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ONLINE SPECIAL

The Rise of Green Technology in Construction

By working sustainable features into the design and construction of a building, you can reduce its environmental impact, save money and create lasting value. Green technology can enhance any building, no matter their size or purpose.

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| **ADVANCED CONSTRUCTION**



5G networks in construction
By Construction Dive



New construction material made of sargassum
By Yucatan Times



Beijing launches first 5G construction site with smart glasses and heart monitors
By Global Construction Review

What really excites proponents of the technology is the potential for a connected construction site in the future, where Internet of Things sensors communicate with wearables on workers' bodies to geofence them away from danger zones, and alert others if accidents occur.

The sargassum is mixed with concrete in a concentration of 35 to 40 percent. The patent for this procedure is pending and the resulting material can be used to build roads with light traffic (such as hydraulic concrete or paving stones), sidewalks, blocks, joists, vaults, patterned floors, and perimeter fences. The material can also be used for public parks (benches, playgrounds, and green areas).

The 5G network, transmit at 10GB per second, allowed them to use AI glasses that allow engineers back in the office to see what workers see onsite, monitor workers' vital signs, monitor cranes and even see if workers are wearing masks during the pandemic.

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| GREEN BUILDING TECHNOLOGY



Race Around the World to Achieve Net Zero Energy Consumption
By Morgan Liew

The roundtable discussion of the current national approaches to reaching net zero taken by a number of countries in Asia, Europe, the Middle East, Latin America, and the United States, highlighting the national targets that have been put in place, the challenges that must be overcome to successfully reach net zero, the state of the legislative infrastructure governing the transportation and use of hydrogen, and the political and policy issues affecting development.

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The heat is on: cooling's Race to Zero
By United Nations, KIGALI, Cool Coalition

By 2050, net-zero cooling for all will have simultaneously reduced up to 260 GtCO₂e emissions and enhanced access to much needed cooling as people across the world adapt to the changing climate.

The report highlights specific, promotable actions through a focus on three impact areas. These include:

- Passive Cooling
- Super-efficient equipment and appliances
- Ultra-low global warming potential refrigerants and insulation foam gases

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Innovative Approaches to Accelerating and Scaling Up Climate Technology Implementation
By United Nations

The paper presents examples of innovation approaches to identifying where and how market systems for enabling technology uptake can be improved, including ways to attract funding for prioritized climate technology programmes and policies.

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| DIGITALISATION



It's Time to Ban Demolition and Design for Deconstruction
By Tree Hugger

The construction and the built environment is the single biggest user of materials and generator of waste. Effectively dealing with buildings at the end of their life has the potential to unlock significant economic value. However the value that can be extracted is very much dependent on how the buildings have been designed and built.

The writer calls for a rethink of the way we put buildings together and take them apart.

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Digital Realty's third data centre offers blueprint for future data centres in Singapore
By The Business Times

In the construction of the multi-storey, 50 MW facility, design for manufacturing and assembly (DfMA) technology was used. DfMA is a method of construction which involves construction being designed for manufacturing offsite in a controlled environment, before being assembled onsite.

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Surbana Jurong's OMNI software digitising facilities management
By Singapore Business Review

OMNI is a digital facility and asset management platform solution that collects data and builds information. The data is analysed and used to help with the management and performance of a client's asset.

It aims to make use of big data analytics and utilises technologies, such as Building Information Management (BIM) and SMART Facilities Management (FM), to optimise the running of a facility.

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| YouTube Videos



[Construction Site Automation by Dusty Robotic](#)



[5D Building Takes Construction Into a New Dimension](#)



[How Singapore Uses Science to Stay Cool](#)

At Dusty Robotics, they developed a robot to automate the laying of floor plans on the floors in construction sites. Typically, this is done manually using a tape measure and reading printed out plans. By using a robot to automatically convert 3d models of building plans into markings on the floors, the amount of time and errors are dramatically reduced.



The 5D Building (B5D) combines the virtues of all three prefab concepts. It leaves the factory in Changsha, folded up to the size of a standard 40-foot shipping container, which can be moved inexpensively by truck, train, and ship to anywhere in the world, not a minor issue when the factory is in the middle of China.



Heat waves kill more people than any other extreme weather event: more than tornados, hurricanes, and even floods. That's why scientists are coming up with novel, new designs to help keep temperatures down in Singapore.



UPCOMING WEBINARS

**16 April 2021
(Friday)**

Computational BIM for Digital Assets Delivery and Facility Management

GRAPHISOFT has invited Mr Frederico Ramos, Mr Tamás Erős and Mr Péter Tuczai to cover some of the related topics in computational BIM for Digital Assets Delivery and Facility Management. Mr Frederico will focus on life-cycle cycle BIM, to provide his view for its challenges, constraints and impacts. Mr Tamás Erős and Mr Péter Tuczai will share their experiences on Computer-aided Facility Management (CAFM) implementation and project handover for the Hungarian Puskás Aréna project.

Time: 4:00 PM to 5:00PM (SGT)

Speakers: Mr Frederico Ramos, Mr Tamás Erős and Mr Péter Tuczai

Host: Mr Chris Ho

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Computational...

**23 April 2021
(Friday)**

Urban Sustainability (US) R&D e-Symposia 2021 - Resilience Thematic Webinar

Join HDB, and extinguisher guests Prof Jeremy Watson and Mr Richard Kuppusamy in a two-hour session for a quick understanding on Smart Estates, Adapting to a Disrupted World - Challenges and On-going Efforts in Enhancing the Resiliency of the Built Environment.

Time: 4:00 PM to 6:00PM (SGT)

Speakers: Prof Jeremy Watson and Mr Richard Kuppusamy

Host: HDB

Register [here](#)



Want to contribute for Tech Insights?

We welcome written contributions from all who share a keen interest in advanced construction, green building technology, and digital innovation. Email us at Stanley_Tan@bca.gov.sg