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Royal Institution of Surveyors Malaysia

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FOR MEMBERS ONLY

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DATA CENTRE CONSTRUCTION SURGE: OPPORTUNITIES AND CHALLENGES

Malaysia is stepping into the spotlight as Southeast Asia's next big player in the data centre game. From the sprawling Sedenak Tech Park in Johor to ambitious projects in Penang and beyond, the nation is witnessing a construction surge fuelled by global tech titans like Google, Microsoft, and Amazon Web Services. With the digital economy booming and regional demand for cloud computing, AI, and 5G skyrocketing, Malaysia's data centre capacity is set to hit 860MW by the end of 2025, a meteoric rise from just 10MW a few years ago. This isn't just about server farms, it's an economic transformation loaded with opportunities and some hefty cost challenges.

Economic Opportunities

A MAGNET FOR FOREIGN INVESTMENT AND JOBS

The numbers speak for themselves: Johor's data centre hub in Sedenak is pulling in billions in foreign direct investment (FDI). Take AirTrunk's JHB1 facility, Malaysia's largest hyperscale data centre, which broke ground in 2024 and is already boosting the local economy. During peak construction, projects like these can employ over 1,000 workers daily, from labourers pouring concrete to engineers fine-tuning cooling systems. Once operational, they sustain hundreds of high-skill jobs in IT and facility management. This ripple effect invigorates small businesses including caterers, transport firms, and suppliers, all cashing in on the boom.

Malaysia's MyDIGITAL Blueprint aims to rake in RM70 billion in digital investments by 2025, with data centres as the backbone. The goal? Push the digital economy to 22.6% of GDP. As businesses lean harder into cloud services and AI, Malaysia's growing infrastructure makes it a go-to hub. The upcoming Open DC Tier-3 facility in northern Malaysia, for

POWERING THE DIGITAL ECONOMY

instance, isn't just a data centre; it's bringing a DE-CIX Internet Exchange to boost connectivity across the region, amplifying Malaysia's digital clout.

SPILLING OVER FROM SINGAPORE

Location is everything. Singapore's land scarcity and tough sustainability rules have developers looking across the Causeway. Johor's got the space, cheaper land at RM50-60 per square foot versus Singapore's RM1,000+, and a solid power grid courtesy of Tenaga Nasional Berhad (TNB). Analysts predict Malaysia's data centre market could swell to RM18.29 billion by 2029. Companies like Equinix and GDS are already planting flags, turning Malaysia into a complementary cog in Southeast Asia's tech wheel.

Data centres don't just guzzle resources, they spark upgrades. TNB is rolling out new substations to handle the load, while water authorities are modernising pipelines. In Kulai, for example, the influx of data centre projects has fast-tracked plans for a renewable-powered microgrid, a win for both tech tenants and nearby kampungs. It's a rare case of private investment fuelling public good

INFRASTRUCTURE THAT BENEFITS EVERYONE

Cost Challenges

THE ENERGY CRUNCH AND GREEN GOALS

Data centres are electricity hogs. Some hyperscale setups burn through 100MW alone. Malaysia's chasing 31% renewable energy by 2025 under the National Energy Transition Roadmap (NETR), but scaling solar farms or pumped hydro storage to keep pace is no small feat. Efficient designs help such as AirTrunk's JHB1 boasts a power usage effectiveness (PUE) of 1.15, among the world's best, but retrofitting older grids or building new clean energy plants costs millions. If supply lags, developers might face higher tariffs or delays, eating into profits.

The Malaysian Ringgit's volatility is a headache for builders. Data centres need specialised gears such as steel frames, copper wiring, liquid cooling units and most of those are imported. With the Ringgit hovering around RM4.40 to the USD, costs are spiking. Add in global supply chain snags like port delays or chip shortages, budgets are getting squeezed. Local contractors are forced to either negotiate hard with suppliers or lean on pricier domestic alternatives, neither of which is a perfect fix.

MATERIAL COSTS IN A WEAK RINGGIT WORLD

WATER WOES IN A WARMING CLIMATE

Cooling those server racks isn't just about power, it's also about water. A single facility can gulp down millions of litres annually, and Malaysia's not immune to dry spells or flood disruptions. The water usage effectiveness (WUE) metric is gaining traction as communities eye these projects warily. Liquid immersion cooling or rainwater harvesting could ease the strain, but they're not cheap to install. Without solutions, water costs or outright shortages, could derail timelines.

Malaysia's construction and tech sectors are racing to keep up with demand, but skilled workers are in short supply. Training programs like those under the Human Resources Development Corporation (HRDC) are ramping up, but producing enough HVAC specialists or data centre architects takes years, not months. Meanwhile, permits are a slog. Processes like land rezoning, environmental audits, and power approvals can stall projects for months. The government's Green Lane Pathway helps big players, but smaller firms still drown in paperwork, driving up overhead.

TALENT GAPS AND RED TAPE

FINDING THE SWEET SPOT

Malaysia's data centre surge is a goldmine with guardrails. The economic wins because of FDI, jobs, a stronger digital footprint. Those are transformative, especially for states like Johor and Penang. Yet, the costs of energy, materials, water, and talent loom large. Smart moves like the NETR's renewable push or TNB's grid investments show promise, but execution is everything. Developers need to innovate in areas such as modular builds or AI-driven resource tracking in order to stay ahead. Communities and policymakers must weigh in too, ensuring growth doesn't drain local resources dry. The opportunities are too juicy to ignore, but the challenges demand a long game. Ultimately, execution is key to turn this surge into sustainable success.

This article is prepared by BCISM Sdn. Bhd.

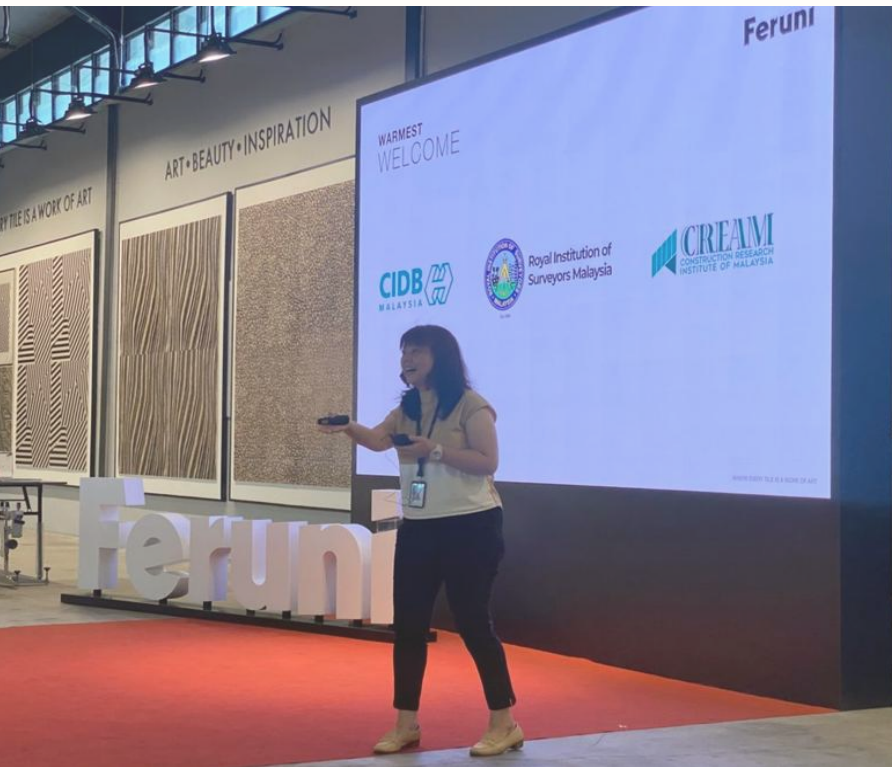


TECHNICAL VISIT TO Feruni Ceramiche Sdn Bhd

The event began at 9:30 AM with registration, where attendees were welcomed with light refreshments at the headquarters of Feruni Ceramiche Sdn Bhd, located at No. 12, Jalan 51A/213, Seksyen 51A, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia. At 10:00 AM, the visit formally kicked off with an introduction to Feruni, presented by Ms. Gidget Lim, the Senior Chief Fulfilment Officer and Executive Director of the company. She highlighted Feruni's core mission, which is to provide more than just tiles by igniting imagination, enriching

environments, and inspiring people with their products.

Ms. Lim delivered an insightful presentation about the wide range of tiles and designs offered by Feruni, emphasizing their compliance with various product standards. She also highlighted the company's stringent quality control measures, which are designed to minimize end-user complaints. Additionally, Ms. Lim introduced the talented artists behind the innovative and special designs that set Feruni apart in the industry, bringing



Welcome Speech and 'All About Feruni' by Ms. Gidget Lim, Senior Chief Fulfilment Officer and Executive Director of Feruni Ceramiche Sdn Bhd

a creative touch to the world of ceramic tiles.

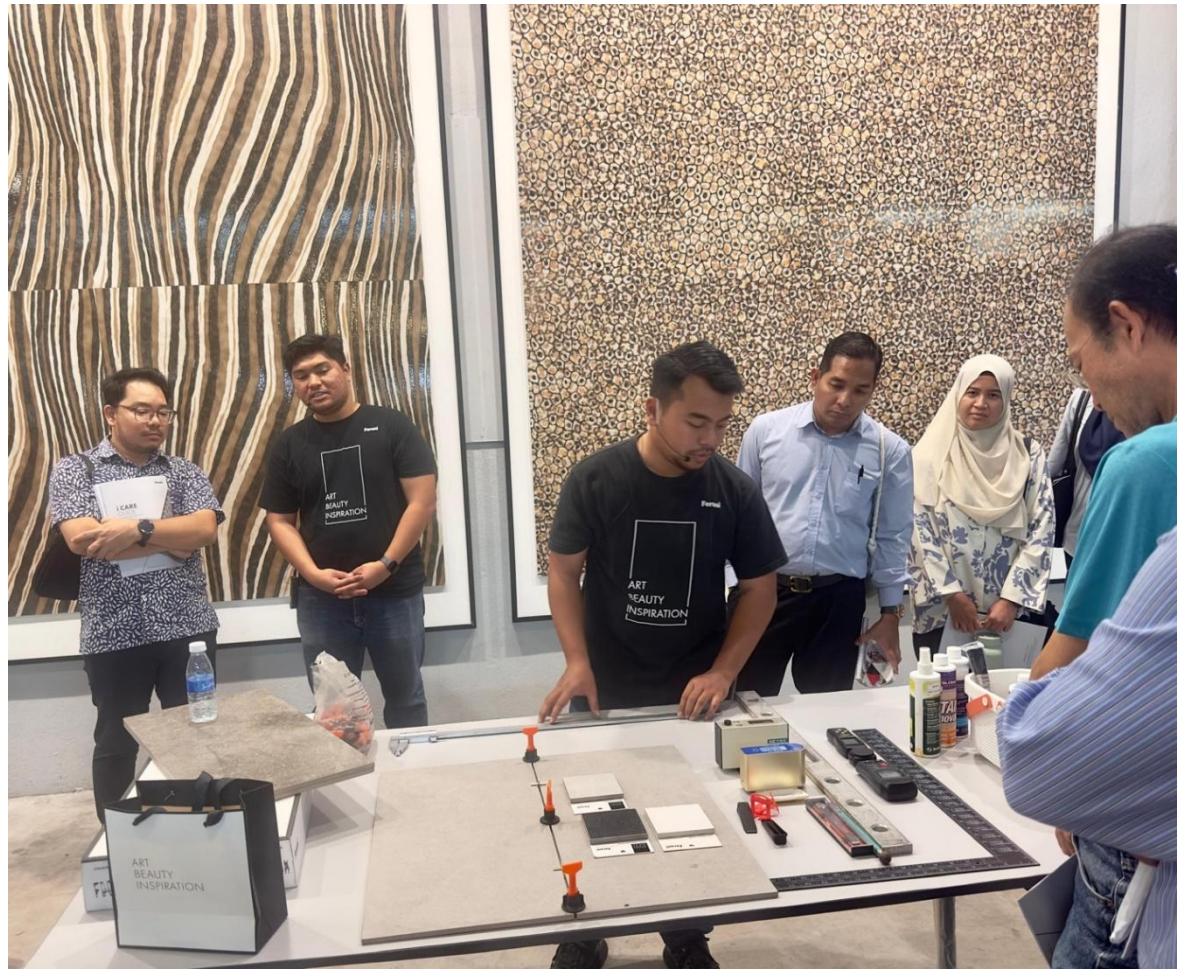
The session continued with live demonstrations, where attendees had the opportunity to observe different tile finishes and assess tile curvature defects that exceeded the acceptable limits. Following this, a photo session was held with Ms. Gidget Lim and all the attendees, marking a memorable moment of the visit. The exchange of mementos took place between Sr Nazir, Vice President of the RISM QS Division, and Ms. Gidget Lim of Feruni.

A guided tour of Feruni's headquarters followed, allowing attendees to explore the company's product display gallery, office spaces, and leisure facilities designed for their employees' well-being. The event concluded with a lunch and networking session, giving participants a chance to connect and engage with one another. The visit wrapped up at 1:30 PM.



Feruni Tour by Ms. Gidget Lim





Demonstrations of tiles finishes and quality checks by Feruni

Nice car!





Token exchange session between RISM and Feruni
From left: Sr Azwan and Sr Dr. Angeline Loo from RISM QS Division; Ms. Gidget Lim, Senior Chief Fulfilment Officer and Executive Director of Feruni Ceramiche Sdn Bhd; Sr Nazir, Vice President of QS Division, RISM; alongside Sr Azury and Ms Zarinah from RISM QS Division



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INTERNATIONAL SURVEYORS' CONGRESS

INNOVATE TO ELEVATE: SURVEYORS REINVENTING THE PROFESSION AND INDUSTRY

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MEMBER: RM950.00
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(PAYMENT FROM 1 APRIL 2025)

MEMBER: RM1,200.00
NON-MEMBER: RM1,300.00
INTERNATIONAL: USD400.00

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<https://shorturl.at/4g8Nk>

CPD & CCD HOURS APPLIED FOR
LJT: 4 | BQSM: 8 | BOVEAP: 8 | BS DIVISION: 8 | CIDB: 20
RICS: ACCREDITATION UPON PRESENTATION OF CERTIFICATE OF ATTENDANCE

WHO SHOULD ATTEND

- ✓ BUILDING SURVEYORS
- ✓ GEOMATICS & LAND SURVEYORS
- ✓ PROPERTY SURVEYORS
- ✓ PROPERTY MANAGERS
- ✓ QUANTITY SURVEYORS
- ✓ ACADEMICIANS
- ✓ ARCHITECTS
- ✓ ACCOUNTANTS
- ✓ BANKERS
- ✓ BUILDERS
- ✓ BUILDING SUPPLIERS
- ✓ CONTRACTORS
- ✓ DEVELOPERS
- ✓ ENGINEERS
- ✓ ENVIRONMENTALISTS
- ✓ FINANCIAL CONSULTANTS
- ✓ HOME BUYERS
- ✓ INVESTORS
- ✓ IT PROFESSIONALS
- ✓ KNOWLEDGE MANAGERS
- ✓ LOCAL AUTHORITIES
- ✓ MANAGEMENT CONSULTANTS
- ✓ REAL ESTATE AGENTS
- ✓ RESEARCHERS
- ✓ TOWN PLANNERS

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INTERNATIONAL SURVEYORS' CONGRESS

INNOVATE TO ELEVATE: SURVEYORS REINVENTING THE PROFESSION AND INDUSTRY

SYNOPSIS

"Innovate to Elevate: Surveyors Reinventing the Profession and Industry" is the transformative power of innovation in the surveying profession. The highlights are how surveyors are embracing cutting edge technologies, collaborating with other professionals, and leveraging their expertise to raise the industry and drive growth. By "reinventing the profession and industry," surveyors are taking active role in shaping the future. They recognize that innovation is essential for staying relevant, competitive, and successful in today's fast-paced world. By embracing innovation, surveyors can expand their skill sets, improve their services, and increase their value proposition whilst allowing exploration of new opportunities and adventures.

MAIN TOPICS:

- Innovative Building Materials & Energy
- Smart Energy Management Towards Sustainability
- AI driven Carbon Zero Building Design
- Digital Twins in Driving Sustainability

ENDORSED BY



KINDLY CONTACT US FOR FURTHER ENQUIRIES:

ROYAL INSTITUTION OF SURVEYORS MALAYSIA

No. 64&66, 3rd Floor, Bangunan Juruukur,
Jalan 52/4, 46200 Petaling Jaya, Selangor.

Tel: 603 7954 8358 | 603 7955 1773 | 603 79550253

Email: event@rism.org.my | www.rism.org.my



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INTERNATIONAL SURVEYORS' CONGRESS

CALL FOR PAPERS

Delegates interested in presenting papers are invited to submit abstracts via link:

<https://urlshort.app/KMLKWZ>

THEME:

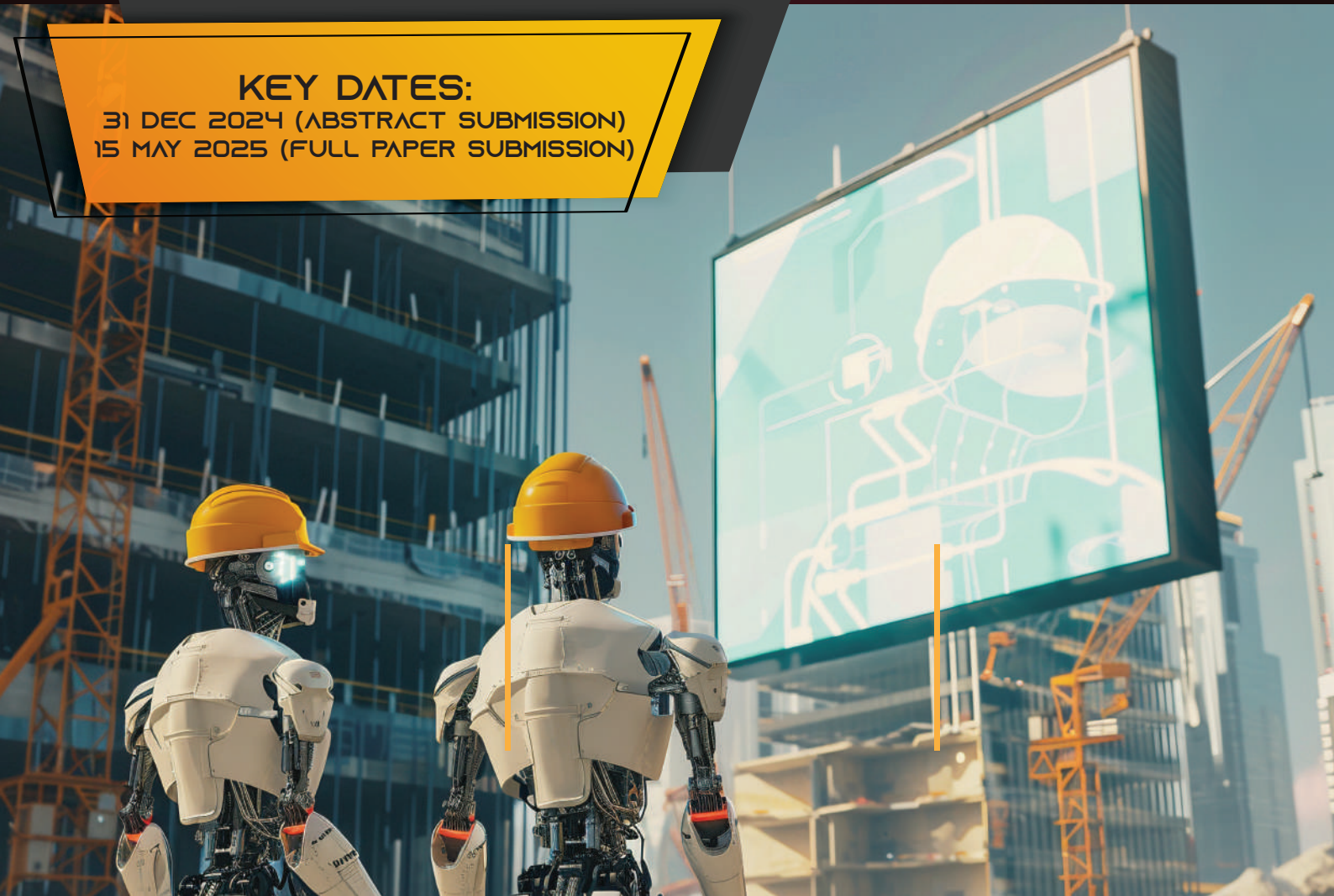
**INNOVATE TO ELEVATE: SURVEYORS REINVENTING
THE PROFESSION AND INDUSTRY**

SUB THEMES:

**INNOVATIVE BUILDING MATERIALS & ENERGY
SMART ENERGY MANAGEMENT TOWARDS SUSTAINABILITY
AI DRIVEN CARBON ZERO BUILDING DESIGN
DIGITAL TWINS IN DRIVING SUSTAINABILITY**

KEY DATES:

**31 DEC 2024 (ABSTRACT SUBMISSION)
15 MAY 2025 (FULL PAPER SUBMISSION)**



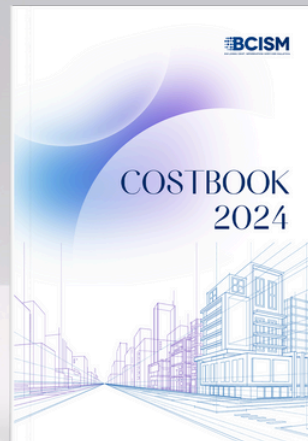
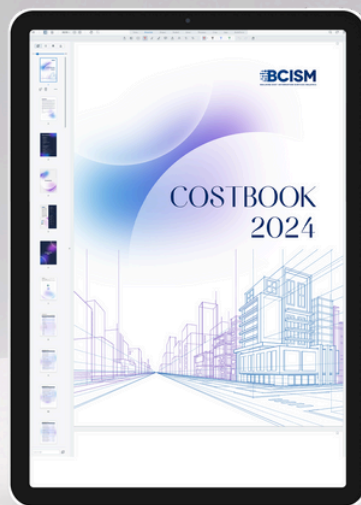
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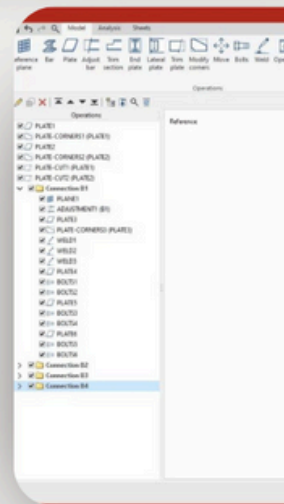
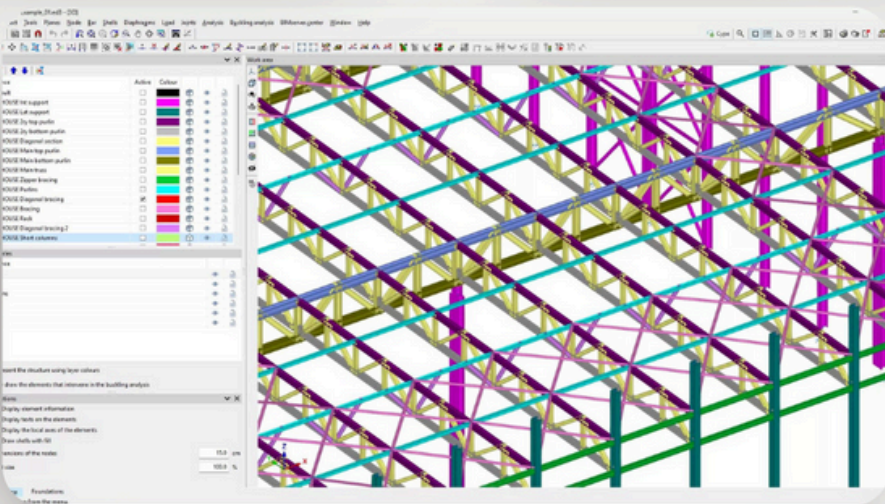
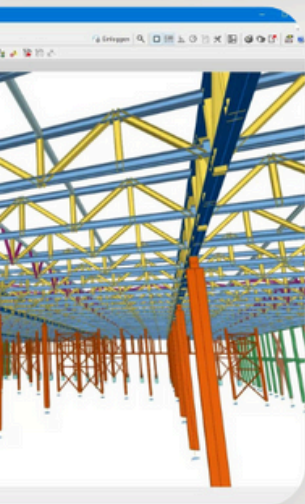
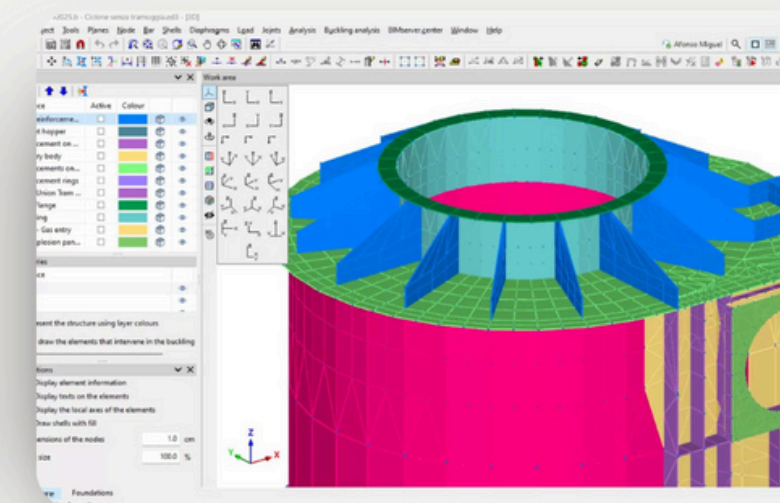
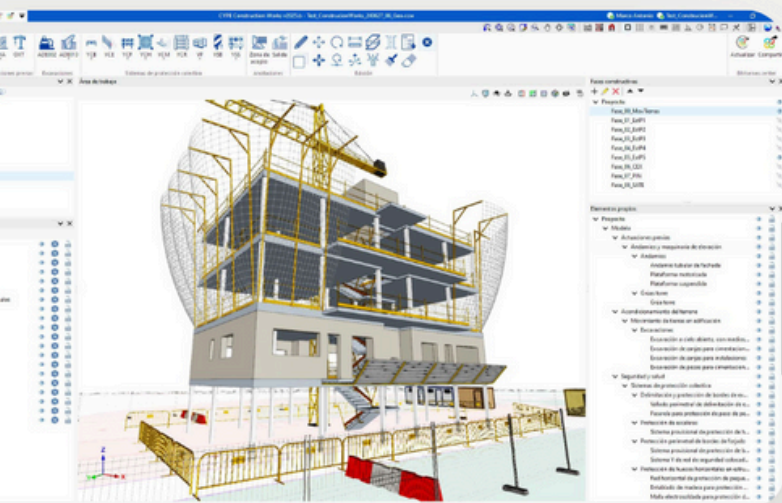
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- BUILDING MATERIALS PRICE
- LABOUR WAGE RATES
- MACHINERY HIRE RATES
- EQUIPMENT PURCHASE PRICE
- BUILDING MATERIAL PRICE INDEX
- BUILDING LABOUR COST INDEX
- BUILDING MACHINERY & EQUIPMENT COST INDEX
- BUILDING COST INDEX
- TENDER PRICE INDEX

The screenshot displays the N3C website interface. At the top, there is a navigation bar with 'Home', 'About', 'Products', and 'Contact' links, along with 'ADD ON' and 'TEST/AT2' buttons. The main content area features a grid of 12 product categories, each with an icon and a label: Building Materials Price, Labour Wage Rate, Machinery Hire Rate & Equipment Purchase Price, Building Material Cost Index, Building Labour Cost Index, Building Machinery and Equipment Cost Index, Building Cost Index, Tender Price Index TPI, Publications, Other Products, Whole Life Costing & Cost Benchmarking, and Unit Rate Library. Below the grid, a line chart shows the 'Building Materials Price' index from Jan23 to Jan24. The y-axis represents the index value, ranging from 20 to 27. The x-axis shows months from Jan23 to Jan24. Three data series are plotted: a red line (highest), a blue line (middle), and a green line (lowest). All lines show a general upward trend with some fluctuations.

* Disclaimer: Potential users are reminded that the building materials price presented is by no means accurate but it is an average of the entire participating contractors in this survey exercise. Users will have to use their professional judgement in order to get the best out of the information provided.



AVERAGE BUILDING PRICES

No.	Building Categories	RM/m ² GFA	
A Industrial Buildings			
1	Light duty factories	1,590	- 2,090
2	Warehouses	1,900	- 2,660
B Office Buildings			
3	3-storey offices, owner operated	1,640	- 3,230
4	Shop offices	1,440	- 1,970
C Refreshment, Entertainment, and Recreational Buildings			
5	Restaurants	2,170	- 2,300
6	Multi-purpose halls	2,330	- 2,770
D Religious Buildings			
7	Mosques	2,480	- 3,990
E Residential Buildings			
8	2-storey bungalows	3,390	- 3,580
9	2-storey terrace houses	1,150	- 1,560
10	Luxury apartments	2,990	- 3,750
F Buildings, Spaces in General			
11	Elevated car parks	800	- 920

- Data are derived by BCISM from actual data collected. For more details, subscribe to CIDB National Construction Cost Centre (n3c.cidb.gov.my).
- All data are Kuala Lumpur rate in May 2024 unless otherwise stated.
- As prices can differ appreciably because of the nature and specific requirements of each particular contract, it is not recommended that they be used for quotations without checking in details the requirement of the contract.
- More data can be found in the BCISM Costbook 2024. Visit www.bcism.org.my or walk in to No. 64 & 66, Level 1, Bangunan Juruukur, Jalan 52/4, 46200 Petaling Jaya, Selangor Darul Ehsan (Telephone : 03-7499 2094) for purchase.

AVERAGE MECHANICAL AND ELECTRICAL PRICES

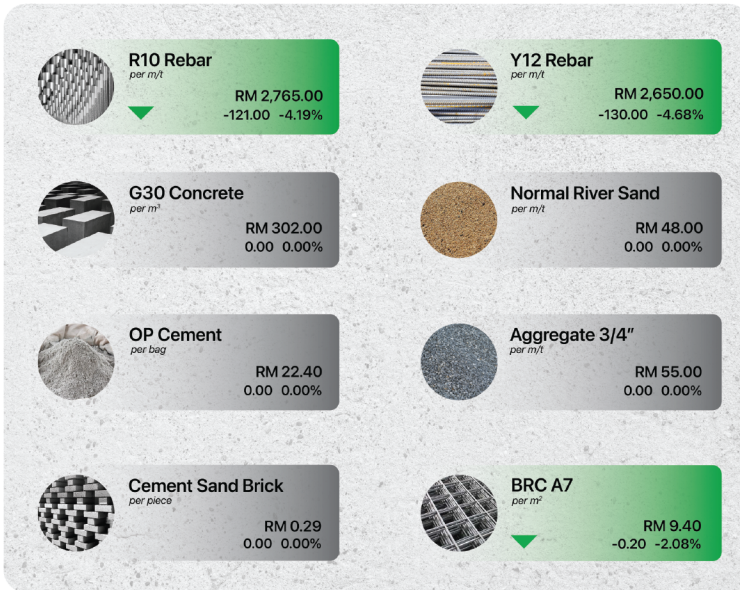
No.	Building Categories	RM/m ² GFA (Mechanical & Electrical)					
		Electrical		Plumbing		A/C	Fire Services
A Industrial Buildings							
1	Light duty factories	120 - 160	40 - 60	0	90 - 110	0	
2	Warehouses	110 - 230	10 - 20	100 - 110	100 - 210	0	
B Office Buildings							
3	3-storey offices, owner operated	160 - 180	4 - 20	0	20 - 60	90 - 100	
4	Shop offices	100 - 300	60 - 70	40 - 50	20 - 60	0	
C Refreshment, Entertainment, and Recreational Buildings							
5	Restaurants	70 - 110	70 - 90	0	20 - 60	0	
6	Multi-purpose halls	370 - 460	50 - 60	180 - 230	40 - 90	0	
D Religious Buildings							
7	Mosques	1,090 - 1,190	50 - 60	680 - 730	40 - 90	0	
E Residential Buildings							
8	2-storey bungalows	70 - 100	170 - 180	30 - 40	0	0	
9	2-storey terrace houses	40 - 70	90 - 100	0	0	0	
10	Luxury apartments	380 - 500	150 - 160	240 - 260	70 - 90	70 - 150	
F Buildings, Spaces in General							
11	Elevated car parks	170 - 190	0	0	40 - 60	30 - 40	

- Data are derived by BCISM from actual data collected. For more details, subscribe to CIDB National Construction Cost Centre (n3c.cidb.gov.my).
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Building Material Prices December 2024



Building Material Prices for December 2024



A COLLABORATION BY



BCISM is a joint-venture between Construction Industry Development Board Malaysia (CIDB) and Royal Institution of Surveyors Malaysia (RISM), mandated as the main service provider of centralised building cost information for the industry and its stakeholders.



Disclaimer

Prices presented are extracted from N3C BMP weekly data. Users will have to use their professional judgement to get the best reference out of the pricing information provided. For more frequently analysed, updated and wider range of data, visit n3c.cidb.gov.my

BCISM Monthly Basic Building Material Prices (BMP) is a compilation of weekly data from National Construction Cost Centre (N3C). This data is published monthly on BCISM official social media channels and official website as one of the free construction cost data resources.

In December 2024, global steel demand weakened due to economic uncertainties and slower construction and manufacturing activity. Despite this, high production levels led to oversupply, pushing prices down. Distributors and end-users kept inventories low, expecting further price drops, which reduced purchasing activity and added to the price decline.

Head over to www.bcism.org.my for more historical monthly BMP data and more comprehensive N3C construction cost data .

Important Update

BCISM has relocated office to the following new address in accordance with the arrangement of Royal Institution of Surveyors Malaysia (RISM).

Bangunan Juruukur, Tingkat 1, 64 & 66, Jalan 52/4, 46200 Petaling Jaya, Selangor

Self-collection of online purchases will be at the new address.



Building Cost Information Services Malaysia (BCISM) was founded as a collaboration between CIDB Malaysia and RISM to establish a centralised building cost information platform for the industry and its stakeholders. BCISM was founded in July 2019 to be the main service operator of National Construction Cost Centre (N3C). N3C provides construction cost information to construction industry players in Malaysia, which assist them in the preparation of early cost estimates, cost planning and life cycle costing.

BCISM also conducts market research and publishes market overview and market trend reports as free resources for the industry stakeholders. It is BCISM's mission to publish transparent and equitable construction cost information to the industry stakeholders and ultimately promote competitive, progressive and innovative growth and development of Malaysian construction industry. To find out more about BCISM, visit www.bcism.org.my