large ship when you are mid-stream. It's not an easy thing to do," he lamented.

He admitted that the past two years had been a roller coaster ride, but things are looking up as the project is approaching pre-pandemic productivity levels. "The determining factors in our decision to return to work were mainly considerations of life and health, as well as the anticipation and mitigation of risks," he said. Ultimately, the group's goal is to ensure that their workforce feels safe and secure so that together, they can navigate the complexities of the new normal.

Return to Work Plan

There are four pillars in Lendlease's Return to Work Plan:

1. **Plan** - Develop a work plan to address key areas of concern and appropriate controls.

   Throughout the temporary site closures, the team was kept busy inspecting all areas for physical changes and safety deficiencies since the shutdown.

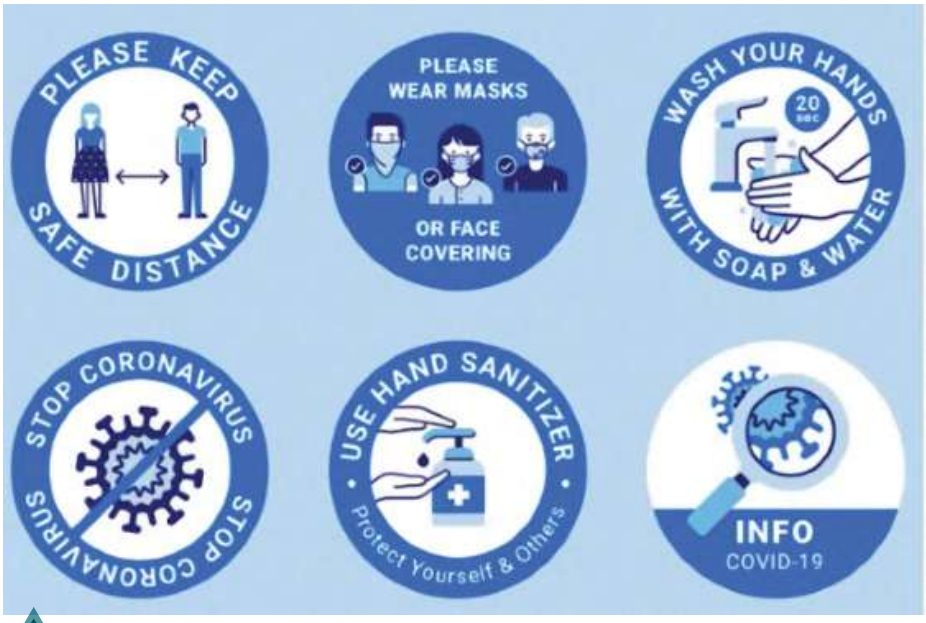
   Planning and preparation work was also critical. A lot of effort was spent understanding the latest government advice, interpreting the advice, developing responses and requirements to that advice, and implementing it all.

2. **Action** - A Covid-19 ready health and safety action plan for recommencing works.

   A dedicated emergency response team was established to ensure all Lendlease employees and contractors understand how to operate under the new norm and fully comply with the government SOPs.

   Stringent onsite health and safety protocols were also established, including health declaration of workers before arriving at the worksite, phased approach to entry and break times, thermal scanners at entrances, hygiene and PPE

> *"The group's goal is to ensure that their workforce feels safe and secure so that together, they can navigate the complexities of the new normal."*



Covid-19 prevention measures

requirements, onsite medical support and supervision over the site and workers' welfare.

Their site personnel management plan includes a system to track the health status of workers, regular swab tets, manage workers' movements and regular training on safety and hygiene practices. RELA personnel are also onsite as an additional resource to monitor site personnel.

The dedicated site workers accommodation is designed to reduce the mixing of workers, and dedicated transport is provided to ferry workers from the accommodation to the worksites.

3. **Training** - Ensure adequate training before recommencement and ongoing on-the-job training to reinforce safety protocols.

   The training pillar includes compulsory health and safety reinductions for all site personnel before recommencing work, including a re-sit of Lendlease Safety Passport Training, enhanced Covid-19 training, and ongoing training at the worksite to reinforce full requirements and expectations of the return to work process, among others.

4. **Health** - Ensure worker health and safety amid the ongoing pandemic.

   The health pillar includes regular health screenings, vaccination for all personnel, cleaning and disinfecting protocols, and hygiene facilities such as enhanced air quality via air purifiers and maintaining the air-conditioning units as per DOSH's guidelines.

> *"To date, about 90% of our workforce are fully vaccinated. It is a challenge to reach 100% due to the turnover rate of workers."*

"To date, about 90% of our workforce are fully vaccinated. It is a challenge to reach 100% due to the turnover rate of workers," Mendel commented.

Technology & Innovation

According to Mendel, Lendlease integrates digital technology and processes through every aspect of project delivery, from design and construction to commissioning and operation, to ensure their construction sites achieve higher productivity and quality with safety always at its core.

The group implemented digital solutions that increase efficiency, coordination and productivity, such as the Biometric Authentication System (BAS-EPSS) by Intercorp Solutions that helps track the manpower timeline, personnel onsite and monitor the hours worked (Fatigue Management) with a focus on plant/ machinery operations. The Permit to Work system by Novade takes the hassle out of managing work permits for inspection and enables immediate corrective action. The Delivery Management System by Voyage Control allows efficiency in scheduling deliveries and managing traffic onsite to reduce the risk of congestion.

> *"The CCTV footage from more than 60 CCTV cameras is a fantastic resource to run meetings and do deep dives on issues and challenges to understand what happened rather than relying on peoples' memories and their interpretations of what happened."*

Lendlease also employs sophisticated surveillance and AI technology for construction planning and execution safety and precision.

The cherry on top is the TRX Live Construction Dashboard by Inventrix, which provides an integrated screen display for the biometric authentication system, manpower timeline, drone images, live CCTV footage, EHS performance indicator and planning tracker.

The CCTV Surveillance system by HIKVISION underpins site supervision and safety through frame-by-frame evidence. "The CCTV footage from more than 60 CCTV cameras is a fantastic resource to run meetings and do deep dives on issues and challenges to understand what happened rather than relying on peoples' memories and their interpretations of what happened," enthused Mendel.

The Drone System is vital for project reviews, identifying issues and site planning. Combined with the live cameras, drone footage is a valuable planning tool for identifying risks and mitigation measures. "Combining drone footage with BIM images for upcoming works has enabled the site team to avoid clashes and reduce safety risks," Mendel said.

With 14 tower cranes on the project, the Tower Crane AI by Asunder is a lifesaver as it enables the supervision of the tower crane lifting. The AI system's capabilities in machine learning and identification of the frequency of lifts are invaluable for safety and production purposes.

There is also preemptive software consisting of real-time monitoring and notification systems to trigger warning alerts for quick remedial action. The Tower Crane Anti-Collision software gives the crane operators real-time monitoring and collision warning. Also invaluable in emergencies are the Nurse Call System, Smoke and CO_2 Detector System by iAlert, which launches a trigger warning via Telegram to allow immediate evacuation.

Employee Wellbeing

A firm believer that their workforce deserves to thrive, Lendlease has established a health and wellbeing framework that takes a holistic approach to care for their people.

The extensive programmes include mental health training and apps, professional counselling services for workers and their dependents, mental wellness claims, wellbeing leave, among others.

As a bonus, a 20ft Connecting Families Cabin is specially designed and installed at The Exchange TRX project site. It provides comfortable seating and high-speed internet connectivity to enable workers to connect with their families during their free time.

"Everything I've shared here is replicable, but it requires a huge commitment, determination and resilience from the team to use the tools and improve upon them as the pandemic continues to evolve," Mendel concluded.

INFOGRAPHIC 1: 4 Keys to a Successful Implementation of Covid-19 Prevention Measures

(Source: Malaysian Society for Occupational Safety & Health Practitioners' Association (MOSHPA))

INFOGRAPHIC 2: Mandatory Testing

(Source: MOSHPA)

- Bi-weekly RTK test for all workers, including management staff.
- New workers and visitors must provide PCR test results (latest three days prior) before entering the site.
- RTK test will be conducted on a trade by trade basis.
- Only those with negative results will be allowed to go to the worksite.
- The infected person will be placed in an isolated room near the test area, and the person's MySejahtera app must be updated immediately.
- If one person in a trade is infected, the people within the same trade will be quarantined and sent for the PCR test.

INFOGRAPHIC 3: Recommended Daily Routine Checklist for Covid-19 Prevention

(Source: MOSHPA)

TIME	AGENDA	LOCATION	ACTION BY
07:00 - 07:30	Site sanitisation (First time)	Canteen, CLQ, Site Offices, PH, Surau and Toilet	Safety
07:30 - 08:00	Upon arrival at site for start work: - a) Taking body temperature b) Scan for MySejahtera app QR code c) Vehicle sanitization d) Montior temperature record (Normal temp: 36.0° - 37.5°)	Entrance at Gate 2	All, temp. monitored by Safety
07:30 - 08:30	All staffs and workers must perform the following: - a) Face detector and body temperature scanning b) Monitor temperature record (Normal temp: 36.0° - 37.5°)	GF Face Scanning Machine	All
08:30 - 09:30	Check workers at CLQ who are on leave / MC: - a) List of workers on leave / MC with full name, dorm no., company name, body temperature reading and time b) Monitor temperature record (Normal temp: 36.0° - 37.5°)	CLQ	Safety, 5S
14:00 - 14:30	Site sanitisation (Second time)	Canteen, CLQ, Site Offices, PH, Surau and Toilet	Safety
17:00 - onwards	Upon leaving site: - a) Taking body temperature b) Monitor temperature record (Normal temp: 36.0° - 37.5°)	Entrance at Gate 2	All, temp. monitored by Safety
18:00 - 18:30	Site sanitisation (Third time)	Canteen, CLQ, Site Offices, PH, Surau and Toilet	Safety
19:00 - 19:30	All workers OT must do face scanning: - a) Taking body temperature b) Monitor temperature record (Normal temp: 36.0° - 37.5°)	GF Face Scanning Machine	All OT workers, Safety

WHY HOUSING IS STILL OUT OF REACH FOR MANY

The rise in the cost of building materials has a multiplier effect on the industry, resulting in increased housing prices.

There is an imbalance of housing supply and affordability in the nation that must be addressed. Image credit: Vecteezy.com

In the years before the pandemic, the Malaysian property market has been imbalanced in terms of supply and demand, with demand outpacing supply, particularly for low-cost homes. Homeownership became unaffordable for many people after the outbreak of the pandemic due to a combination of lower income, job loss and a sluggish economy.

According to Khazanah Research Institute's (KRI) most recent housing report, "little has improved to make homes affordable between 2002 and 2016."

Background research for the National Housing Policy (2018–2025) revealed that prices for homes have continued to grow, with the market median house price reaching RM188,000 in 2016, up from RM165,000 just two years prior. Newly launched housing units priced below RM200,000 accounted for fewer than 20% of total units released during the same time. In Q2 2020, the average price of a house is RM427,882, doubling from the median price a decade prior.

Q/ Year	Q1 2010	Q2 2010	Q1 2020	Q2 2020p
Index Point	97.2	100.4	199.7	198.3
Average Price	RM209,763	RM216,561	RM430,786	RM427,882

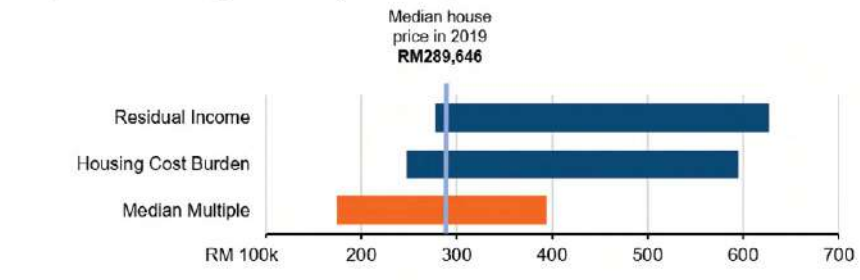
Figure 1: Malaysian House Price Index (MHPI) Comparison for 2010 and 2020 (Source: National Property Information Centre (NAPIC))

> *"For the past 10 years, a shortage of manpower supply has been cited as the primary reason for skyrocketing property prices."*

It is painfully evident that the housing supply does not match the demand. In her presentation at ICW 2021, Dr. Suraya Ismail of Khazanah Research Institute stated that in 2019, the affordable median house price for Malaysia was RM211,428 (3x median annual household income). "Yet, newly launched housing units priced below RM200k made up only 15.7% of total new launches in 2020. In contrast, houses supplied above RM500k made up 24.6% of total new launches in 2020," she said.

Looking at Figure 2 below, the maximum price for an affordable home for the M40 under the Residual Income and Housing Cost Burden approach is 50% more expensive than the maximum price for the median multiple estimate. Most notably, when compared to the actual median house price for 2019, the price range for affordable homes under the RI and HCB skews to the right showing a glaring imbalance of housing supply and affordability.

Comparison of housing affordability measures, 2019



Affordability Indicator	Price range (RM)
M40 Income level	4,850 - 10,959
Residual Income	277,502 – 349,321
Housing Cost Burden	247,500 - 347,323
Median Multiple	174,600 - 219,924

Note:
1. The household income range for M40 is RM4,850 – RM10,959
2. Estimates are based on interest rate of 4.25% and 35-year loan tenure.
Source: NAPIC (2020), DOS (2020), KRI calculations

Figure 2: Comparison of housing affordability measures, 2019 (Source: Khazanah Research Institute)

Factors Contributing to a Drop in Affordable Housing

In his presentation at the ICW 2021 workshop, Sr. Nazir Muhamad Nor, Vice President of QS Royal Institution of Surveyors Malaysia, shared the reasons behind the reduction in affordable housing. "First, the Malaysia My Second Home (MM2H) scheme, which was designed to attract wealthy expats, resulted in a surge of building for properties priced half a million ringgits or higher," he said.

"Second, developers shifted their focus to the higher-end market in the hopes of profiting from the nearly five-year-long property boom."

The third main reason, said Nazir, was that developers resisted newer technologies, preferring to rely on time-consuming and labour-intensive construction methods. "For the past 10 years, a shortage of manpower supply has been cited as the primary reason for skyrocketing property prices."

Property Overhang

The drop in affordable housing is one of the major contributing factors towards property overhang. The National Property Information Centre (NAPIC) defines overhang "as residential units which have received Certificate of Completion and Compliance (CCC) but remained unsold for more than nine months after launch".

Another factor of property overhang could also be the oversupply of housing stocks, which has surpassed the market's absorptivity limit. Every market has an absorptivity limit, which

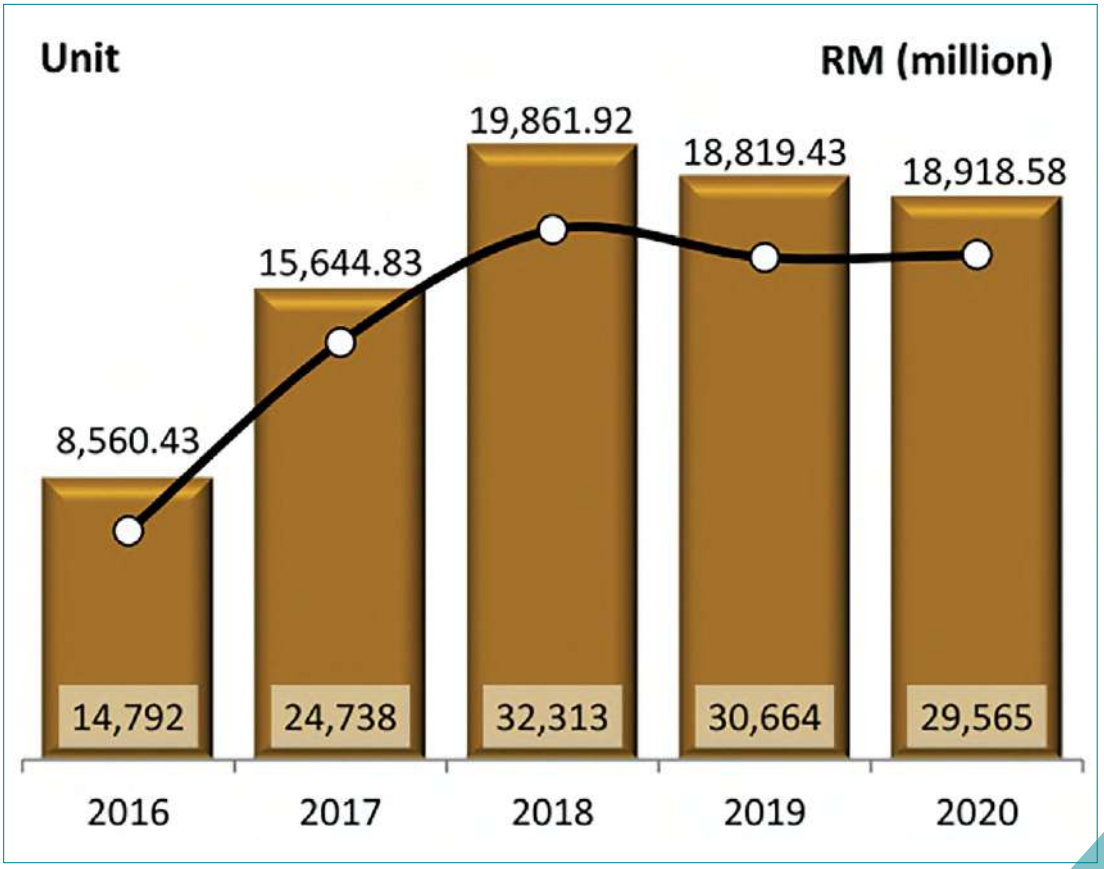


Figure 3: Overhang of residential houses from 2016 - 2020 (Source: NAPIC)

> *"Residential property overhang is not simply a concern for developers; it also imposes social costs on homebuyers and the community in which the overhang units are located."*

may be determined by examining the take-up rate of new launches at different locations.

Residential property overhang is not simply a concern for developers; it also imposes social costs on homebuyers and the community in which the overhang units are located. As a result, it is critical to address and reconsider some of the policies and mechanisms in place to solve the overhang issue, including availing more affordable housing to the masses.

House Prices & Supply

Nazir added that many factors affect the cost of building a house, including land, building materials, professionals, permits, and legal fees. All these contribute to the overall house price.

The cost composition of building a house is depicted in Figure 4:

The Rising Cost of Building Materials

The rising building material costs in Malaysia is the combined result of multiple factors:

- Import restrictions on specific construction materials
- Long-term development plans
- Economic conditions and the confidence of investors
- The increase in petrol/diesel prices and electricity tariffs
- Government policies
- The imposition of a goods and services tax

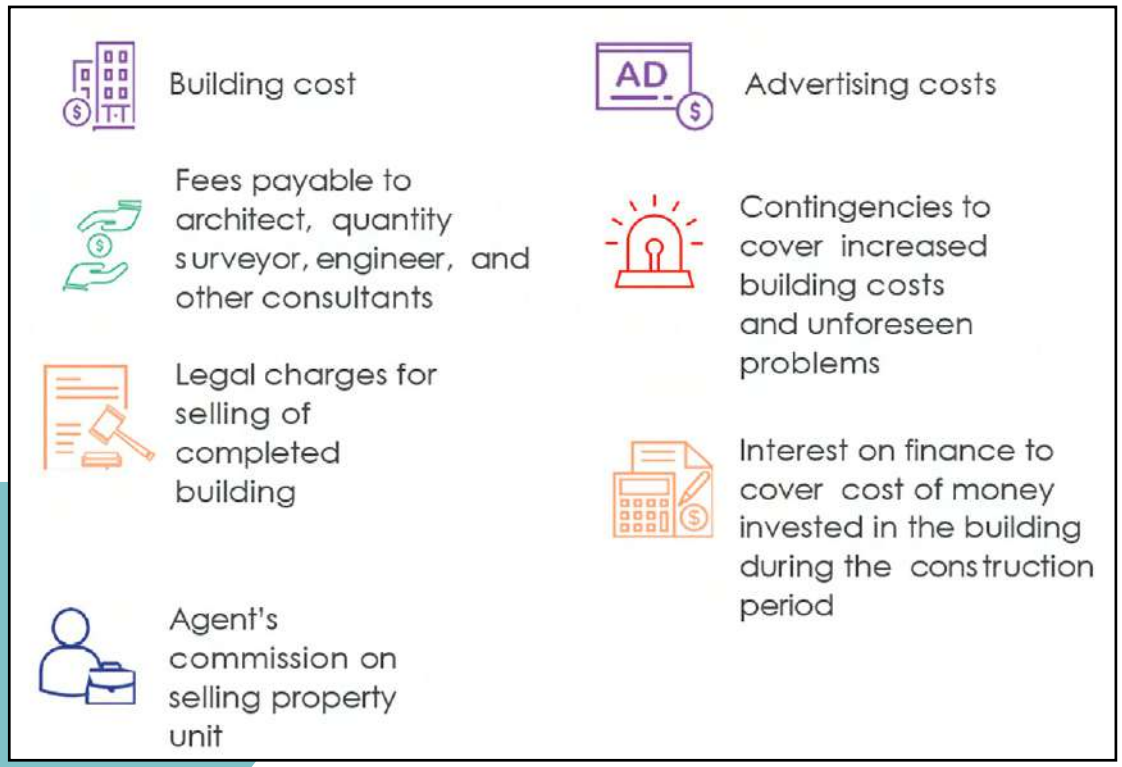


Figure 4: Costs of building a house

- Housing and property policies such as the property gains tax, the restriction on foreign purchase on the affordable housing programme
- The interest rate (BLR)
- Supply and demand in the property market

Then there are the factors affecting residential building prices. These include the land acquisition policy and conversion process, land costs, construction materials and labour costs, enhanced security features, petrol/ diesel prices, and electricity tariffs due to the rationalisation of fuel subsidies.

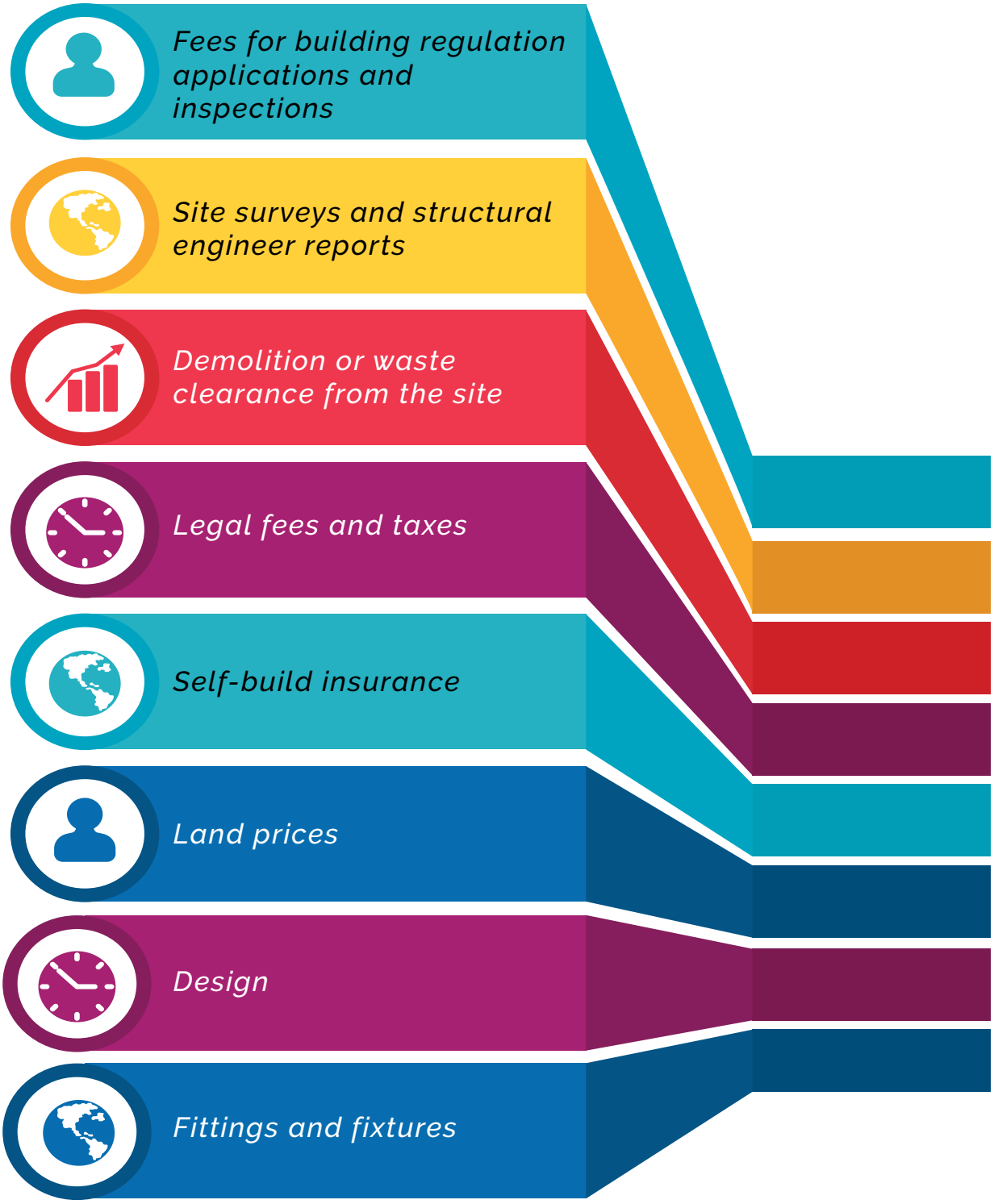


Figure 5: Hidden costs of building a house

> *"Increases in building material prices have a multiplier effect on the industry because they cause fluctuations in construction costs."*

Amid the pandemic, building material prices have risen in tandem with labour shortages and wage increases. These additional costs would be borne by the contractors who are responsible for their workers.

Cost increases were caused, among other factors, by factory closures during the MCO period. This hampered factory operations, especially those that manufacture building materials, and, as a result, impacted project execution.

To counteract the rise in material costs, the government implemented the variation of price (VOP) facility for government projects, which was in force from 1 January to 31 December last year. Although the VOP did not apply to commercial projects, the government encouraged private clients to reimburse the cost increase.

However, as the economy recovers with more companies being allowed to operate through the National Recovery Plan, the Ministry of Works anticipates that subsequent production of materials could stabilise prices.

Implications of Building Materials Cost Increase

Nazir noted that increases in building material prices have a multiplier effect on the industry because they cause fluctuations in construction costs.

The primary cause of cost overruns is that most contractors quote prices based on projected estimates; however, prices fluctuate so quickly that the initial budget calculations become completely unrealistic. This leads to contractors' cash flow and financial difficulties, which are either passed down to house buyers or result in project abandonment.

Other potential consequences of rising costs include project work delays, low construction worker employment rates, poor workmanship resulting from poor-quality materials, and the reluctance to adopt advanced construction technologies.

The latter consequence has a severe impact on the industry. Construction companies have a social responsibility to train their staff, maintain workers' health and safety, and invest in continuous improvement in technology and management. However, the rise in the building materials costs have slashed profit margins and adversely affected innovations in constructions methods and material research.

Nazir surmised that a 5% rise in material price results in a 2% increase in gross development costs (GDC), a 10% increase in material price results in a 3% increase in GDC, and a 15% increase in material price results in a 5% increase in GDC.

He concluded that the increase in building materials costs would impact the overall cost of the development, which later translates to a higher cost of selling price by developers.

"However, the increase can always be checked, and developers should give a more competitive pricing and cap it at a 5% increase of the gross development price," Nazir suggested at the conclusion of his presentation. If left unchecked, the ramifications could have a negative impact on the nation's gross domestic product (GDP).

> *"The rise in the building materials costs have slashed profit margins and adversely affected innovations in constructions methods and material research."*

CASE COMMENTARY ON SIME DARBY ENERGY SDN BHD V RZH SETIA JAYA SDN BHD

By Janice Tay (Partner), Ooi Chih-wen (Associate) and Feisan Villana Minin (Chambering Pupil) from Wong & Partners

This article examines a recent Court of Appeal case, Sime Darby Energy Sdn Bhd v RZH Setia Jaya Sdn Bhd [2021] 9 CLJ 880, and provides practical advice on what to do when an Adjudication Decision is obtained against a non-paying party.

> *"The fact that a statutory notice was served and there was no settlement of the debt claim, RZH would be deemed incapable of settling its debts."*

Where an unpaid / claimant party has obtained an adjudication decision in its favour, that party may seek to wind up the non-paying party / respondent based on the adjudication decision (Likas Bay Precinct Sdn Bhd v. Bina Puri Sdn Bhd [2019] 3 CLJ 499; [2019] 3 MLJ 244). Nevertheless, a Fortuna injunction may be issued to restrain the presentation of the winding-up petition (ASM Development (KL) Sdn Bhd v Econpile (M) Sdn Bhd [2021] 8 MLJ 99), and an applicant must show that[1] the:

i) the proposed winding-up petition has no success in fact or law, i.e. there is a bona fide dispute of the debt on substantial grounds so that the presentation of the petition would be tantamount to an abuse of process;

ii) the presentation of the winding-up petition might produce irreparable damage to the company.

As regards what a "disputed" claim is, case law has not been clear:

i) On one hand, the Court in ASM Development took the view that an adjudication decision is disputable, given that it is of temporal finality (i.e. can be overturned in court / arbitration);

ii) On the other hand, the Court in Maju Holdings Sdn Bhd v Spring Energy Sdn Bhd [2021] 8 MLJ 275 took the opposite view.

The recent Court of Appeal case in Sime Darby Energy Sdn Bhd v RZH Setia Jaya Sdn Bhd [2021] 9 CLJ 880 weighs in on this matter and provides some valuable views, which are summarised below. In so doing, the Court affirmed the settled position of law in Likas Bay that a winding-up petition may be brought based on an adjudication decision.

Sime Darby

Sime Darby Energy Solutions Sdn Bhd ("**Sime Darby**") had commenced and was subsequently partly successful in CIPAA adjudication proceedings against RZH Setia Jaya Sdn Bhd ("**RZH**") for the amount RM 1,806,538.76 ("**adjudication decision**"). Sime Darby applied to register the adjudication decision as a court judgment, whereas RZH applied to set aside the adjudication decision and referred the dispute to arbitration.

At the same time, Sime Darby attempted to wind up RZH. Sime Darby served on RZH a statutory notice under Section 466 Companies Act 2016 ("**CA 2016**") demanding the amount under the adjudication decision failing which a winding-up petition would be issued. In response, RZH applied for a Fortuna injunction against Sime Darby to restrain the latter from filing or continuing any winding up petition against RZH. RZH contended that the debt was bona fide disputed and had a cross-claim against Sime Darby.

High Court

The High Court granted the Fortuna injunction on the basis that RZH had a bona fide claim for Liquidated Ascertained Damages against Sime Darby. The High Court found that an adjudication decision should be considered disputable in the context of winding up proceedings on the basis it has temporal finality under CIPAA.

Court of Appeal

The Court of Appeal overturned the High Court's decision. In doing so, the Court found as follows:

1. An adjudication decision can form the basis for a winding-up notice or petition unless it is set aside. This follows the Court of Appeal's decision in Likas Bay.
2. An unproven cross-claim cannot be the basis for restraining the presentation of a winding-up petition based on a valid and enforceable adjudication decision. In this case, the Court found it pertinent that:
   a. RZH had admitted the debt in the payment response. Accordingly, the debt is not bona fide disputed.
   b. RZH had also not commenced arbitration proceedings when its application for an injunction was brought.
   c. The High Court did not ascertain whether RZH had commenced an action in court/ arbitration for the purported cross-claim when the Court found that the cross-claim had merits.
3. Whether or not the unsuccessful party has a bona fide cross-claim on merits to challenge the winding-up petition is a matter to be adjudged by the winding-up Court.

> *"Take any statutory notices under Section 466 Companies Act 2016 seriously"*

4. In terms of solvency and by virtue of s.466(1) of the CA 2016, the fact that a statutory notice was served and there was no settlement of the debt claim, RZH would be deemed incapable of settling its debts. Even if a company is shown to be solvent, this, on its own, cannot ordinarily justify a Fortuna injunction.

    a. The Court scrutinised RZH's financial standing and noted that it did not produce its latest audited accounts and bank statement to its detriment, as this shows its lack of financial capacity.

5. The conduct of a party in moving the Court for an injunction is a material and vital factor in determining whether the injunction ought to be allowed.

    a. Here, RZH did not act timeously as the challenges to the Adjudication Decision (i.e. the setting aside and stay application) were made 14 days following receipt of the decision. In contrast, the notice of arbitration was made seven months later. This was not consistent with RZH's stance that it would suffer irreparable loss should the injunction not be granted.

Practical Dos and Don'ts

Where an Adjudication Decision has been obtained against a non-paying party, and the non-paying party intends to challenge this, one must be prepared to do the following:

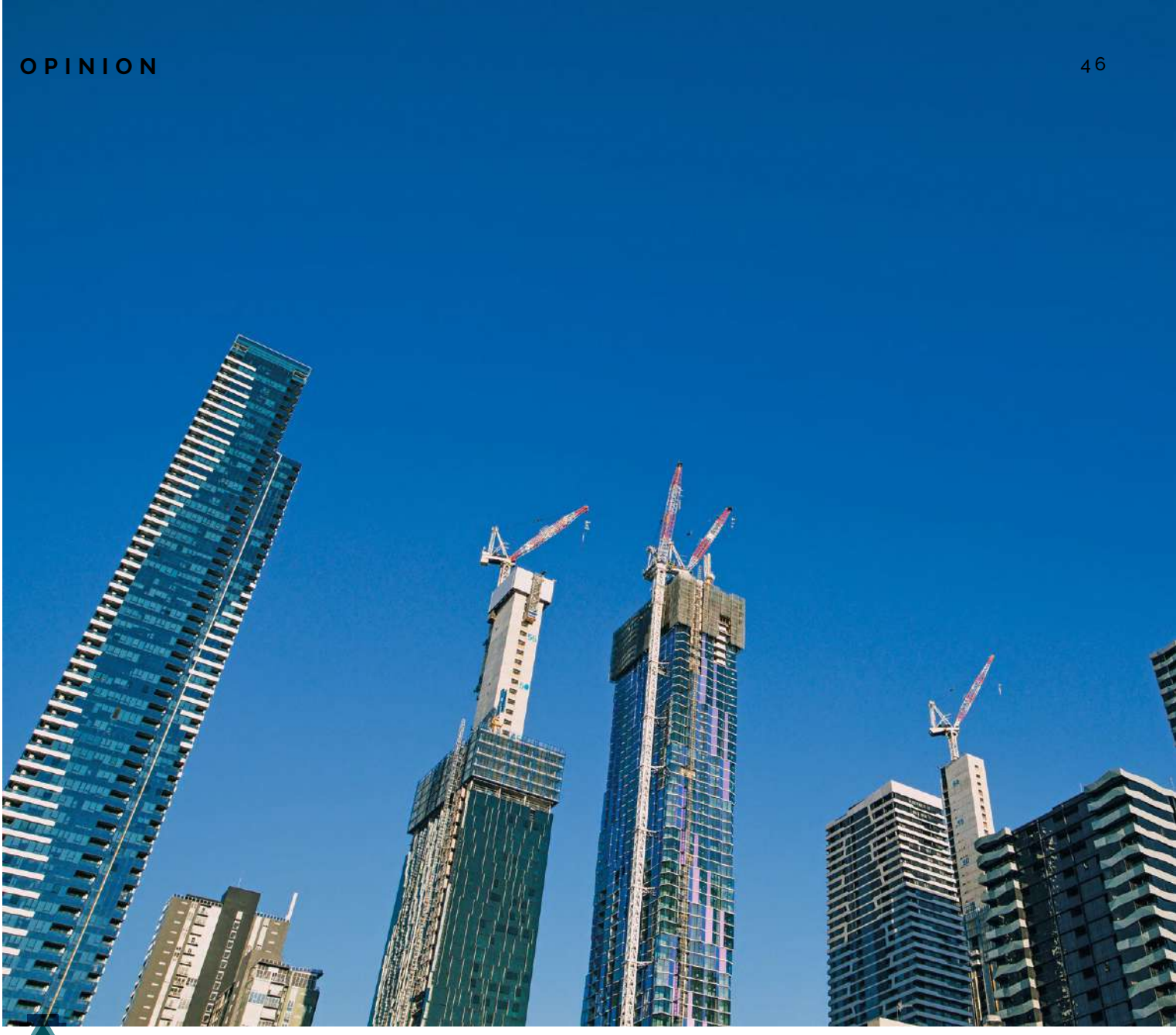
1. Take any statutory notices under Section 466 Companies Act 2016 seriously. Be prepared to receive one (check service at registered addresses or business addresses) and take note of the indicated timelines.
2. Act timeously to challenge an Adjudication Decision. File the applications to set aside and/or stay the Adjudication Decision. Issue/ file Court proceedings and/ or arbitration notices without delay.
3. Establish a substantial cross-claim to obtain a Fortuna injunction against the presentation of a winding-up petition. This cross-claim should at least reduce the adjudication decision sum to below the statutory minimum for the presentation of a winding-up petition, i.e. RM 50,000.00[2].
4. Take note of any admissions of debt that may prejudice the application for a Fortuna injunction.
5. Check one's public records of finances (e.g. company search results) as this may give rise to perceptions of insolvency.

[1] *Bina Puri Construction Sdn Bhd v Capriform Builders Sdn Bhd [2020] 1 LNS 50*

Mobikom Sdn Bhd v Inmiss Communications Sdn Bhd [2007] 3 CLJ 295

About Wong & Partners

Wong & Partners is a Malaysian law firm dedicated to providing solution-oriented legal services to its clients. As a member firm of Baker McKenzie International, we bring a unique combination of local knowledge and global experience to every matter. Since its establishment in 1998, Wong & Partners has grown steadily to establish a strong presence in the Malaysian legal industry. 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. The Firm's lawyers are committed to helping clients apply industry-specific, innovative and practical solutions.



Construction site at Barangaroo - Sydney, Australia

CONSTRUCTION INDUSTRY IN AUSTRALIA IS EXPECTED TO DECLINE

Australia is one of the few countries that has successfully contained the coronavirus outbreak. However, the prolonged lockdown, labour and material shortages have slowed growth, particularly in the major construction sectors.

By MATRADE's insight

According to the Australian Housing Industry Association (HIA), the current development boom will peak in mid-2022. It voiced concern in its most recent outlook that the approximately 33% increase in building projects since 2019 will have an impact on the industry's sustainability.

> *"Despite an oversupply of work, increased supplier costs and delays caused by lockdowns meant that many in the industry were losing money."*

The forecasts come as builders' associations cautioned that the present rate of construction was concealing shortages that were destroying potential earnings. Even if borders open, there are fears that two years of limited population growth will substantially impact the business.

According to the analysis, homes took twice as long to build during the pandemic and national construction boom, and while lockdowns created a challenge, they were not a significant source of the delays. Instead, the core difficulties were rising prices and timelines due to labour and material shortages.

The government's HomeBuilder Program, which gave grants of up to USD25,000 for construction and home improvement projects, has fuelled demand. As a result, the time required to construct a home has risen substantially, from seven to nine months to twelve months or more.

> *"The present rate of construction was concealing shortages that were destroying potential earnings."*

The Way Forward

According to the HIA, new constructions will fall to 125,030 in the 2019 fiscal year as the industry begins to suffer the effects of two years of poor population growth, increased building prices, and the ending of the HomeBuilder Programme.

The Association of Professional Builders expressed similar concerns, noting that despite an oversupply of work, increased supplier costs and delays caused by lockdowns meant that many in the industry were losing money. According to the Association, up to 60% of operators were losing money due to excess demand, causing shortages, which eroded net profits.

For further information and enquiries, please contact MATRADE Melbourne at ***melbourne@matrade.gov.my***.

Note 1:
This article is based on Market Alert (MA) prepared by MATRADE Melbourne, and the information is correct at the time of the writing (26 December 2021).

Note 2:
The MA is available in MyExport, which can be accessed at *www.matrade.gov.my*

MITEC, the largest exhibition centre in Southeast Asia

MALAYSIA INTERNATIONAL TRADE & EXHIBITION CENTRE (MITEC)

The timeless structure houses 11 world-class exhibition halls designed to attract visitors from around the globe.

MITEC's design is inspired by the rubber seed and songket motif.

Touted as Southeast Asia's largest exhibition centre, MITEC is a dazzling, sculptural, and sophisticated structure that sprawls across a 13.1-acre plot near Dutamas. The exhibition centre, which opened in 2016, is the first phase of Naza TTDI Sdn Bhd's RM20 billion KL Metropolis development, encompassing 75.5 acres.

The exhibition centre, made of glass and aluminium, has three levels of 11 modular-designed halls and a total exhibition space of one million square feet, with a capacity of 40,000 people. With its curving façade and pillarless interiors, it is destined to become one of the city's most iconic landmarks.

According to Ar. Hud Bakar, Principal and Director of RSP Architects, and the designer for MITEC, the design is unique and specific for the site.

That said, MITEC's stately and elliptical design is inspired by the humble rubber seed, which pays tribute to Malaysia's fundamental and age-old rubber industry. "MITEC is essentially a government agency with the mission of exporting goods and services. Rubber was (and still is) a major source of revenue for our country, so I thought it would be appropriate to utilise it as a point of reference and inspiration," said Hud.

The rubber seed allusion is expressed in an abstract and modern way.

Given the shape of the rubber seed, it appears like a giant pod. Each floor may also be partitioned into three halls to be utilised separately. The floor may bear a load of a maximum of 5 ton/sq. m. of machinery or vehicle weight. This complies with contemporary functions and needs of trade shows, motor shows, expositions, festivals or fairs.

> *"Ultimately, we want visitors to be enthralled and perhaps be bewildered by it all, thinking how it came about and what building this is."*

In addition to the tribute to the rubber industry, which marked Malaysia's modern economic transformation, the façade of the building also included an impression of local traditional craft. "The diamond-like pattern on the façade is derived from the weaving motif of *songket*," Hud commented. It is fused into the design scheme to portray a sense of local identity.

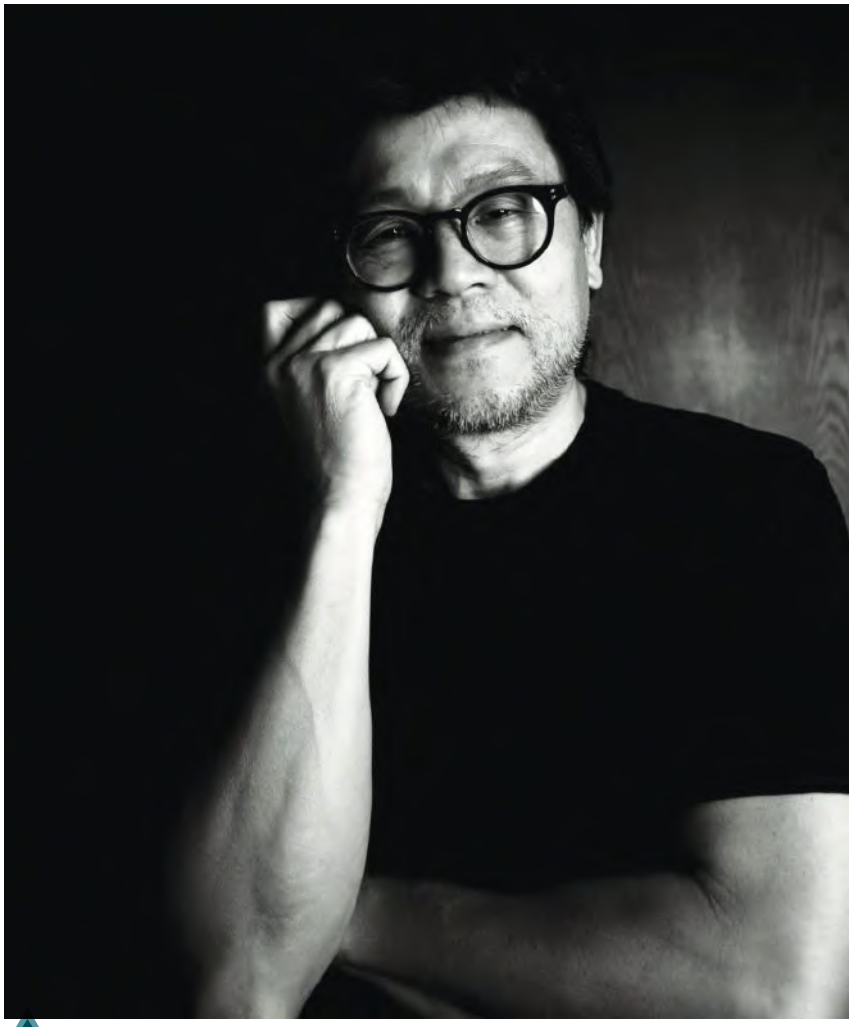
MITEC provides an approximately 30-60 meters wide and 9-12 meters height of 12,530 sq. m. column-free space with a clear ceiling. "Additionally, the dynamic and massive three double volume floors are not something one could get in just about any other building. Simply put, it offers state-of-the-art facilities in an aerodynamic structure."

The triangular stretch membrane ceiling, expanded metal screens, low e-glass for the facade, external concaved glass wall-support on vertical (M/S box sections behind the glass lines), aluminium expanded wire mesh cladding, glazed façade with diamond-shaped expression supported by Steel Diagrid, and steel bow truss are just a few of the materials used. They all contributed to the development of the majestic and elliptical structure.

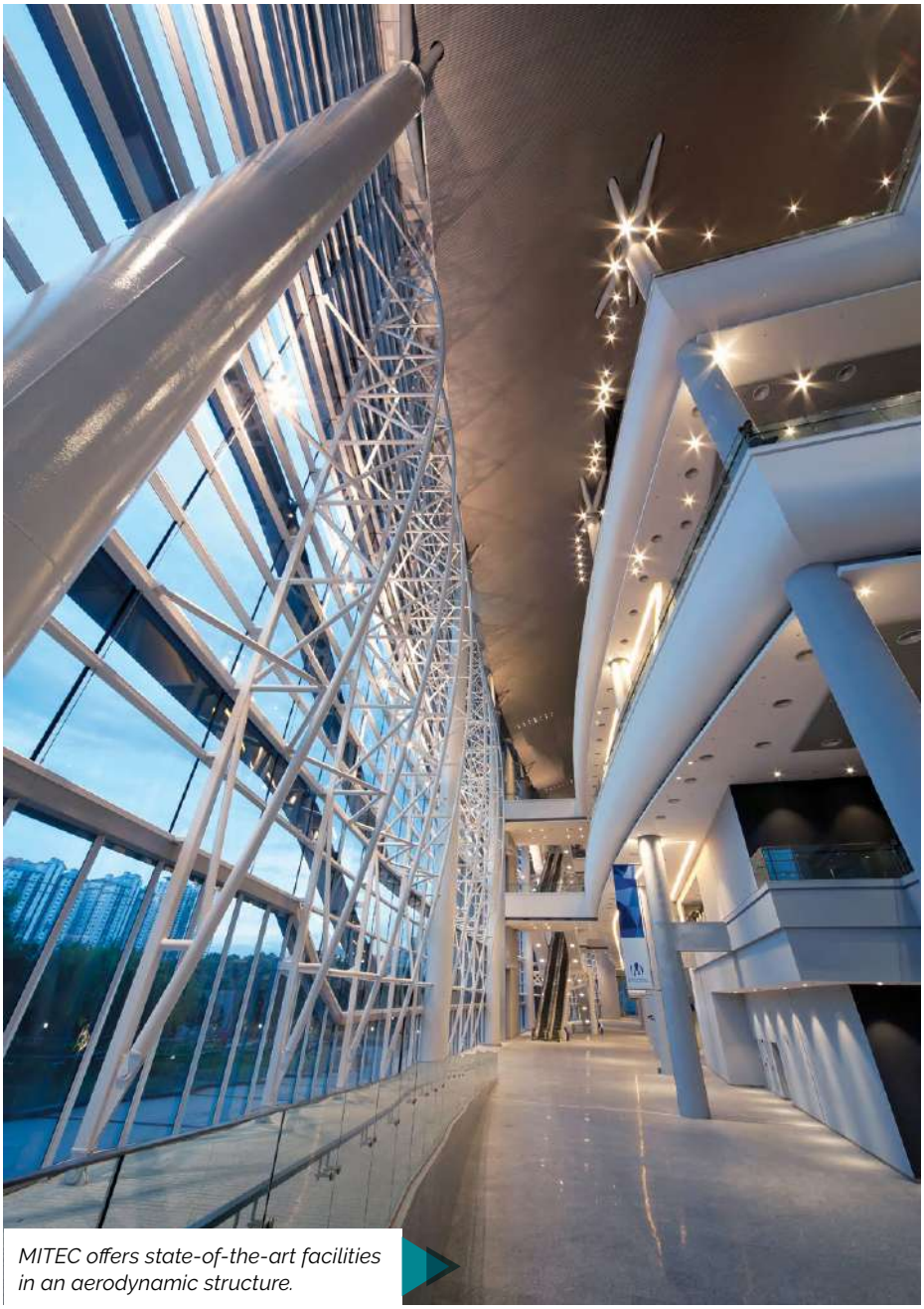
"To me, the interesting part is the main roof which combined various acoustic and non-acoustic thermal insulation components," quipped Hud. The design is made up of 20,700 ACP panel components. Because of the curvature of the roofing form, each diamond-patterned panel is unique. The built-up system is composed of layers. The metal deck comes first, followed by the rock wool insulation, fibre cement board, Sika Sarnafil membrane, and the Alucobond ACP panels.

"Ultimately, we want visitors to be enthralled and perhaps be bewildered by it all, thinking how it came about and what building this is," he added.

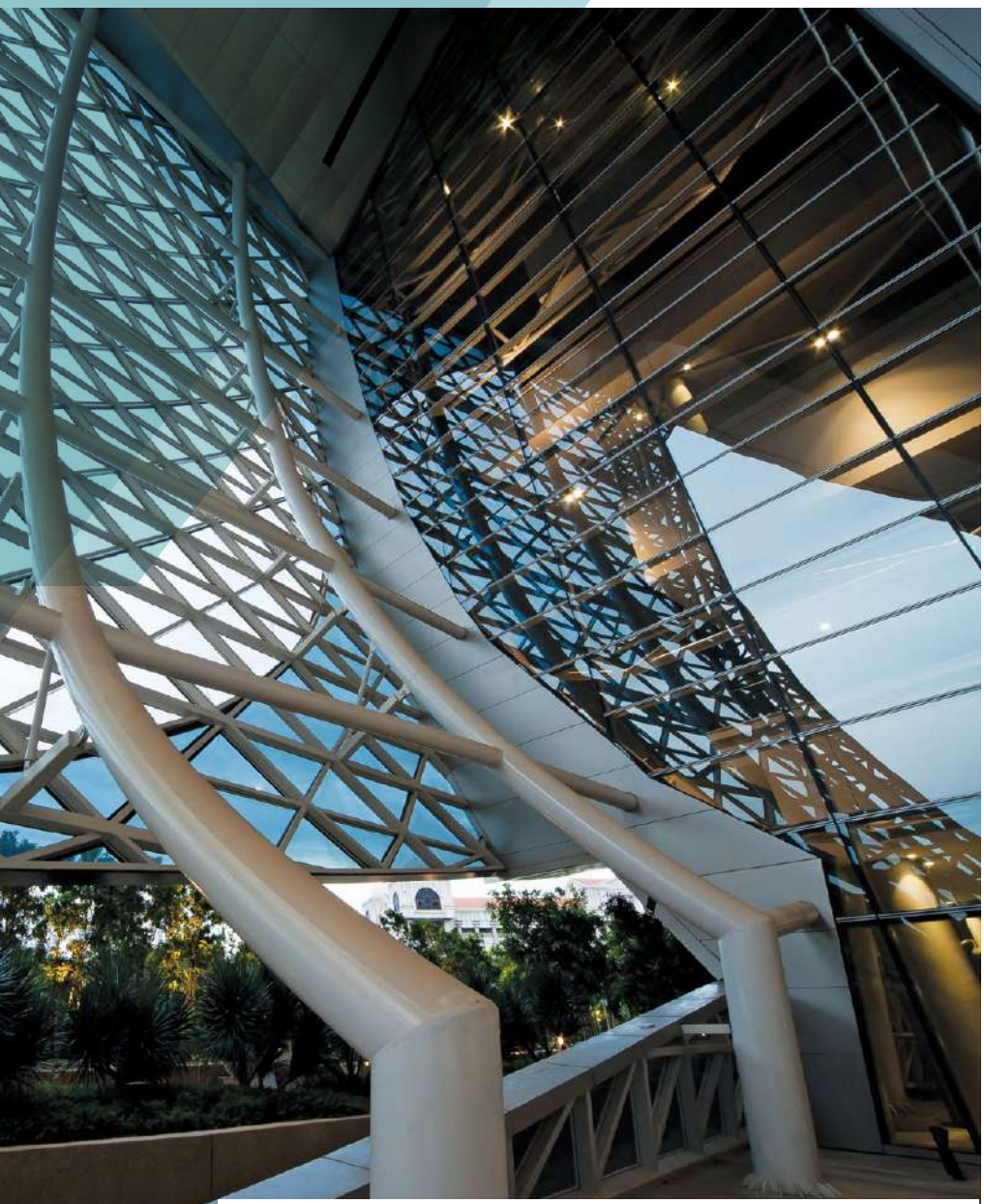
They say Rome was not built in a day, which rings true for MITEC. The design and build efforts took a total of seven years and six months. The schematic design phase spanned from June to



Ar. Hud Bakar, Principal and Director of RSP Architects



MITEC offers state-of-the-art facilities in an aerodynamic structure.



The unusual shape, non-ordinary rectangular building structure and extensive magnitude of MITEC posed unique challenges to Hud and his team.

December 2010. The design development phase took place from January to September 2011. The contract documentation took six months to complete, from October 2011 to April 2012. The bulk of the effort lay in the construction phase, where the earthworks took six months from July to November 2012, and the construction of the main building took four years from December 2012 to December 2016.

The challenges, said Hud, came from the form and size of the project itself due to its unusual shape, non-ordinary rectangular building structure and extensive magnitude. "We overcame it through various solutions derived from technical research and findings, architectural software, as well as study visits to other similar buildings in Guangzhou and Hong Kong," Hud concluded. "The most important thing is teamwork, envisioning and working towards the end goal."

PROJECT DETAILS:

Client: **Ministry of International Trade and Industry (MITI)**

Design Commencement: **June 2010**

Construction Commencement: **December 2012**

Completion: **December 2016**

Land area: **13.1-acre**

Built area: **1,000,000 sq. ft**.

Developer: **TTDI KL Metropolis Sdn. Bhd**.

Contractor: **Daewoo Engineering & Construction Co. Ltd.**

Designer & Architect: **RSP Architects Kuala Lumpur**

Submitting Architect: **NRY Architect Sdn. Bhd.**

Interior Designer: **ACID Kuala Lumpur**

CIDB INTRODUCES CIDB ENFORCEMENT BADGE TO PREVENT IMPERSONATION & FRAUD

CIDB warns contractors to be cautious of anyone impersonating CIDB Malaysia enforcement personnel.

CIDB Malaysia recently introduced the CIDB enforcement badge that are carried by appointed enforcement officers. The badge prevents acts of impersonation or fraud.

CIDB Malaysia Chief Executive, Datuk Ir. Ahmad 'Asri Abdul Hamid, handed over the badge to CIDB enforcement officers at the Chief Executive's Mandate Ceremony Year 2022. In addition to the badge, enforcement personnel were given CIDB Authority Cards with security elements to prevent the authority cards from being forged or transferred.

Only those who possess the CIDB enforcement badge and authority card can conduct enforcement work at construction sites under Act 520.

Construction industry players, especially contractors, are urged to be cautious and not be deceived by any individual claiming to be a CIDB enforcement officer. They must be especially vigilant if the purported enforcer asks for cash to settle compound payments for offences related to construction works. All compound payments must be made at the CIDB office or state branch.

Contractors who receive visits from suspected imposters are advised to take note of the impostor's information such as full name, phone number, and office address and report the issue to CIDB immediately.

Datuk' Asri showing the CIDB enforcement badge

> *"Only those who possess the CIDB enforcement badge and authority card can conduct enforcement work at construction sites under Act 520."*

FOR MORE INFORMATION, PLEASE GET IN TOUCH WITH CIDB CARELINE AT 03-5567 3300

CIDB ENFORCEMENT IN NUMBERS

FROM 1 JANUARY TO 31 DECEMBER 2021

ENFORCEMENT OF ACT 520

SITE INSPECTIONS	INTEGRATED ENFORCEMENT WITH OTHER AGENCIES (OPB)	SPECIAL OPERATIONS (OPK)
6,035	31	108

ACTIONS TAKEN

NOTICES ISSUED	INVESTIGATION PAPERS OPENED	PENALTIES ISSUED	DISCIPLINARY PROCEEDINGS	WARNINGS ISSUED
8,276	1,601	126	26	69

CONTRACTOR REGISTRATIONS SUSPENDED	CONTRACTOR REGISTRATIONS CANCELLED	CONTRACTOR REGISTRATIONS RETRACTED
1	0	15

CIDB ENFORCEMENT IN NUMBERS

FROM 1 TO 28 FEBRUARY 2022

ENFORCEMENT OF ACT 520

SITE INSPECTIONS	INTEGRATED ENFORCEMENT WITH OTHER AGENCIES (OPB)	SPECIAL OPERATIONS (OPK)
764	1	32

ACTIONS TAKEN

NOTICES ISSUED	INVESTIGATION PAPERS OPENED	PENALTIES ISSUED	DISCIPLINARY PROCEEDINGS	WARNINGS ISSUED
1,026	343	48	6	7

CONTRACTOR REGISTRATIONS SUSPENDED	CONTRACTOR REGISTRATIONS CANCELLED	CONTRACTOR REGISTRATIONS RETRACTED
0	0	0

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