



Built Environment Research & Innovation Institution



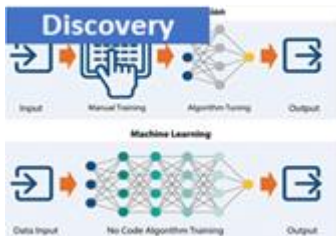
ONLINE SPECIAL

A Primer on Technology Adoption in Construction

We outline the landscape of technology adoption in this article to help you understand how and when construction companies can implement emerging technologies and innovation.

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| ADVANCED CONSTRUCTION



Simplifying AI Deployment for Quality Inspection. By Quality Magazine

Machine learning still requires human input to make informed decisions and needs further programming to fix mistakes. Deep learning goes one step further, with algorithms that use a wider range of structured and unstructured data to make independent decisions and can learn from mistakes and adapt without requiring human programming.

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Low-Carbon Cement Can Help Combat Climate Change By WEF and Scientific American

These bricks could not replace cement and concrete in all of today's applications. They could, however, someday take the place of light-duty load-bearing materials, such as those used for pavers, facades and temporary structures.

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How Effective Are Drones For Building Facade Inspections By Connexicore

Façade inspection is an integral part of building survey as it helps to verify the integrity of the building structure and ensures safety for its occupants and people within its vicinity. However, conventional façade inspection can be time, labour and cost intensive.

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| GREEN BUILDING TECHNOLOGY



The Transition to Net-Zero Cities Starts with Collaboration.
By World Economic Forum

To accelerate the move towards net zero carbon cities through the decade ahead, the WEF identifies some opportunities that need to be prioritised to enable systemic efficiency and they include:

1. Improving energy productivity and energy efficiency buildings
2. Electrification of personal vehicles, fleets and public transit
3. Limiting the role of fossil fuels in district heating and cooling

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Using Hydrogen for a Net-Zero Future
By Future Net Zero

The uses of hydrogen do not stop at transport – stationary fuel cells can also be used as a backup source of power and to supply electricity to remote locations, as well as to power portable equipment such as hand-held devices and generators.

It could also be used to decarbonise the heat sector if the existing gas grid was converted to carry the gas directly to homes and businesses

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Better buildings are the foundation of the post-pandemic city
By C40 Cities

The C40 Global Mayors recommends investing in green solutions during the COVID recovery period. Investing in new energy-efficient buildings and retrofits could provide huge emission reductions and cost-savings. Better buildings are also a means of delivering healthcare.

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| DIGITALISATION



Smarter Planning and Design
By World Economic Forum

During the COVID-19 lockdown, BIM was more widely adopted in the industry. It enabled projects to continue in a digital and virtual environment even when participants were unable to meet in person. This collaborative approach allows data to be shared across professional disciplines and businesses, and facilitates smarter construction.

In the prefab industry, the data can then be fed into manufacturing processes for components and modules that are later put together to form finishing buildings.

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Improving productivity and quality through DfMA
By PBC Today

The writer shared that Architects need to prioritise high quality design and placemaking. To achieve this with a manufacturing mindset, this we need to define the project's DfMA goals from the outset.

Design teams need to be appointed differently: engineers and manufacturers need to complement the architect in the pre-planning application stage.

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Benefits of digitalizing construction industry
By Geospatial World

Explaining ideas to multiple collaborators results in long threads and it is hard to keep track of them. Digital technologies connect all stakeholders of the project in real-time, allowing them to see the progress at every stage ensuring the project gets completed in the given deadline. When collaboration is strong, team members pool their resources and knowledge and prioritize on meeting shared goals.

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| Videos



Construction Technologies

How construction-edge digital twin technology may help construction play a key role in resolving the climate crisis. Find out more about the digital twin definition.



NUS School of Design

NUS SDE4 is first in Southeast Asia to achieve ILFI Zero Energy certification. SDE4, Singapore's first new-build net-zero building, awarded Zero Energy Certification by the International Living Future Institute.



How Can You be BIM Ready for a Post-Covid Worksite?

Understanding what we need to do to ensure Geomatics, Survey, Geospatial, GIS, CAD, BIM can work in together collaborating in parallel and converge where needed. The presenter also discuss Spatial Data Infrastructures (SDIs) and Common Data Environments (CDEs) and how these work together.

| UPCOMING WEBINARS

**5 Mar 2021
(Friday)**

Computational BIM Webinar with GRAPHISOFT – Session 3

Join GRAPHISOFT Asia in a three-hour session for a quick understanding of some computational BIM tools including Archicad, BIMx, BIMx API, Python, HTML and NFC/RFID Tags, to focus on Digital Construction workflows and to improve the efficiency of project delivery.

Time: 3:00 PM to 6:00PM (SGT)

Host: GRAPHISOFT Asia

[Register here](#)

**26 Mar 2021
(Friday)**

Urban Sustainability R&D e-Symposia 2021

Minister Desmond Lee will be delivering an opening address to share more about the strategic focus for Urban Solutions and Sustainability domain in RIE2025, and directions to strengthen RIE ecosystem and collaboration. We have also invited two international experts who will speak on global, emerging trends and strategies to promote research-industry partnerships.

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

Guest-of-Honour: Mr Desmond Lee, Minister of National Development and Minister-in-charge of Social Integration

[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