

# PILLARS

JAN  
2019

We shape a **safe**, **high quality**, **sustainable** and **friendly** built environment

02

## UPGRADE, RESKILL, SWITCH CAREERS

How one can take on a new career in the built environment industry

04

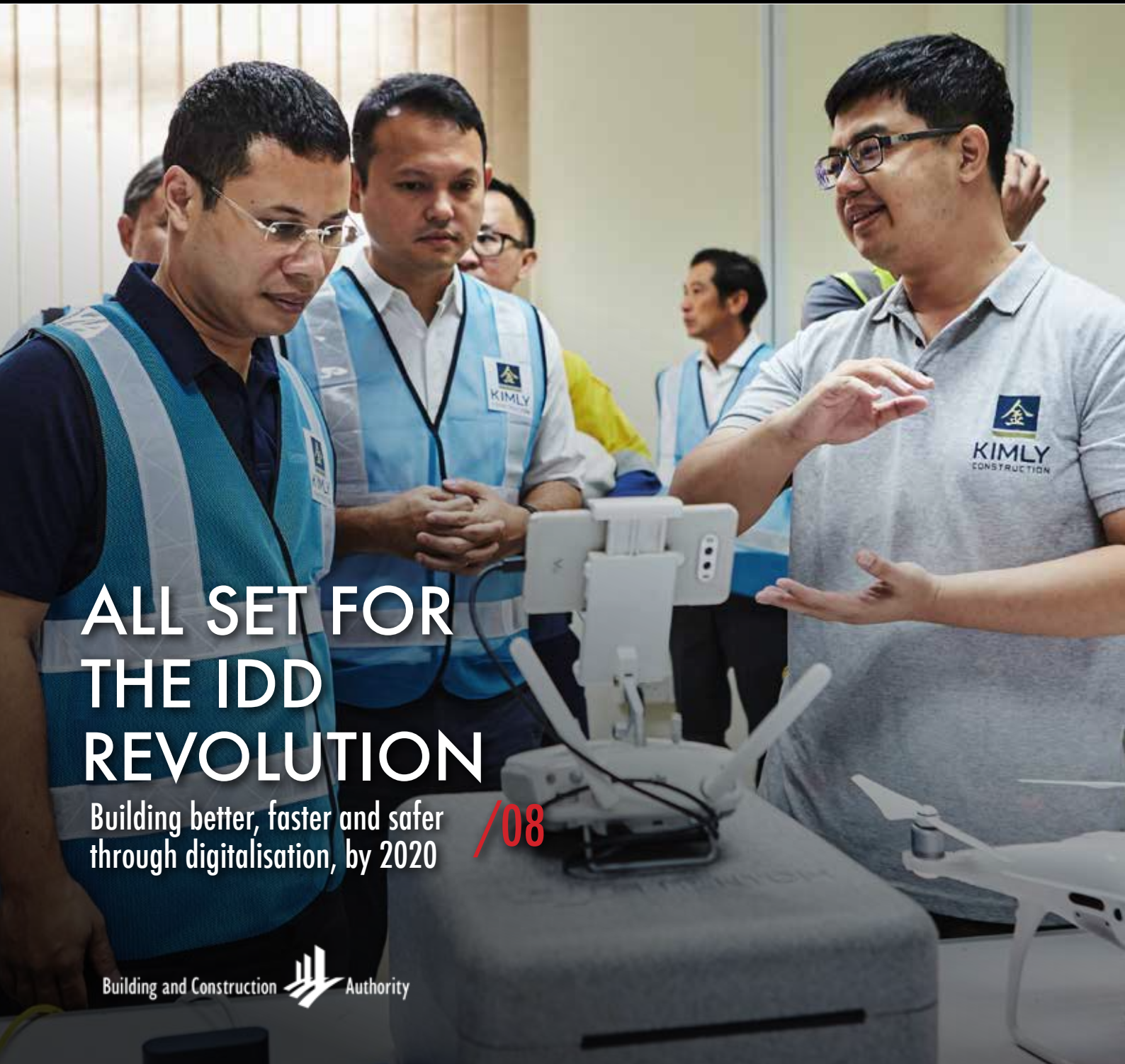
## “TRANSFORMING THE WAY WE BUILD”

What to expect at the inaugural International Built Environment Week in 2019

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## YOUNG LEADERS, COOL BUILDERS

A worksite with ice walls. Two BCA Young Leaders tell us more.



## ALL SET FOR THE IDD REVOLUTION

Building better, faster and safer through digitalisation, by 2020

/08

# WE HAVE GONE DIGITAL!

Pillars will no longer be available in hardcopy. Please subscribe to the e-version at: <https://www.bca.gov.sg/Publications/pillars/pillars.html>



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# CEO'S MESSAGE



### Hugh Lim

Chief Executive Officer  
Building and Construction Authority

## DEAR READERS,

Happy New Year!

2019 is a milestone year for BCA as it marks our 20th anniversary. I would like to take the opportunity to thank readers for your support over the past 20 years. Our commitment to deliver a world-class built environment for Singapore in partnership with industry remains unchanged.

I am also glad to share that the overall construction demand for 2019 is projected at \$27 billion - \$32 billion, of which the public sector is expected to contribute about 60% of the projects. Private sector construction demand also picked up in 2018.

In September, we will be organising a new international flagship event for the built environment, known as the International Built Environment Week (IBEW). Themed "Transforming the Way We Build", the event will take place from 4th to 6th September with an expected international turnout of 12,000. In this issue of Pillars, you can get a glimpse of the highlights of the upcoming IBEW. We hope for your participation in this inaugural edition of IBEW.

The built environment continues to evolve steadily and digital transformation will play a huge role in supporting its growth. To continue our digitalisation push, BCA has rolled out plans to enable our stakeholders

to improve collaboration and construction efficiency, minimise costly reworks and deliver smarter buildings with Integrated Digital Delivery (IDD).

It is also important to proactively engage and retain young professionals to lead the future growth of the built environment sector. The Young Leaders Programme is one of BCA's key initiatives to continually introduce and groom new talent into the industry. In this issue of Pillars, we take a closer look at how Built Environment Young Leaders Gavin Chan and Lim Eng Boon benefited from their experience in the programme. They had a first-hand experience witnessing ground-freezing technology that improves ground conditions before the start of railway tunnel excavation works.

I would also like to inform readers that Pillars will be taking a short hiatus as we will be converging our BCA publications – Pillars, BuildSmart, BuildGreen – into a unified one. The revamped e-publication will offer a one-stop platform with the latest news, events and initiatives by BCA and the industry. Do join our mailing list to be updated.

My wish for 2019 is for all built environment stakeholders to continue to work together and press on in our transformation efforts to change the way we Build Singapore, Better, Together.

# UPGRADE, RESKILL, SWITCH CAREERS

BCA is partnering Workforce Singapore (WSG) to help mid-career jobseekers reskill and develop competencies to take on new jobs in the built environment through Professional Conversion Programmes (PCPs).



Mr Zaqy Mohamad, Minister of State for National Development & Manpower, visited Kimly Construction on 26 November 2018 during the Professional Conversion Programmes (PCPs) networking session.

## CURRENT PCPs MANAGED BY BCA:

### PCP for BIM Professionals

BCA: Programme Manager for the BIM PCP from 6 July 2018 to May 2020

A six- to 12-month programme to train PMETs to take on new careers as BIM professionals. The programme includes classroom training at BCA Academy (BCAA) and on-the-job training by a sponsoring PCP employer. WSG targets to award at least 20 BIM PCP trainees by 2020.

#### Progress to date:



PCPs are career conversion programmes designed for Professionals, Managers, Executives and Technicians (PMETs) to undergo skills conversion and explore new jobs or sectors with good prospects and progression opportunities. These programmes are part of WSG's Adapt & Grow initiative.

## More PCPs in the Pipeline

1. PCP for Redeployment of Existing Drafters
2. PCP for Green Professionals
3. PCP for Lift Professionals and other new programmes (e.g. quantity surveying, ICPH professionals) to be finalised



# BUILDING THE FUTURE OF CONSTRUCTION... ON A GLOBAL SCALE

A sneak peek into what to expect at the inaugural International Built Environment Week (IBEW) in 2019.

A new international flagship event for the built environment – IBEW – will launch in September this year! The event, which will be developed in collaboration with 12 trade associations<sup>1</sup>, will be the first in the region to provide a platform for industry leaders and professionals from the built environment industry to exchange ideas and experiences on policies, business solutions and technologies, as well as explore business opportunities. Set to the theme, “Transforming the Way We Build”, the event will take place from 4 to 6 September 2019 with an expected turnout of 12,000 attendees. To give industry stakeholders a preview to the event, BCA and its partners held a soft launch on 29 November 2018.

**New Ways to “Transform the Way We Build”**  
 The event also saw launches of a few new initiatives. BCA introduced the first BuildSG Leadership Forum, a new engagement platform for leaders in Singapore’s built environment sector to share best practices and transformative ideas. There was also the launch of the Manufacturer Accreditation Scheme (MAS) for Prefabricated Mechanical, Electrical and Plumbing (Prefab MEP) Systems to set a standard for Prefab MEP production suppliers and facilities.

## HIGHLIGHTS OF THE UPCOMING IBEW

Attendees of the soft launch were given sneak peeks into the event segments that would anchor the week:

### International Built Environment Conference: A platform to share and gain insights

For three whole days at the conference, you will learn about the latest built environment technologies and solutions, hear from industry thought leaders and more.

### Business matching Network with:

- Buyers and investors for new business opportunities
- Top urban solutions providers well-equipped to meet your building needs



# 4

trade shows on smart, productive and green solutions

### 01. InnoBuild (IB) Asia

Learn how to tap technologies, equipment and systems to build more efficiently and productively.

### 02. Build Eco Xpo (BEX) Asia

Get the latest updates on sustainability in the built environment sector.

### 03. Smart Cities and Buildings (SCB) Asia

Discover more about the convergence of digital solutions and technology in the built environment sector.

### 04. Mostra Convegno Expocomfort (MCE) Asia

Find out more about energy-efficient solutions in MEP (Mechanical, Electrical & Plumbing) and Renewable Energy.



# SAVE THE DATE

## MARK YOUR CALENDARS FOR THE INAUGURAL IBEW!

### Where

Sands Expo & Convention Centre

### When

4 to 6 September 2019

### Who should attend

- Thought leaders
- Real estate investors and developers
- Urban planners
- Architects
- Engineers
- Builders
- Other industry professionals from across the world

<sup>1</sup> The 12 Trade Associations are:

- (1) The Association of Consulting Engineers Singapore (ACES)
- (2) Association of Property and Facility Managers (APFM)
- (3) The Institution of Engineers Singapore (IES)
- (4) International Facility Management Association (Singapore Chapter) (IFMA Singapore Chapter)
- (5) Real Estate Developers' Association of Singapore (REDAS)

(6) The Singapore Contractors Association Limited (SCAL)

- (7) Singapore Green Building Council (SGBC)
- (8) The Singapore Institute of Architects (SIA)
- (9) Singapore Institute of Building Limited (SIBL)
- (10) Singapore Institute of Surveyors & Valuers (SISV)
- (11) Society of Project Managers (SPM)
- (12) Specialists Trade Alliance of Singapore (STAS)

# MAKING A MARK IN INTERNATIONAL ACADEMIC RESEARCH

A research paper by BCA and NUS on Indoor Environmental Quality (IEQ) in Singapore's Green Mark-certified buildings has been published in one of the IEQ field's most prestigious journals.



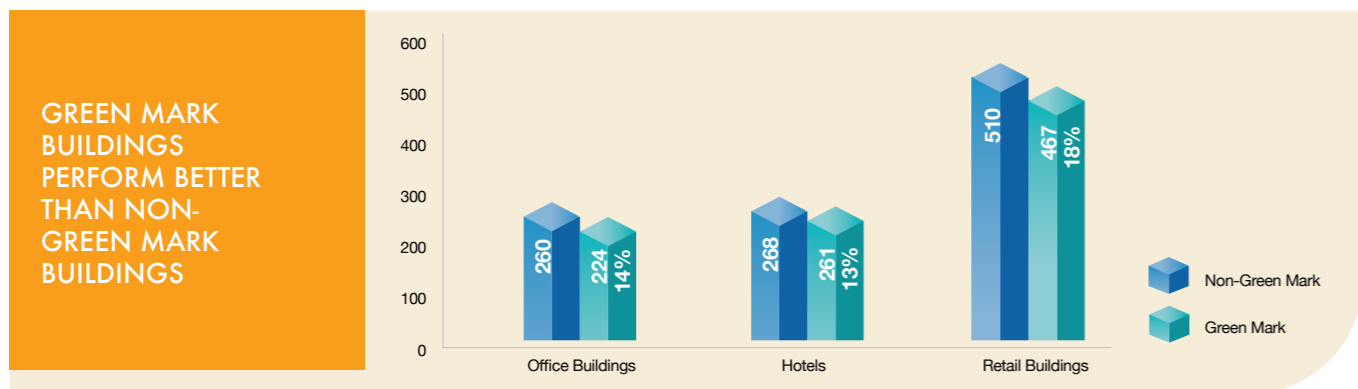
In 2017, BCA and the National University of Singapore (NUS) concluded a 3.5-year research study comparing IEQ performance of Green Mark and non Green Mark-certified buildings in Singapore. IEQ refers to the quality of a building's environment in relation to the health and well-being of those who occupy space within it.

The research team submitted its findings to Indoor Air Journal in June 2018. A rigorous assessment by the journal's chief editor and peer review by IEQ experts followed, and the research paper was accepted and published in November 2018.

## KEY ELEMENTS OF HEALTHY GREEN BUILDING



<https://onlinelibrary.wiley.com/doi/abs/10.1111/ina.12515>



## ABOUT THE STUDY

Investigation of:

- Over **360** building occupants surveyed
- 8** Green Mark-certified office buildings
- 6** non-Green Mark-certified office buildings

## GREEN MARK BUILDINGS VS. NON-GREEN MARK-CERTIFIED BUILDINGS

Here are the key findings.

- 01** Green Mark-certified buildings are better for health. Occupants in such buildings are less likely to experience "sick building syndrome" such as unusual fatigue, headaches and irritated skin.
- 02** Green Mark-certified buildings filter fine particulates and bacteria more effectively. Higher-performance filters enable such buildings to do a better job at filtering fine particulates such as PM2.5 and bacteria more effectively.
- 03** Green Mark-certified buildings are more comfortable to be in. Occupants in such buildings were more satisfied with the temperature, humidity, lighting, air quality and indoor environment.

# DRIVING THE IDD REVOLUTION

BCA has rolled out plans to continue our digitalisation push that will enable built environment industry stakeholders to improve collaboration and construction efficiency, minimise costly rework and deliver smarter buildings by 2020 with Integrated Digital Delivery (IDD).

## IN A NUTSHELL

IDD refers to the use of digital technologies throughout the **four stages** of the built environment lifecycle – Design, Fabrication, Construction and Asset Delivery & Management. It builds upon Building Information Modelling (BIM) and Virtual Design and Construction (VDC) to better integrate work processes and stakeholders across the whole value chain.



## DIGITALISING PROCESSES ACROSS THE BUILT ENVIRONMENT CHAIN



With IDD, all project stakeholders are able to have a real-time view of the construction process as well as access and share information. Such centralised and up-to-date data enables teams to plan better, make faster decisions and ultimately, avoid costly delays and reworks.

IDD is set to enhance four key areas of the construction process:

### Digital Design

Professionals co-ordinate during the design stage of a project to meet client and regulatory requirements. This can include walkthroughs of a project via augmented / virtual reality, and models (including detailed data) stored on a cloud platform for easy retrieval and real-time updates.

### Digital Fabrication

The specifications of the components, derived from the digital design of the project, are sent to the manufacturer for offsite production / fabrication.

### Digital Construction

Components can be tracked before they are delivered just-in-time for installation onsite. Information about the exact location where they are to be hoisted and assembled can be accessed by any worker on site using a smart device.

### Digital Management

Once the project is completed, information (including digital models) of the project can be handed over to the facilities management team. The team will have access to the information about these components on cloud platforms for easy defect management or repairs.

## BENEFITS



### More Time Savings

Shortens target construction period



### More Cost Savings

Reduces waste, reworks and construction costs



### Enhanced Safety Standards

Improves the monitoring of a site's safety



### Higher Quality

Facilitates more efficient quality inspections, improves rectification of defects and efficient facility maintenance management



### More Accurate Information

Enhances precision when capturing data for project stakeholders

# IDD IMPLEMENTATION PLAN

See how BCA is getting the industry ready for the IDD Transformation.

By 2020, BCA targets to:

Implement 40 to 60 IDD projects

Involve over 150 Singapore-based firms

Train 300 to 400 IDD professionals

How BCA is Making it Happen

- Raising awareness of IDD's benefits through demonstration projects**
  - BCA has worked with leading developers to identify 12 projects which will be using IDD in design, fabrication, construction and building maintenance.
- Developing the IDD ecosystem, with enabling solutions, platforms and standards**
  - BCA will promote the use of common standards to foster collaboration, and encourage the development of solutions for specific aspects of IDD as well as platforms that allow data to be imported and exported for use across different software tools.
  - BCA will also encourage solution providers and project firms to embark on IDD-related Research & Innovation projects and pilots to further improve IDD solutions, standards and platforms.
  - BCA and the Infocomm Media Development Authority (IMDA) have launched a S\$4 million joint call for the development of digital platforms in the built environment sector to support construction and technology firms. Such digital platforms would better connect different players in the ecosystem and offer potential for growth of new services and business models.
- Strengthening the industry's competency in IDD**
  - BCA Academy is offering IDD-related training programmes such as:
    - Specialist Diploma in Computational BIM
    - BIM for Building Lifecycle and Facilities Management
    - Principles & Application of Data Analytics
    - Imperial College London – BCA Executive Development
- BCA has launched two publications on IDD implementation to guide the industry on IDD:**
  - The IDD Leaders' Quick Start Guide (for senior management in industry firms)
  - The BIM Guide for Asset Information Delivery (for industry professionals)

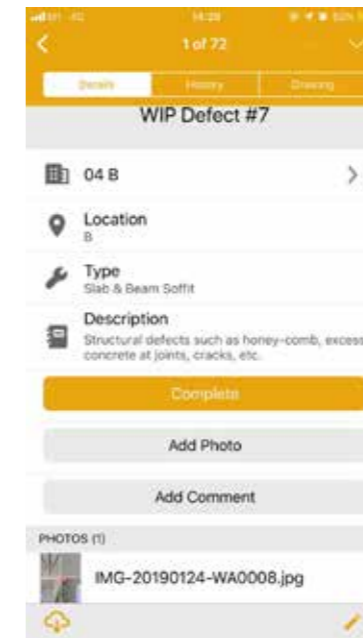
# HOW JTC IDD IT

JTC Corporation (JTC) is one of the leading developers in IDD implementation.



JTC Logistics Hub @ Gul is JTC's upcoming nine-storey high-rise multi-tenant facility that co-locates Inland Container Depots, warehouses and a heavy vehicle park. The integrated development is set to improve operational efficiency and productivity for logistics companies. Some of the digitalised processes that the organisation has implemented are:

## 01 DEFECT MANAGEMENT SYSTEM



This system allows for real-time reporting, tracking and follow-up of defects at the construction site. In addition, it allows quality-related issues to be addressed in a timely and systematic manner. Builders can also easily generate statistics for analysis and planning purposes.

## 02 SAFETY MANAGEMENT SYSTEM



This digital and mobile-based safety reporting system enables real-time reporting, tracking and follow-up of safety issues at the construction site. The dashboard also summarises all the safety observations for trend analysis and hence, allows targeted remedial action to be carried out on problem areas.

## 03 BIM-BASED DIGITAL LOGISTICS MANAGEMENT



Together with the Nanyang Technological University (NTU), JTC has developed an integrated digital logistics system that leverages BIM. Adopted in collaboration with Kimly Construction, this solution facilitates a seamless logistics process – from the prefabrication plant to construction site – while enabling greater precision during construction.



2nd Minister (MND) Mr Desmond Lee, Minister of State (MND) Mr Zaqy Mohamad, representatives from the Trade Associations & Chambers and members of the public attended the IDD Learning Journey to JTC Logistics Hub @ Gul on 14 Nov 2018.

© Ministry of National Development

Features

Benefits



RFID tagging of individual precast components

Tracking of precast components with Radio-frequency identification (RFID) reduces uncertainties and streamlines coordination works, resulting in manhour savings of up to 20%.



BIM to guide precast installation works

Crane operators are guided by monitors displaying BIM to handle and install building components accurately.



High-definition cameras mounted on cranes

Lifting works are safer and more efficient, and instances of 'blind lifting' are eliminated as crane operators have more viewing angles.



Web-based dashboard

All project stakeholders are in sync as they can access real-time information – from a centralised platform – via their smart devices.



Progress updates in BIM model view

The 3D BIM view and colour codes enhance the visualisation of the overall construction progress.

# A DAY AT THE FISH FARM

A corporate social responsibility (CSR) event went swimmingly well for 30 BCA-ians and some little ones at the Qian Hu Fish Farm.

On 18 October 2018, 30 BCA volunteers got together for a day of fun and new discoveries with 35 children from Fei Yue Student Care Centre (Choa Chu Kang) at the Qian Hu Fish Farm.



The little ones had a good time engaging in simple leisure activities such as Longkang Fishing, just like what the older generation did during the kampong days. It was a great opportunity for them to disconnect from the digital world, bond with their friends and inculcate a sense of responsibility towards animals.



Children learning about ornamental fish and their natural habitats

Everyone also enjoyed themselves at the guided farm tour, where they discovered more about our underwater friends from around the world.

And of course, a hearty meal to end the excursion on a great note!



Fueling up after the activities for the day



Little ones with their catches of the day



Thank you to the BCA CSR Committee for making this excursion possible, and to our volunteers for taking time out of their busy schedules to make a difference for the children!



# YOUNG LEADERS, COOL BUILDERS

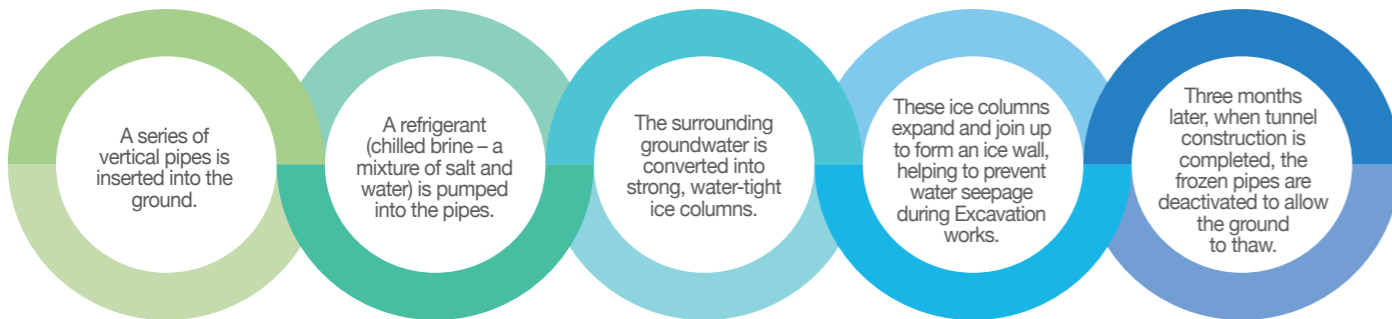
A new ground-freezing method enables the safe construction of a new MRT line underground despite wet conditions. Two Built Environment Young Leaders tell us more.

For three months, the walls of the tunnel in the upcoming Thomson-East Coast Line's (TEL's) Marina Bay station were covered in ice. This was the first time such a technology – ground-freezing – was used by the Land Transport Authority to improve ground conditions before the commencement of railway tunnel excavation works. A group of 17 Built Environment Young Leaders, including Lim Eng Boon and Gavin Chan, got to witness the groundbreaking technology up close during a learning trip.

## Ground-Freezing: A Cool Way To Build

Ice walls were used to stabilise the soil underground before MRT tunnel excavation works at the Marina Bay station were conducted. This technique is required as the soil – Old Alluvium – is highly permeable and prone to water seepage, which could potentially cause inconvenience and safety issues of other train lines running above the TEL tunnels

## THE PROCESS



## FROM PENCILS TO 3D VISUALS AND ICE WALLS



“The engineering world has come a long way since the days of using manual drawing boards, pencils and rulers to draw structural designs,” muses Eng Boon.

“Today, we have AutoCAD drawings, 3D Building Information Modelling software, Virtual Design Construction, Integrated Digital Delivery and so many more productivity-enhancing technologies,” he elaborates.

At the site visit, Eng Boon had the chance to get a firsthand look into one of the world’s engineering breakthroughs. Expressing his admiration for the project team’s ability to turn constraints into advantages, he explained that project team had to work close to or underneath many existing structures such as the Circle Line and North-South Line, to construct two new rail tunnels in submerged underground conditions. Such conditions could be unsafe, even with massive Earth Retaining Structures (ERSSs) in place.”



*The ground-freezing method can be considered in my civil engineering practice, for the construction of infrastructure such as underpasses, bridges and etc., when Earth Retaining Stabilising Structure ERSS methods fail or are not suitable due to poor soft and wet ground conditions.*

**Lim Eng Boon**  
Senior Manager (Projects)  
Hwa Seng Builder Pte Ltd

“However, thanks to the ground-freezing method, the team was able to carry out excavation in dry site conditions, which was considerably safer,” he explains.

Eng Boon shares that the visit reinforced his belief in thinking out of the box, “an extremely important quality for every engineer in the rapidly evolving built environment sector”.

“There is a solution to each problem, and each problem is unique. This is why it’s important to understand how things work differently at different work sites.”

## “DARING, DIGITAL AND DESIRABLE”

The ground-freezing site visit was something that Gavin was personally invested in as he was involved in it on an offsite basis as part of its Accredited Check team. “The visit presented me with the opportunity to witness the design that I had worked on in the flesh,” he says.

“Moreover, it’s not every day we get to go so deep below the ground to see Singapore’s key infrastructure being built. Many people often just see new infrastructure being launched at official openings but don’t get to look at what goes behind the scenes during the arduous process of construction,” adds Gavin.

“For example, we were shown how ground-freezing enables work to continue in a hazardous environment deep underground by mitigating water ingress (the action of water penetrating the property) issues,” he explains.

“The built environment has the label of “D, D, D,” – Dirty, Dangerous and Demanding,” says Gavin.

However, as he shares, the built environment industry is on the cusp of an exciting digital revolution. More is being done to create new innovations and builders can add value to users, with this ground-freezing technique being just one of the many examples.

“So, hopefully in 10 years, we can change these 3Ds to “Daring, Digital and Desirable!”



*One of my biggest takeaways from the visit was seeing how being innovative in solving existing problems can lead to exciting outcomes. For example, this ground-freezing method improves safety by eliminating changes in the water table (the line beneath the surface of the earth) which are dangerous in geotechnical building works.*

**Gavin Chan**  
Geotechnical Engineer  
CPG Consultants Pte Ltd

# ACHIEVING MORE WITH LESS HASSLE

BCA's enhanced electronic Builders Licensing and Contractors Registration System (eBACS) is making it easier for contractors to obtain feedback on their performance in public sector construction projects.

## SOLUTION: A BETTER WAY TO TRACK PERFORMANCE, GROW AND IMPROVE

### Background

In Singapore, contractors that wish to tender for or carry out public sector construction and construction-related projects have to be registered under the Contractors Registration System (CRS). CRS applications can be made under eBACS. Company information of these contractors, such as assessments of their performance in public sector projects by Government Procurement Entities (GPEs), is consolidated in the C41 Report to facilitate GPEs' tender evaluation process. The C41 Report contains the past track record and performance of BCA Contractors Registration System. It is a confidential platform for government agencies to evaluate construction tenders.

### Challenge

Due to its confidential nature, information in the C41 Report could previously only be accessed by the GPEs. In addition, it was not appropriate for contractors to be able to view each other's assessments. Hence, contractors had to approach the GPEs personally for information on their performance assessments. This was usually a cumbersome and time-consuming process for all parties.

### Solution

BCA enhanced the eBACS upon discussions with various stakeholders such as Singapore Contractors Association Ltd and the Committee on Public Sector Construction Procurement, which comprises major GPEs. The new system grants contractors access to their individual performance assessments by extracting the relevant data from the C41 Report. It was launched in June 2017.

### Benefits

Today, this enhanced system acts as a constructive feedback channel between GPEs and contractors. With their performance assessments easily accessible, contractors can better build on their strengths and address their weaknesses to improve their project delivery capabilities for future public sector projects. Contractors are now also able to obtain feedback on their performance more efficiently and in a shorter time as they no longer have to approach GPEs to obtain the information. On a larger scale, this feedback system helps to improve the Singapore built environment industry's performance.



# BCAA EVENTS

SkillsFuture Credit, SkillsFuture Study Awards, Mid-Career Enhanced Subsidy, Workfare Training Support (WTS), SDF, e2i and other subsidies are available for BCAA courses!

### January 2019

7, 8, 14, 15, 21, 22 & 28 Jan 2019  
(7 evenings)

CFD Simulation using Open Source Software (NEW)

### 10 & 11 Jan 2019

Safety Data Analytics to Improve Workplace Safety & Health Performance (NEW)

**Venue:** BCA Academy, 200 Braddell Road  
**Organiser:** BCA Academy

### 14 Jan 2019

BCA-REDAS Built Environment and Property Prospects Seminar 2019 (NEW)

**Venue:** Grand Copthorne Waterfront Hotel  
**Venue:** BCA-REDAS

### 17, 18, 21, 22 Jan & 15 Feb 2019

Certification Course for Green Mark Manager (78th Run)

### 21 & 22 Jan 2019

Developing a Lifting Plan for Crane Lifting Operations (4th Run)

### 22 Jan 2019

Good Industry Practices – Waterproofing for Internal Wet Areas (Re-run)

### 25 Jan 2019

Application for Temporary Occupation Permit/ Certificate of Statutory Completion (7th Run)

### 30 Jan 2019

Good Industry Practices– Marble/Granite/ Ceramic Tiling (Re-run)

### February 2019

14 Feb 2019  
Workshop for Company CEO/Top Management (bizSAFE Level - 1) (49th Run)

### 18 Feb 2019

Specialist Diploma in MEP Modularisation (2nd Intake)

### 20 Feb 2019

Refresher Course for Licensed Electrical Workers (Technician/Engineers) (47th Run)

### 20 & 21 Feb 2019

Construction Contract Drafting & Dispute Resolution (2nd Run)

### 25 Feb 2019, am

Building Control Regulations for Site Supervisors (54th Run)

### 25 & 26 Feb 2019

Construction Contract Administration (Re-run)

### 25 - 28 Feb 2019

Certification course in BIM Modelling (MEP Track) 19th Run

### 26 Feb 2019

Good Industry Practices – Drywall Installation including Wet Areas Application (13th run)

### 26, 27 Feb, 5, 6 & 19 Mar 2019

Certification Course for Green Mark Facilities Manager (32nd Run)

### March 2019

### 5 Mar 2019

Good Industry Practices (Waterproofing for External Wall)

### 6 & 7 Mar 2019

Good Industry Practices (Waterproofing for External Wall)

### 11 & 12 Mar 2019

Good Industry Practices (Waterproofing for External Wall)

### 12 Mar 2019

Good Industry Practices (Timber Flooring)

### 13 & 14 Mar 2019

on Contract Procurement & Negotiations (6th Run)

### 18 - 21 Mar 2019

Certification course in BIM Modelling (Structure Track)(14th Run)

### 25 Mar 2019

The Security of Payment Act – Technicalities and Practicalities (7th Run)

### 26 Mar 2019

Understanding Building Control Regulations – Household & Storey Shelters (3rd Run)

**Venue:** BCA Academy, 200 Braddell Road  
**Organiser:** BCA Academy

### 3 - 5 Apr 2019

WORLD WORKPLACE ASIA CONFERENCE 2019

**Venue:** Marina Bay Sands  
**Organiser:** BCA - IFMA

### (Full-time - 12th Intake) Starting on 25 Feb 2019

Registration closing on 1 Feb 2019

Bachelor of Construction Management (Building)(Honours)\_FULL TIME (awarded by The University of Newcastle, Australia)

### (Part-time - 6th Intake) Starting on 2 Apr 2019

Registration closing on 8 Mar 2019

Bachelor of Construction Management (Building)(Honours)\_PART TIME (awarded by The University of Newcastle, Australia)

### (Full-time - 3rd Intake) (Accelerated Pathway)

Starting on 2 May 2019 Registration closing in 1 Apr 2019

Bachelor of Civil Engineering (Honours)\_FULL TIME (awarded by The University of Newcastle, Australia)

### (Part-time - 2nd Intake) Starting in Aug 2019

Stage 1 application closing: 15 Feb 2019

Master of International Construction Management with major in Construction Productivity (awarded by the University of Florida)

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- Blended learning modes for flexibility
- WTU funding available for eligible candidates

Application Closing Date:  
**15 Feb 2019**

This Master of International Construction Management degree with a Major in Construction Productivity is designed to enable working professionals to expand and improve their skills in managing construction projects in international markets, and develop competencies in the latest construction productivity methodologies. This program is intended for working professionals who are making vital business decisions and have the potential to be future leaders who will guide the construction industry in attaining even higher levels of excellence.

### FOR FURTHER DETAILS, PLEASE CONTACT:

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# WORLD WORKPLACE ASIA CONFERENCE 2019



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