



**ONLINE SPECIAL**

## **Roundtable: What will the Buildings of 2030 Look Like?**

Will buildings in 2030 be designed for flying cars? Will robots construct our homes? Will we be living on floating platforms? These were some of the questions considered by architects who took part in the AJ Summit online workshop, Envisioning the Future of Buildings, on 11 March.

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## **| ADVANCED CONSTRUCTION**



**Fighting Climate Change with Bamboo**  
By China Dialogue



**Energy Floors: making renewable energy visible and interactive**  
By Construction21



**How Robots Are Revolutionizing the Construction of Houses and Buildings**  
By Emily Newton

The secret to bamboo's success is that it's a grass, not a tree. It grows fast and accumulates carbon quickly, with an extensive root system that survives annual harvesting. This makes bamboo a fast-regenerating resource, which can supply more biomass than both natural and planted forests.

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Energy Floors provides feedback on the generated energy, thus raising awareness on clean energy production. Find out more from Michel Smit, CEO to know more about this innovative solution.

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Robots are rapidly changing operations in numerous industries — from agriculture to medicine. The construction sector is also investing in them, and that trend seems set to continue.

Read more to find out some of the different types of construction robots and why companies find them so beneficial.

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## | GREEN BUILDING TECHNOLOGY



### **Augmented Reality and Facilities: Smart Building Tech, Smart Machines Converge**

By Rob Spiegel

Augmented reality is firmly embedded in the future of facilities management as smart building technology converges with smart devices and machines. The writer highlights the Resonai's report, 2021 State of Augmented Reality in Facilities Management which



### **10 Coolest Examples of "Green Building"**

By Kailey Wright

In the era of climate change, more and more emphasis is being placed on a building's "green" credentials, as environmental impact leads decisions around design, construction and operations.



### **World's First High Rise Rotatable Lab for the Tropics**

By Engineeringwhatsnext

On 20 July 2016, Prime Minister Lee Hsien Loong officially opened the BCA SkyLab and Academic Tower located at the BCA Academy in Braddell Road. A boost for Singapore's on-going

explores the current and expected use of AR in corporate, retail, healthcare, and manufacturing facilities.

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The writer round-up of 10 noteworthy green buildings from around the world.

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efforts to champion environmental sustainability, the BCA SkyLab is the world's first high-rise rotatable laboratory for the tropics.

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## | DIGITALISATION



**Intelligent Masterplanning**  
By Burohappold

With cities facing major challenges related to the climate emergency, increasing urbanisation and digitalisation, how our urban planners and engineers approach masterplanning is changing.

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**Smart Building Evolution**  
By Fierce Electronics

In contrast to today's single domain applications controlled from Building Management System platforms, the future of smart building technology is moving towards integration of information flow from multiple systems and more comprehensive command.

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**Overcoming Tech Obsolescence in Smart Building**  
By Mike Hook

While technology can evolve rapidly, a building's total lifecycle is measured in decades, not years. There is a fundamental disconnect here between what we want from our buildings and our ability to deliver on that demand for the long-term. How do we overcome that?

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## | YouTube Videos



### The Evolution of Bricklaying Robots: Changing the Rules of Traditional Construction

One automated construction technology may have a history stretching as far back as the 1960s. This technology, the bricklaying robot, has transformed dramatically since its limited realization over 50 years ago, splintering into newer, more technologically advanced variations today.

As these technologies continue to develop and are increasingly put to use, we can only expect masonry and construction automation to transform even more – just as they have in the last 50 years alone.

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### How Autonomous Robots Are Changing Construction

The construction industry looks a lot different today than it did 50 or 100 years ago, and in the next decade or so, it could change even further. The introduction of construction robotics may prove to be a tipping point for this industry. How are robots changing on-site construction today, and where can we expect to see them in the future?

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### Exploring Green Building and the Future of Construction

A lot of focus is put on generating cleaner energy for a sustainable future, but that’s only one piece of the puzzle.

What if we could dramatically reduce our energy consumption just by changing the way we build our office buildings and skyscrapers? Imagine a skyscraper with smart windows and walls made from fungus ... yes, a fungus.

Let’s explore green building and the future of construction. And can going net-zero really make a difference?

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First Automation Solution:



New Technology:



## | UPCOMING WEBINARS

**18 May 2021  
(Friday)**

### **NUS Tech Talk: IoT & 5G Security for the Future**

The rise of 5G has also been projected as a catalyst in driving the adoption of Artificial Intelligence (AI), IoT and Robotics. The speakers will share their insights on: (1) Use cases of 5G in IoT technology and (2) autonomous systems; and Security considerations to enhance IoT security.

**Time:** 7:30 PM to 9:00PM (SGT)

**Speakers:** Dr Nicholas Ho (Artificial Intelligence Practice Institute of Systems Science, NUS), Mr Ng Kok Leong (Digital Strategy and Leadership Practice, Institute of Systems Science, NUS)

[Register here](#)



**25 May 2021  
(Friday)**

### **Urban Sustainability (US) R&D e-Symposia 2021 – Sustainability Thematic Webinar**

Expert speakers from Government Research Institutes and Industry will share insights and industry initiatives on decarbonisation.

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

**Speakers:** Mr Calvin Chung (JTC Corporation), Mr Jonathan Low (A\*STAR SIMTech), Mr Chai Boo Choon (Glaxo Wellcome Manufacturing Pte Ltd), Mr Allan Lim (Alpha Biofuels & ComCrop)

**Q&A Moderator:** Ms Yvonne Soh (Singapore Green Building Council)

[Register here](#)



**28 May 2021  
(Friday)**

### **Computational BIM Use Cases Sharing**

Key Topics highlight: Computational BIM Use Cases (IFC Vegetation Library automation, COVID-19, Generative

[Register here](#)

Design and DfMA) and Digital Delivery Management (DDM)  
Career Track.



**Time:** 3:00 PM to 5:45PM (SGT)

**Q&A Moderator:** Mr Chris Ho

**Host:** Singapore Polytechnic

### **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](mailto:Stanley_Tan@bca.gov.sg)