Building and Construction Authority

Photo credit: Gammon

Connecting the Dots

Annual Report 2022/2023

CONTENTS


Ceiling Fan System

Corporate Governance

BCA is committed to good corporate governance. We have put in place a Code of Corporate Governance which formalises the principles and practices of governance within BCA to ensure accountability, responsibility and transparency.

BOARD MEMBERS

The Board currently comprises 14 members. All are non-executive members, except Mr Kelvin Wong, who is BCA's Chief Executive Officer. There is a diverse representation from the industry, academia and ministries, which provides a wide range of experience, skills, knowledge and perspectives to enable the Board to play an active role in guiding BCA to achieve its vision and mission.

The Chairman provides strategic leadership and guidance to the Management of BCA, and ensures that discussions at the Board are fairly, objectively and independently conducted.

The Board meets no less than four times a year to evaluate, approve and monitor the plans and budgets of BCA. It oversees the work and performance of the Management and assesses the financial health of BCA.

The BCA Act empowers the Board to form committees amongst its members to support the work of the Board.

FINANCE AND AUDIT

Internal Controls

The Board ensures that the Management maintains a sound system of internal controls to safeguard the interests and assets of BCA. It also ensures that reviews of BCA's key internal controls in finance, operations and compliance are conducted annually through internal and/or external audits according to the direction of the Audit Committee.

Audit Committee

The Audit Committee reviews the audited financial statements with external auditors, as well as reviews the audit plans and observations of the external and internal auditors. It also ensures that the Management takes appropriate action for audit observations and the Audit Committee's recommendations. The Audit Committee also provides guidance for BCA's Fraud Reporting policy. All members in the Audit Committee are non-executive members.

Chairman's Message

"

It has not been an easy ride over the past few years to advance, but we did. Remember, all these efforts help to build not just a better place for Singaporeans to live in, but also create greater career opportunities for future generations.

2022 marked the year Singapore transited from the pandemic to almost a business and life-as-usual routine. Construction activity rapidly picked up pace, reaching pre-pandemic levels.

However, that does not mean that we put aside all the lessons learnt or revert to old ways. We must be prepared for the uncertainty that remains ahead of us and continue to improve our built environment (BE) sector.

CONTINUING INDUSTRY TRANSFORMATION

We are continuing to push for transformation in the sector. The refreshed Built Environment Industry Transformation Map (BEITM) was launched in September 2022 after gathering extensive input from industry stakeholders to guide our sector through the transformation in all stages of a building's life cycle - from planning and design, to construction, to operations and maintenance.

DIGITALISATION AS A KEY ENABLER

Digitalisation is a key enabler for our sector's transformation and I am glad to say that there has been notable progress on this front. In 2022, 45% of all new developments by Gross Floor Area (GFA) have adopted Integrated Digital Delivery (IDD), putting us on track to meet the 2025 target of 70% adoption.

We are also progressively building up a strong pool of qualified personnel to execute IDD projects. To date, more than 200 individuals, including professionals and students, have been accredited under the Digital Delivery Management (DDM) accreditation scheme.

To support SMEs onboard digitalisation, BCA launched a new $21 million tranche of the Productivity Solutions Grant for digital solutions that meet the needs of the BE sector. The packaged solutions in this new tranche include user training to enable employees of the firms to make full use of these digital solutions.

“

Beyond using technology and improving work processes, BCA is pushing for collaborative contracting to align the interests of all project parties towards shared project goals.

TRANSFORMATION AT DIFFERENT STAGES OF A BUILDING'S LIFE CYCLE

For the planning and design stage, we have been working towards the launch of CORENET X, which will streamline the processes for building plan submissions between industry stakeholders and regulators though the use of Building Information Modelling (BIM). More than 20 existing touchpoints will be consolidated into three key submission gateways, reducing 20% to 25% of the time needed for a firm to obtain approvals.

For the construction stage, we have seen an increase in the adoption of Design for Manufacturing and Assembly (DfMA) by GFA from 44% in 2021 to 51% in 2022. We are on track to meet our target of 70% by 2025. We have enhanced requirements under the Government Land Sales (GLS) programme and introduced the Built Environment Transformation Bonus GFA Scheme to encourage the industry to ramp up their transformation efforts.

For the operations and maintenance stage, we have been looking at transforming the Facilities Management (FM) industry to improve the way buildings are maintained and reduce energy emissions. In September 2022, we launched a $30 million programme to support the adoption of progressive FM procurement, processes and technologies. As of March 2023, we have seen at least 20 companies that are keen to apply.

Beyond using technology and improving work processes, BCA is pushing for collaborative contracting to align the interests of all project parties towards shared project goals. We aim to change the culture of the BE sector and raise the level of professionalism in project management.

Photo credit: Gammon

At least 10 public sector projects will pilot this, with some having already started. CapitaLand will also lead its alliance to be amongst the first in Singapore to pilot this and will share its experiences with the industry to develop standard collaborative contracting provisions for the industry to take reference and adopt.

TRANSITIONING TOWARDS A LOW-CARBON BUILT ENVIRONMENT

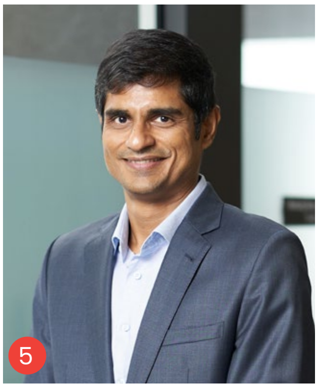
BCA continues to lead the way in intensifying our efforts to achieve national net zero emissions by 2050. BCA announced the introduction of a mandatory energy improvement regime by the end of 2024. It requires building owners with poor energy performance to conduct an energy audit and implement measures to reduce energy consumption. BCA will continue to engage the industry on the implementation details.

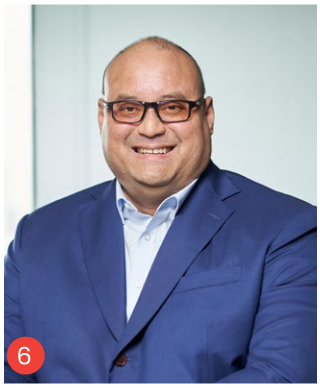
I thank industry partners, firms and individuals who have contributed to the BE sector's transformation progress thus far. It has not been an easy ride over the past few years to advance, but we did. Remember, all these efforts help to build not just a better place for Singaporeans to live in, but also create greater career opportunities for future generations. We look forward to everyone's continued support in this transformation journey to make our sector more dynamic, resilient and productive.

MR LIM SIM SENG
Chairman

Board Members

(As at 1 April 2023)





1 **CHAIRMAN**
Mr Lim Sim Seng
Senior Advisor
DBS Bank Ltd

2 **DEPUTY CHAIRMAN**
Er. Prof. Tan Thiam Soon
Institute Professor
Singapore Institute of Technology

3 **BOARD MEMBER**
Ms Ameera Ashraf
Partner
WongPartnership LLP

4 **BOARD MEMBER**
Ar. Angelene Chan Li Chen
Chairman
DP Architects and
its Group of Companies

5 **BOARD MEMBER**
Mr Sathiaseelan Jagateesan
Partner
Allen & Gledhill LLP

6 **BOARD MEMBER**
Mr Richard Kuppusamy
Chief Product Officer &
Head of Lendlease Digital Asia

7 **BOARD MEMBER**
Ms Jasmin Lau
Deputy Secretary (Policy)
Ministry of Health

8 **BOARD MEMBER**
Mr Lee Aik Seng
Managing Director
Obayashi Singapore Private Limited

9 **BOARD MEMBER**
Er. Dr. Lee Bee Wah
Group Director
Meinhardt (Singapore) Pte Ltd

10 **BOARD MEMBER**
Ms Julia Leong
Partner Digital Solutions
Transformation Services Leader
PWC Singapore

11 **BOARD MEMBER**
Mr Max Loh Khum Whai
Chartered Accountant

12 **BOARD MEMBER**
Mr Khiatani Manohar Ramesh
Senior Executive Director
CapitaLand Investment Limited

13 **BOARD MEMBER**
Mr Wong Heang Fine
Chairman
SusDev Pte Ltd

14 **BOARD MEMBER**
Mr Kelvin Wong
Chief Executive Officer
Building and Construction Authority

BCA Organisation Structure

(As at 1 October 2023)

Mr Kelvin Wong
Chief Executive Officer

Internal Audit Department

Mr Chin Chi Leong
Deputy CEO
Building Control

Ms Jeanna Das
Group Director
Corporate Development

Mr Teo Jing Siong
Group Director
Strategic Planning & Transformation Office

Legal Department

Mr Darren Lim
Group Director
Audit and Inspection

Er. Tan Chun Yong
Group Director
Building Engineering

Er. Clement Tseng
Group Director
Building Plan & Management

Er. Thanabal Kaliannan
Group Director
Building Resilience

Mr Teo Orh Hai
Group Director
Electrical & Mechanical Engineering

Er. Chew Keat Chuan
Senior Technical Director

Vacant
Deputy CEO
Industry Development

Mr Jonathan Cheng
Group Director
Built Environment Research & Innovation Institute

Mr Ang Lian Aik
Group Director
Business Development

Ms Adeline Loo
Group Director
Construction Productivity & Quality

Mr Ang Kian Seng
Group Director
Environmental Sustainability

Er. Grace Mui
Group Director
Manpower Strategy & Planning

Ar. Leong-Kok Su-Ming
Managing Director
BCA Academy

Mr Heng Teck Thai
Deputy CEO
BuildSG Office

Mr Jonathan Cheng
Group Director
Built Environment Technology Alliance

Vacant
Group Director
Partnerships Engagement

Ms Jeanna Das
Group Director
Strategic Communications

Vacant
Group Director
Strategic Engagement

CHAPTER 1

Evolving Together as One

Together with our industry partners, we are driving transformative change throughout the Built Environment sector. Harnessing a multi-dimensional approach, our evolution journey champions the development of new practices, technological advancements and a skilled and inspired workforce to tackle industry challenges and enhance sustainability, as we scale new heights as one industry.

Photo credit: H3 Zoom by H3 Dynamics


swissôtel

Evolving Together as One

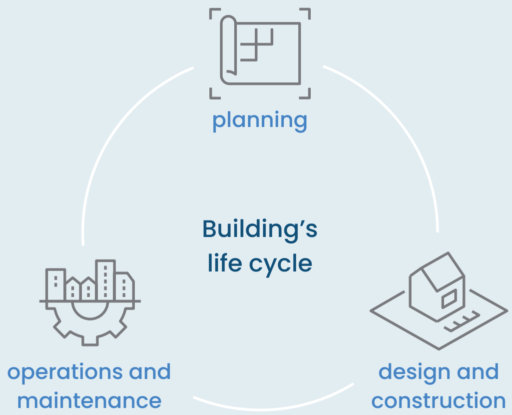
BCA took on the Secretariat role in supporting the Future Economy Council's Urban Systems Cluster Sub-Committee (above) to engage more than 2,500 industry partners in co-developing the Built Environment Industry Transformation Map.

Transforming the Built Environment Sector

The Built Environment Industry Transformation Map (BEITM) was launched at the International Built Environment Week (IBEW) 2022. An amalgamation of the Construction ITM and Real Estate (Facilities Management) ITM, the BEITM aims to transform the Built Environment (BE) sector through the three key stages of a building's life cycle - planning, design and construction, as well as operations and maintenance.

BCA engaged more than 2,500 partners from the industry to gather inputs and co-develop the proposed new strategies and initiatives to formulate the BEITM. These partners included firms, Trade Associations and Chambers (TACs), government agencies, unions, Institutes of Higher Learning (IHLs) and students. Find out more about the BEITM here.

The BEITM aims to transform the Built Environment sector through the three key stages of a building's life cycle.



IMPROVING CONSTRUCTION PROCESSES AND PRACTICES

Aligning Interests among Project Parties with Collaborative Contracting

Collaborative contracting strives to clearly align interests among project parties to spur good project management. It sets common goals across the entire project team, allocates project risks appropriately to the parties that are best able to manage them, while cultivating regular open communication and cooperation to resolve issues in a timely manner.

We have been learning from international experiences and best practices such as the New Engineering Contract (NEC), which was successfully implemented in the United Kingdom, Hong Kong, Australia, New Zealand and South Africa.

Improving Construction Efficiency at Tender Stage

Building Information Modelling (BIM) models are often not issued as part of contract documents, and contractors have to create BIM models based on 2D tender drawings to facilitate construction works. To maximise the value of BIM, BCA partnered the industry to develop and launch the BIM Handover Technical Guide.

The guide identifies essential model content that forms part of the contract documents and provides a set of guidelines for BIM preparation and issuance at the construction tender stage. This helps project stakeholders to exercise collaborative project management by relying on federated BIM models as a single source of truth.

View the BIM Handover Technical Guide here.

BCA's facilitation efforts led to nine Government Procuring Entities (GPEs) committing **11 projects** to pilot the public sector collaborative contracting option module.

Private sector developers will come onboard in 2023.

In addition, **three GPEs** have identified another three projects to pilot the New Engineering Contract.

Key officers, contractor and subcontractors of MOH Holdings' Punggol Field Nursing Home project participated in partnering workshops to enable them to work in a collaborative environment.

Enhancing Efficiency with BIM

BCA is working with progressive developers and GPEs to pilot the handover of BIM models as part of contract documents.

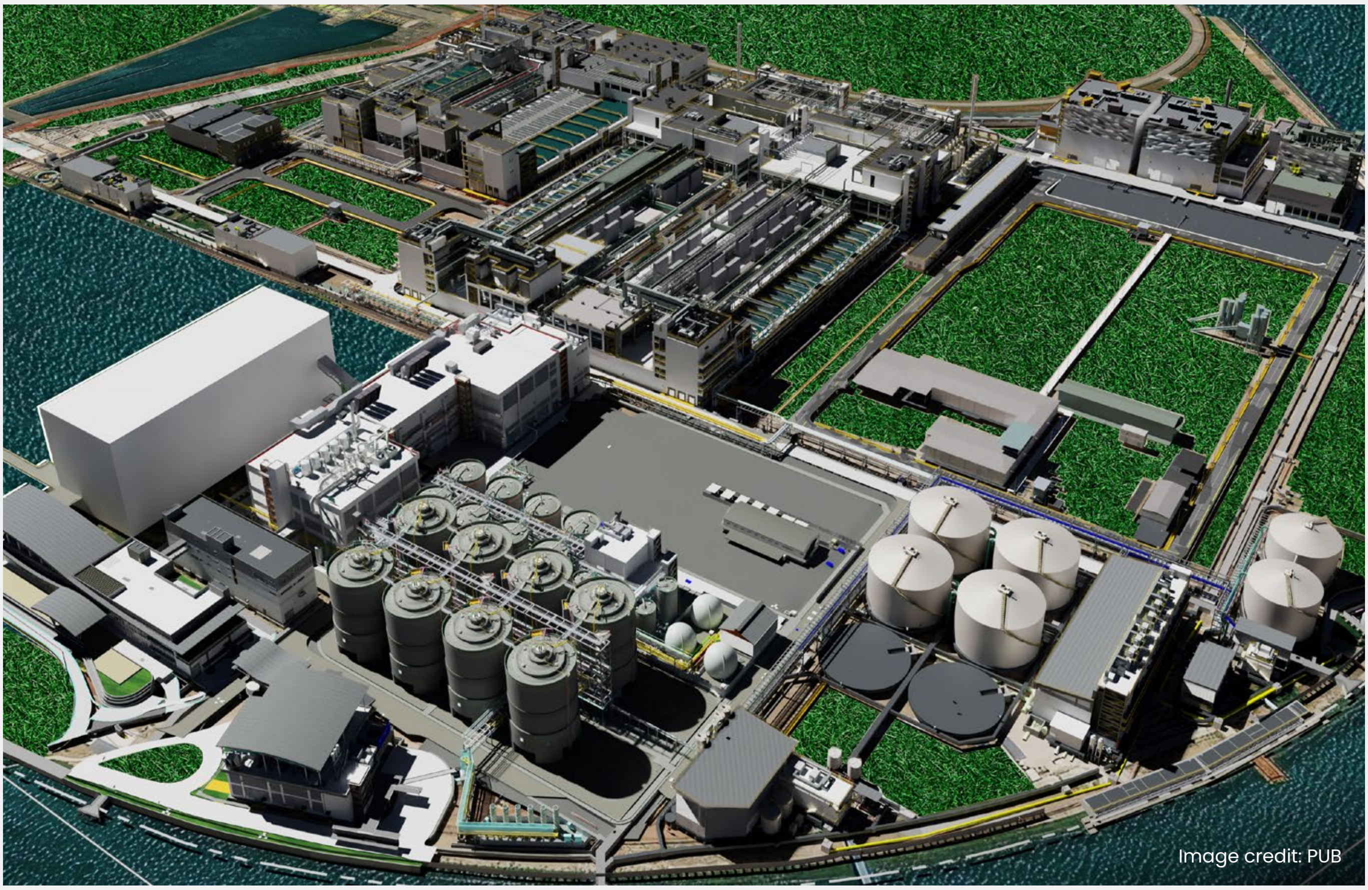


Image credit: PUB

The Public Utilities Board's (PUB) Tuas Water Reclamation Plant project is a successful example for others to follow. The practice eliminated the need for consultants to produce thousands of 2D drawings for the builders' reference. Additionally, through the use of digital platforms and value engineering, the traditional timelines for the multi-disciplinary design tendering process of major contracts were reduced by 50%.

With such benefits, BCA will continue to work with the rest of the industry to pilot and proliferate the practice of effective BIM handovers in their projects.

Reduced traditional timelines for the multi-disciplinary design tendering process by **50%**

Transforming the Regulatory Approval Process through CORENET X

BCA and URA have been co-leading the CORENET X initiative to improve the efficiency of regulatory approvals across regulatory agencies through digitalisation.

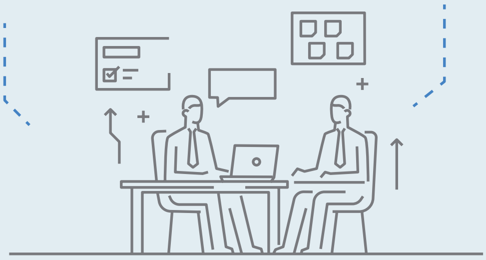
To familiarise stakeholders with the new regulatory process and submission format, we embarked on change management initiatives in FY2022. With the support from Singapore Institute of Architects (SIA), Association of Consulting Engineers (ACES) and SkillsFuture, more than 350 industry professionals have undergone training on the new regulatory approval process and Industry Foundation Classes for Singapore regulatory requirements (IFC-SG) openBIM submission format.

BCA Academy played a leading role in preparing the industry and agencies for the implementation of CORENET X. BCA Academy launched the new regulatory approval process training programme for CORENET X for the industry, and trained more than 700 regulatory officers across eight agencies to review BIM models and collaborate on new approval workflows.

We also co-organised industry seminars, webinars and Community of Practices with fellow agencies, such as the inaugural CORENET X Leadership Forum, and released a draft Code of Practice and IFC-SG Resource Kit to guide industry practitioners in carrying out CORENET X submissions. Furthermore, we brought together BIM software developers and technology firms to co-create tools to facilitate the modelling and preparation process.

350 industry professionals have undergone training to familiarise stakeholders with the new regulatory process and submission format.

BCA Academy trained more than **700** regulatory officers to be ready for CORENET X.



CORENET X was developed through a service journey design thinking approach involving industry stakeholders and regulating agencies.

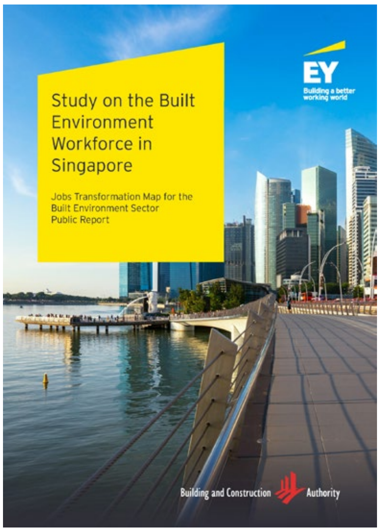
The inaugural CORENET X Leadership Forum was organised jointly with Singapore Polytechnic, with support from the Singapore Institute of Architects, Association of Consulting Engineers, Board of Architects, and Professional Engineers Board. The forum aims to prepare industry leaders and their teams to be ready for the launch of CORENET X.

FORTIFYING MANPOWER CAPABILITIES

Evaluating the Impact of Mega Trends on the BE workforce

A future-ready and resilient workforce is one of the key enablers under the BEITM. Aimed at identifying the changes needed within the BE workforce to drive industry transformation, BCA, together with Ernst & Young Advisory Pte Ltd, conducted a study to evaluate the impact of mega trends on the BE workforce.

The study supports BE firms and individuals in planning their career development journey and seizing opportunities that emerge as the sector evolves. It also contains self-help dashboards that identify the new skillsets required for career progression or transition between different job roles within the sector.



View the Study on the Built Environment workforce in Singapore here.

Improving HR Practices for Talent Attraction and Retention

To enhance HR practices across the BE sector, BCA partnered the Institute for Human Resource Professionals (IHRP) in 2022 to conduct a baseline study on BE firms' HR capabilities. The study provided insights on common areas for improvement, such as Employee Value Proposition and Compensation & Benefits, and recommendations to address the identified gaps. The insights were shared with TACs and industry firms on various platforms to encourage them to work on areas of improvement.

Separately, we have been working with TACs to encourage more BE firms to tap IHRP's Human Capital Diagnostics Tool (HCDT) to understand their current HR management capabilities and gaps, and strengthen their HR practices to better support talent attraction, talent retention and workforce transformation.

Scaling New Heights in HR Capabilities

Having undergone the HCDT in October 2022, Teambuild took up the recommendations to further enhance their Employee Value Proposition and review their manpower planning tools. The company is currently upskilling their HR team using the HR Professional Certification framework developed by IHRP and redesigning selected work processes and job roles (e.g. Assistant Project Managers/Project Engineers, Quantity Surveyors) to imbue their people with emerging skills for digital transformation.

Teambuild was recognised in The Straits Times as one of Singapore's Best Employers in both 2021 and 2022.

MONDAY, APRIL 18, 2022 | THE STRAITS TIMES | B13

SINGAPORE'S BEST EMPLOYERS 2022

Constructing new pathways in built environment sector

Younger tech-savvy talent are drawn by opportunities to adopt the latest technologies and be involved in innovative projects from start to finish

By Aster Tan

Ms Sarah Nurrachman is 22 and passionate about anything related to renewable energy. The electrical and electronics engineering graduate represents the changing face of the built environment (BE) sector in Singapore.

She joined global design and engineering company Arup in July 2021, attracted by its focus on testing boundaries of engineering and design as well as commitment to shaping a better world.

Since joining Arup, which is on the Singapore's Best Employers 2022 list released by The Straits Times and global research firm Statista, she has been involved in several high-profile energy projects, including a hydrogen one here.

"The Singapore office is a friendly and fun environment... I'm originally from Indonesia and was able to return home this year to spend time with my family for a month, thanks to Arup's flexible working practices," she says. She is now a graduate consultant in Arup's energy team.

The BE sector, which comprises developers, construction firms, design, facilities management, security and environmental services firms, has been undergoing a facelift, thanks in large part to efforts by the Building and Construction Authority of Singapore (BCA), with digitalisation as a key plank.

As the regulator of the industry, BCA has been taking the lead in transforming itself into a technologically-savvy employer of choice. It is also ranked one of Singapore's Best Employers in 2022.

"To remain at the forefront of a greener, smarter and more efficient built environment sector, we provide training programmes to equip our employees with future-ready skills and build meaningful careers."
MR JASON LEOW
chief executive officer, CapitaLand Development

Arup's geotechnical engineers use models to assess risks to buildings and estimate movement of ground during construction. PHOTO: ARUP

KTC Civil Engineering & Construction, too, has made it to the list. It has invested heavily in procuring system solutions to replace manual work and upskilling employees. HR and operations teams also work closely together to redesign jobs, identity skills gaps and establish training plans.

One role created is BIM manager, a civil engineer who implements building information modelling (BIM) and digital construction procedures.

BIM manager Jerry Law, 38, notes that the BE sector presents an exciting career for the younger generation. "Completing a project gives me a sense of satisfaction as I can see the building being constructed from start to end. At the same time, what I have built will be a legacy that I can share with my children many years from now."

Talent pipeline

As more technology tools are being adopted in the BE sector, upskilling the existing workforce is crucial. The BCA has launched schemes to promote the recognition of skills to support career progression.

CapitaLand Development, which is also on the list of Best Employers, has invested over $1 million in learning and development, and delivered more than 415,000 hours of training to employees globally.

Through its dedicated learning arm CapitaLand Institute of Management & Business (Climb), and partnerships with institutes of higher learning, it develops programmes to equip employees with future-ready skills such as the use of artificial intelligence, data analytics and integrated digital delivery.

CapitaLand Development (Singapore) head of project development & design (M&E/C&S) Chow Chee Khang says: "This focus on people and innovation is among the reasons I've stayed with the organisation for over two decades."

At City Developments Limited (CDL), another developer on the list of Best Employers, staff can tap programmes and workshops, covering technical, soft, personal management and professional skills.

Recognising that millennials and Gen Z workers look beyond just compensation and benefits, CDL is moving towards a total rewards and recognition package that is customised, transparent and equitable.

Ms Nurrachman enjoys working at Arup where she gets to work on high-profile energy projects and learn from experienced engineers. PHOTO: ARUP

For example, Workday's Reward and Recognition allow employees to show instant appreciation to their colleagues anytime, providing a more all-encompassing view of an individual's performance during appraisal.

During the pandemic, CDL not only stepped up investments in employee training and upskilling, but also sharpened its focus on wellness.

"A strong digitalisation focus will continue to drive the built industry's transformation into a vibrant, innovative sector that will attract new talent."
MR STEVEN TAN
chief human resource officer, CDL

BROUGHT TO YOU BY
Building and Construction Authority

BuildSG

"Covid-19 has struck us hard, but by rallying around our employees and investing in them, we will come back stronger."

We are proud to be ranked among Singapore's Best Employers

Celebrating the Talent in Singapore's Built Environment Sector

Building and Construction Authority | ARUP | CapitaLand | CBRE | City Developments Limited
For East Organization | Jacobs | JLL | KTC
SANTARLI | Sunray | TEAMBUILD | WOH HUP

Built Environment firms were among the list of The Straits Times' Singapore's Best Employers in 2022.

Attracting the Next Generation of BE Professionals

BCA seeks to develop and support the next generation of BE professionals and has several initiatives to draw more talent to the industry.

iBuildSG Club - BCA leverages the iBuildSG Club to engage students on topics such as BE careers and industry's transformation efforts. By end 2022, the Club had more than 7,000 student members from secondary and tertiary education levels. In 2022, we organised a photography challenge which received more than 600 entries, nine workshops that drew close to 2,000 students, and six digital learning journeys which attracted more than 110,000 views collectively on the iBuildSG Club Instagram page. The Club also engages students through other social media platforms such as Telegram and Facebook.

ACTIVITIES ORGANISED BY IBUILDSG CLUB IN 2022

- Photography challenge with more than **600** entries.
- Nine workshops that drew close to **2,000** students.
- Six digital learning journeys attracted more than **110,000** views.

iBuildSG workshop with Bukit View Secondary School.

Collaboration between Singapore International Facility Management Association (SIFMA), Polytechnics and ITE – SIFMA, five Polytechnics and ITE signed a Memorandum of Understanding to collaboratively attract, retain and develop talents in the BE sector.

The partnership involved:

- provision of career development platforms such as mentorships and learning journeys;
- co-development of facilities management (FM) training content;
- provision of financial support, including scholarships and book prizes; and
- co-branding and supporting FM events and initiatives.

Hello Engineer series - We worked with ACES on "Hello Engineer" – a series of short form videos that showcase BE engineers and the work they do. BCA plans to ramp up marketing of BE careers and co-lead the effort to re-brand our sector with other BE sector evangelists and firms.

One of the "Hello Engineer" series videos featured Johnson Li, Senior Mechanical Engineer of Aurecon Group. View the video on Youtube here.

Signing of MoU between SIFMA, Polytechnics and ITE to collaborate in attracting, engaging and nurturing students in Facilities Management-related work.

Shaping a Digitally-Ready BE Workforce

In our ongoing quest to drive digital competency across the BE workforce, BCA introduced the Digital Delivery Management (DDM) accreditation scheme under the BE Skills Framework in partnership with the industry and IHLs. The DDM accreditation provides a structured pathway to build competency through four accreditation tiers and aims to amass a strong pool of qualified personnel to execute Integrated Digital Delivery (IDD) projects.

To promote the use of digital technology throughout the entire value chain, BCA worked with the Specialists Trade Alliance of Singapore (STAS) in engaging specialist trade contractors, to understand the challenges they face. Solutions provider, Novade, was then roped in to develop relevant digital solutions. One outcome was the Digital Quality Assurance / Quality Control platform which facilitates collaboration between Prefabricated Mechanical, Electrical and Plumbing firms and main contractors by enabling better coordination and smoother workflows throughout the prefabrication and installation process.

Boosting Career Prospects in the Lift and Escalator (L&E) Maintenance Sector

In December 2022, BCA mandated the progressive wage model (PWM) for L&E maintenance workers who are Singapore citizens or permanent residents to attract and retain locals in the L&E Maintenance sector. The PWM features a six-year schedule of sustained wage increases beginning from 2023 and outlines a skills ladder and the corresponding recommended training requirements for workers.

More than **1,100** locals — about **50%** of the L&E maintenance workforce — will benefit from the PWM requirement.

HARNESSING TECHNOLOGY TO EMPOWER TRANSFORMATION

Driving Adoption of Robotics & Automation (R&A)

Adopting ready-to-deploy R&A solutions can improve the productivity of on-site construction, off-site prefabrication and FM. BCA has been actively engaging the industry to raise awareness about these solutions.

In March 2023, BCA partnered the Singapore University of Technology and Design (SUTD) to organise the first BE Innovation Exchange (BEIX) forum. The event featured a diverse range of SUTD's reconfigurable robots currently employed in other sectors, which could be adapted in construction. Beyond raising awareness, BCA also provides funding to facilitate the adoption of this emerging technology though the Productivity Innovation Project incentive scheme.

To drive adoption of R&A in public projects, BCA and JTC Corporation (JTC) co-led the Robotics and Automation Implementation Committee (RAIC). Initiatives include the use of drones for façade inspection and cleaning robots, as well as in supporting on-site pilots of robotic solutions for painting, drilling and façade cleaning.

The Built Environment Innovation Exchange session at SUTD featured reconfigurable robots employed in other sectors that could be adapted in construction.

Promoting Collaboration in Innovation and Technology (I&T)

BCA continually fosters collaboration across the I&T ecosystem — progressive industry firms, innovators, investors, IHLs and research institutes — through targeted programmes and platforms to accelerate the development and trialling of novel solutions. These range from open innovation and research funding to build long-term local capabilities, to initiatives to build up specific technologies, as well as centres of innovation that uplift Small and Medium Enterprises (SMEs).

Trialling of Innovative Solutions

By actively collaborating and engaging with the industry, we pave the way for industry firms to partner solution providers in developing and trialling novel, innovative solutions that address their pain points and advance the sector.

Under the Built Environment Accelerate-to-Market Programme (BEAMP), innovators submit proposals to address challenge statements put out by industry firms. Selected innovators receive funding to develop prototypes and the opportunity to testbed these solutions together with the industry. Companies are also able to leverage BEAMP to explore new solutions.

Reaping the Benefits of BEAMP

Benefitting from BEAMP, Operva AI's new solution Airpland, a cloud-based platform for autonomous drone-flying, has been adopted by three local contractors for on-site beta testing – demonstrating the industry's willingness to embrace new technologies. The insights generated from the trial helped Operva AI refine its product and drive market development strategies.

Photo credit: Operva AI

Bolstering Collaborations between Industry and IHLs

During the year, BCA supported collaborations between industry firms and IHLs and their investments in research and innovation (R&I) to build long-term local capabilities and deliver outcomes for commercialisation and export.

Construction Technology Innovation Laboratory Research Project Agreement Signing Ceremony.

A long-term collaborative model for R&I, the Construction Technology Innovation Laboratory (CTIL) - involving Woh Hup, the Singapore Institute of Technology (SIT) and various industry firms - exemplifies how progressive firms making investments can build long-term capabilities and competitive advantage. In July 2022, Woh Hup and SIT formalised their partnerships with value-chain players SEN SG, TTJ Design & Engineering and NatSteel Holdings. The CTIL received funding from BCA's Built Environment Technology Alliance Catalyst Funding for its integrated project, "Innovative Construction Technologies for Deep Foundation and Excavation". This initiative sought to develop an ensemble of underground construction technologies to improve productivity for deep foundation and excavation works.

Demonstrating R&I Capabilities

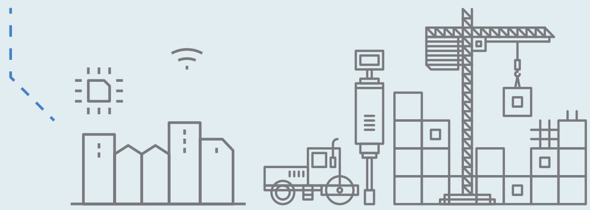
BCA supports R&I through the Built Environment Robotics R&D Programme which focuses on research, development and deployment of innovative robotics for advancing automation in manufacturing, improving on-site productivity, as well as enabling smart and sustainable facilities management.

To date, the **$15 million** Built Environment Robotics R&D Programme has been fully committed and up to **seven** projects have been awarded.

In October 2022, BCA, together with Enterprise Singapore, launched the Centre of Innovation for Built Environment – Advanced Materials (COIBE-AM) – a joint effort between Singapore Polytechnic, Republic Polytechnic and Temasek Polytechnic to uplift local SMEs' capabilities in advanced construction materials. The programme arms SMEs with access to an array of resources, from laboratory facilities to training and consultancy services, to embark on their own R&I journeys.

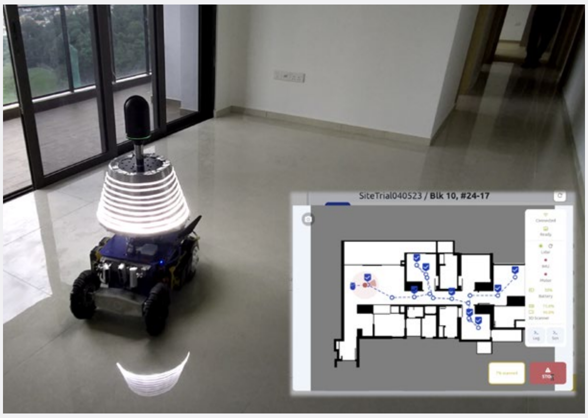
Tripartite signing of partnership by Singapore Polytechnic, Republic Polytechnic and Temasek Polytechnic at IBEW 2022 for the launch of the Centre of Innovation for Built Environment – Advanced Materials.

To date,
the Centre of Innovation has engaged **58 SMEs**
as well as conceptualised and worked on
11 innovation projects with them.



Two R&I projects supported under the BCA Built Environment Robotics programme were showcased at an event in February 2023.

- By Panasonic R&D Centre Singapore (PRDCSG): Robotic system to automatically detect and generate reports of building defects concerning finishings, alignment and evenness, such as cracks and damages, in line with Construction Quality Assessment System (CONQUAS) requirements.
  - The solution, tested at one of Kimly's construction sites, proved its potential to improve productivity by up to 200%.



Smart inspection robot being trialled at a construction site.

- By Agency for Science Technology and Research-Advanced Remanufacturing and Technology Centre (A*STAR-ARTC): System for remotely operated earthworks.
  - System fitted on an excavator to improve safety (through preventive measures) and productivity (by incorporating surveying data).
  - The solution will be trialled at BCA Braddell Campus in FY2023.

Both technologies are key enablers of future autonomous fleet operations.

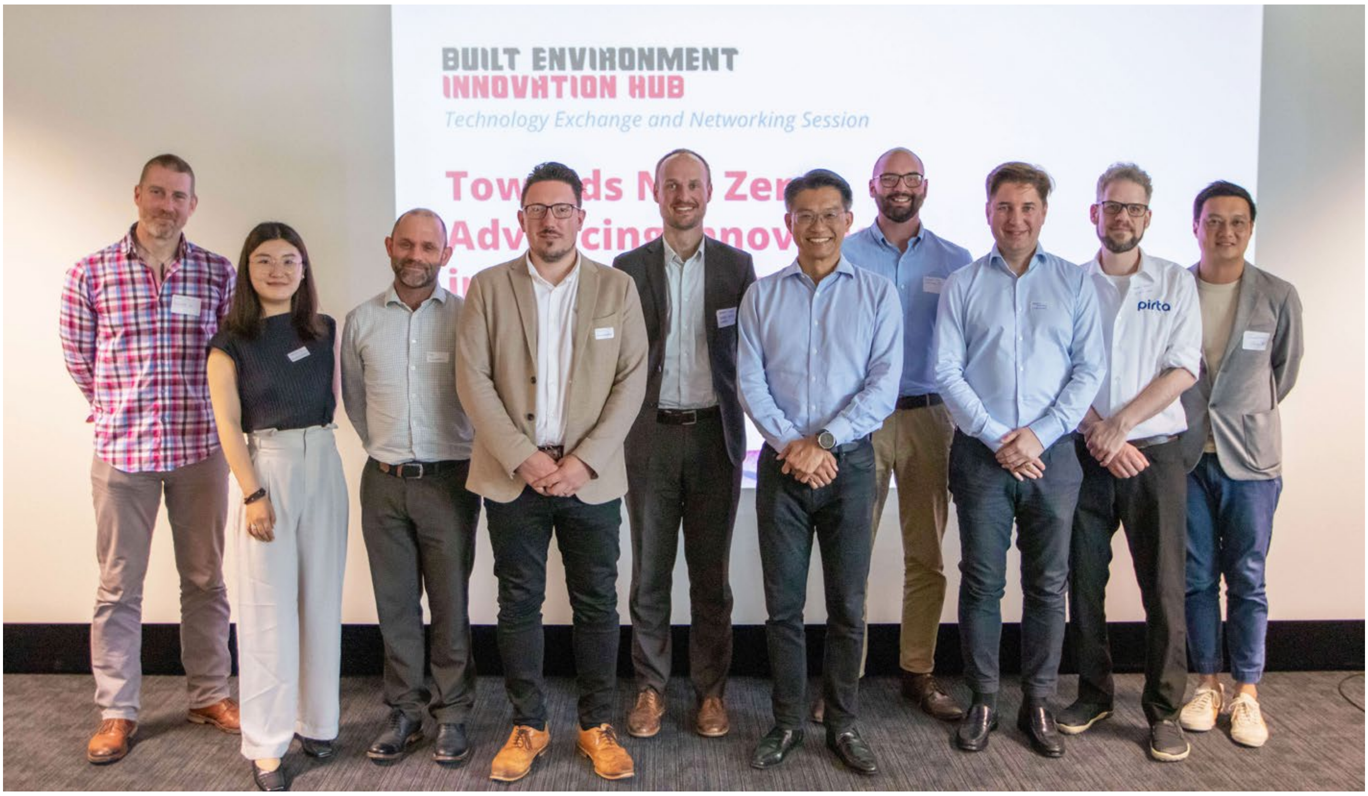
Sparking Innovation and Connections Through Networking Events

Through BCA-organised networking sessions, industry firms uncovered new technologies, fostered engaging exchanges and accelerated transformation enabled by I&T.

Showcasing and celebrating I&T in the sector, BE Demo Day 2022 was held during the International Built Environment Week. Nine promising innovators pitched their emerging technologies to a panel of judges to contend for the following awards — Rising Star Award, Impact Award and Innovation Award.

In a more intimate setting, BCA organised Built Environment Innovation Hub Technology Exchange and Networking sessions. The session themes ranged from pushing the boundaries of pre-fabricated Mechanical, Electrical and Plumbing (MEP) systems, to net-zero and low carbon technologies, and robotics and automation.

BE Demo Day 2022 winners Fabrica AI (Rising Star Award), Gush (Impact Award) and Concrete AI (Innovation Award) with the judges.



BCA-organised networking sessions fostered engaging Innovation and Technology exchanges between local and overseas innovators, industry stakeholders and prospective investors.

ADVANCING TRANSFORMATION IN FACILITIES MANAGEMENT

Spurring Transformation of the FM Sector

Under the Built Environment Industry Transformation Map, BCA has identified three key transformation areas to accelerate the evolution of the Facilities Management (FM) sector:

- Improving upstream design to consider downstream maintenance concerns through Design for Maintainability (DfM);
- Increasing adoption of highly integrated Smart FM platforms; and
- Delivering multiple FM services across a portfolio of buildings in a single contract through Integrated FM (IFM) and Aggregated FM (AFM) to reap efficiencies and economies of scale.

Adopting Best Practices in Smart FM and DfM

To encourage the adoption of best practices in smart FM and DfM, BCA further engaged industry stakeholders and improved the existing FM guides to cover emerging challenges.

In September 2022, more use cases in Smart FM and best practices in data management were included in The Guide to Smart FM. In addition, BCA also worked with the Infocomm Media Development Authority (IMDA) to improve the Internet of Things (IoT) Cyber Security Guide by incorporating case studies on Smart Buildings.

The existing DfM guides were revised in December 2022 to cover Smart FM and robotics and automation considerations as well as other related FM services, including security, environmental services and landscaping.

View the DfM guides here.

Supporting the Transformation Journey through Grants

Aimed at supporting progressive service buyers and FM companies in embarking on their transformation journey, BCA launched the $30 million IFM and AFM grant in September 2022. To qualify, projects will need to demonstrate at least 20% productivity savings by delivering at least three FM services in an integrated manner, aggregating operations across a minimum of three buildings and investing in highly integrated Smart FM technology platforms.

Shaping Sustainable Buildings

Increasingly, private developers have been taking charge of their decarbonisation journey, which includes improving FM.

Intelligence and Maintainability were introduced in Green Mark 2021 (GM: 2021) as optional badges to raise building operations and maintenance standards. Building owners have been striving to attain these optional badges in addition to improving energy performance.

Image Credit: Shaw Towers Realty

For the redevelopment of Shaw Tower, Shaw Towers Realty Private Limited worked with its project team to attain Green Mark Platinum Super Low Energy (SLE) certification in 2022, alongside sustainability badges including Intelligence, Health and Wellbeing, and Maintainability.

With good façade maintenance access and smart systems managed through the Integrated Services Platform, the building exemplifies how developers can adopt various design strategies for smarter operations and better maintainability.

Shaw Tower is expected to achieve ambitious sustainability targets. Its projected net energy savings, including solar energy generation, exceeds the 2005 baseline by 60%, while carbon abatement stands at 2,660 tonnes of CO_2 emissions, equivalent to removing over 570 non-electric cars from our roads.

Professionalising the FM Sector

The Singapore International Facility Management Association (SIFMA) has been BCA's strategic partner in FM transformation, with their Certified FM Company (CFMC) and Certified FM Expert (CFME) accreditation schemes helping to develop capabilities across the sector.

At present, **34** companies have been accredited under the Certified FM Company accreditation scheme, **26** of which are large FM companies registered under the FM workhead of BCA's Contractor Registry Scheme (FM01).

Meanwhile, a total of **146** individual FM practitioners have been accredited under the Certified FM Expert accreditation scheme, keeping pace with the industry's target to have **1,000** accredited FM practitioners by 2025.

FOSTERING EXEMPLARY TRANSFORMATION OUTCOMES

Enhancing Productivity and Digitalisation Initiatives to Boost Construction Efficiency

To accelerate the pace of industry transformation set out under the refreshed BEITM, we enhanced the requirements of the Government Land Sales (GLS) programme and introduced the BE Transformation Bonus Gross Floor Area (GFA) Scheme.

Since June 2022, sites sold under the GLS programme will need to meet higher requirements in the areas of Design for Manufacturing and Assembly (DfMA) adoption, digitalisation and sustainability to bring about:

- increased adoption of DfMA, such as implementation of Prefab MEP;
- maximised benefits with complementary use of digital platform/s and IDD use cases to enhance collaboration across project stakeholders; and
- Super Low Energy buildings that are also designed for maintainability.

25 Government Land Sales and 12 Industrial GLS sites have been launched to date, under the enhanced requirements

9 applications approved under the BE Transformation Bonus GFA Scheme

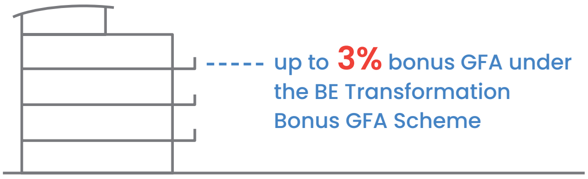
Positive correlation between DfMA adoption and quality performance – DfMA private residential projects (i.e. Band 1 under new CONQUAS banding system) fare better than non-DfMA private residential projects (i.e. Band 2 under new CONQUAS banding system) in FY2022 CONQUAS performance

Photo credit: City Developments Limited

Completed in 2022, the 716-unit Whistler Grand condominium adopted the use of Prefabricated Prefinished Volumetric Construction (PPVC) in its construction.

Incentivising Developers via the BE Transformation Bonus GFA Scheme

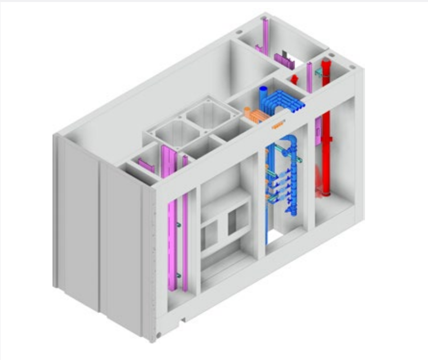
Private developments capable of committing to stretched ITM outcomes beyond the mandatory requirements of the GLS programme can enjoy up to 3% bonus GFA under the BE Transformation Bonus GFA Scheme. One of them is the Executive Condominium (EC) development along Tengah Garden Walk.



At the EC development along Tengah Garden Walk, Taurus Properties SG (a joint venture between City Developments Limited and MCL Land) collaborated with Woh Hup (Private) Limited to adopt DfMA and digital technologies extensively, including Prefab MEP and IDD solutions.

- **Prefab MEP**: Aside from maximising the coverage, the project team developed a first-of-its-kind precast concrete riser that seamlessly integrates features like refuse chutes, beams and columns, as well as services such as gas and water piping. Such adoption of prefab MEP is expected to achieve approximately 38% manpower savings, compared to conventional MEP works.
- **IDD solutions**: To further raise productivity, the project applied IDD solutions to manage the installation of prefab MEP modules, including quality inspections and defects rectification, which would yield 30% time savings in construction management.

The introduction of such outcome-based approaches is a key enhancement to the Buildability 2022 framework.



BIM model for integrated Pre-fabricated Mechanical, Electrical and Plumbing (Prefab MEP) riser

Fitting out of the integrated Prefab MEP riser

Recognising Projects that Exemplify BE transformation

BCA introduced the inaugural Built Environment Transformation Award in September 2022 to recognise projects that demonstrate commitment towards transformation. The award aims to encourage high standards of sustainability, productivity, digitalisation and other areas that support capability building, workforce development, innovation and resilience.

A total of four projects were awarded:

(1) PSA Liveable City

- Demonstrated outstanding effort in applying FM best practices to improve operations and maintenance of the building.
- Extensive data-sharing ecosystems allow multi-disciplinary project team members to easily access project data through smart devices, allowing multiple stakeholders to collaborate on designs in real-time while improving decision-making.

(2) JTC's 1 and 7 North Coast

- Adopted digitalisation technologies extensively, such as IDD and Common Data Environment platforms to improve overall productivity through data sharing and cross-disciplinary collaboration.
- With FM practitioners involved in collaborative building design upstream, the team identified potential maintenance issues and tweaked designs for easier operations and maintenance after construction. For example, access routes were provided for the entire building façade and sturdier materials were used for outdoor furniture to ensure easy maintenance.

(3) Eunoia Junior College

- One of the first movers to adopt Cross Laminated Timber, Prefinished Modular Façade and a timber and concrete hybrid slab system, leading to a 44% improvement in productivity over 2010 levels.
- Adopted a collaborative design approach with upfront FM involvement to identify potential maintainability issues at the design phase, while reducing operational challenges in building maintenance after construction.

Built Environment Transformation Award 2022 winner PSA Liveable City demonstrated outstanding effort in applying FM best practices to improve operations and maintenance of the building.

Built Environment Transformation Award 2022 winner JTC's 1 and 7 North Coast adopted digitalisation technologies extensively to improve overall productivity.

(4) The Tapestry

- Adopted PPVC and achieved a 50% improvement in productivity, as well as CONQUAS (Star) and Quality Mark (Star) certification.
- IDD was adopted by designing and planning digitally before construction took place.
- The close partnership between developer and builder in this project helped develop deep capabilities in the project parties, which justified further collaborations in subsequent PPVC projects, including Whistler Grand, Irwell Hill Residences and Tengah Garden Walk EC.

CHAPTER 2

Enhancing Safety across the Built Environment

In everything we do, upholding the safety of all remains our primary concern. Working hand in glove with industry partners, we enhance regulatory standards and harness the latest technologies, as we engineer a quality environment that secures lives and livelihoods.

Photo credit: Gammon


Trimble
NUS
BostonDynamics
IRBIS

Enhancing Safety Across the Built Environment

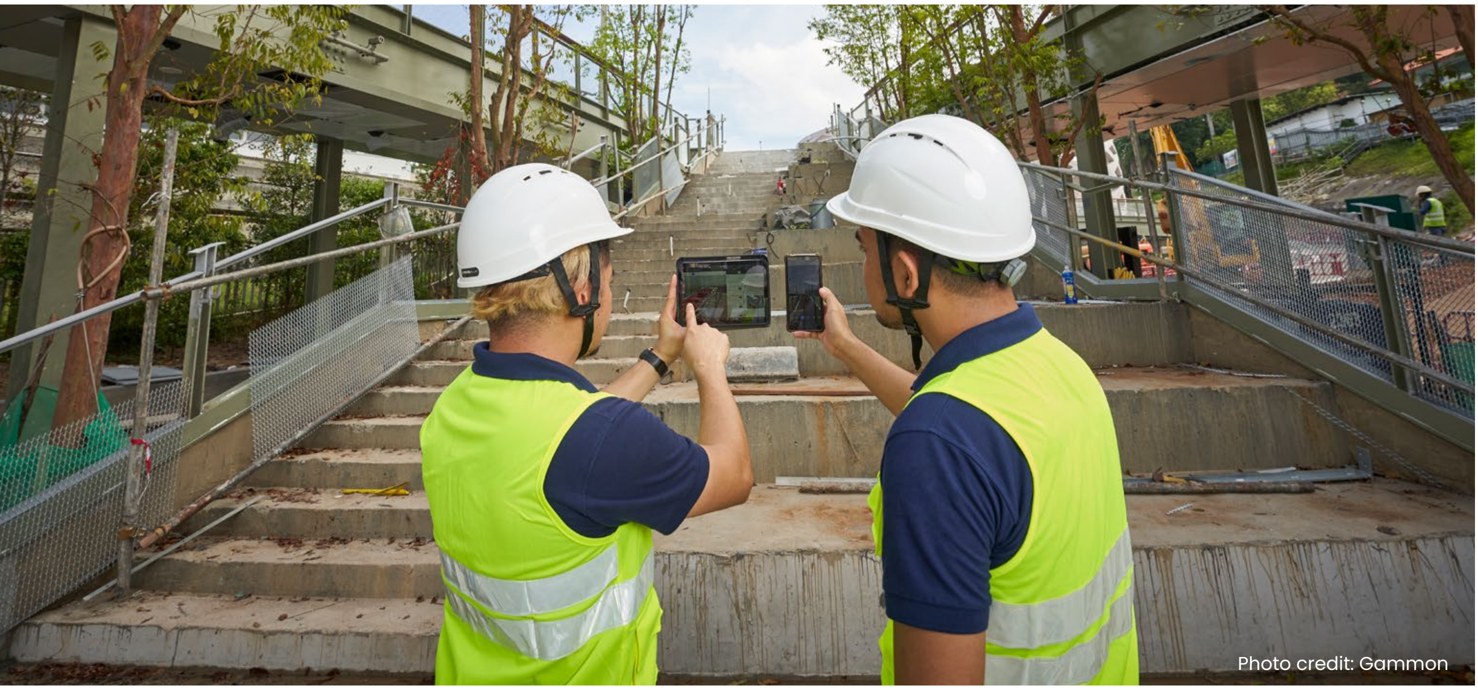


Photo credit: Gammon

Using Building Information Modelling (BIM) on a tablet and mobile phone for on-site inspections.

Harnessing Technology for Virtual Inspections

A key initiative under BCA's Smart Inspection Plan is virtual inspection, which leverages technologies such as LiDAR and 360 captures. Beyond enhancing the inspection process by providing an audit trail of the observations made, virtual inspections facilitate more flexible scheduling and quicker processing of Temporary Occupation Permits (TOPs). For the industry, accurate virtual inspections enable a multiplier effect, allowing Qualified Persons (QPs) and builders to efficiently identify areas for rectification.

Pilot of Virtual Site Inspection

Partnering with JTC Corporation (JTC), BCA conducted the first-of-its-kind pilot trial of a TOP inspection of JTC's Jurong Logistic Hub and semiconSpace via a virtual "walk through" without being physically present on-site. Subsequently, more pilots of this technology were conducted at the new BCA Academy building and a Housing & Development Board (HDB) project.

These trials pave the way for the industry to leverage inspection technologies to digitalise their work processes for use-cases such as progress tracking and quality control.

BCA officers conducted a virtual TOP site inspection using 360 captures.

Propelling Smart Façade Inspections

The utilisation of drones has revolutionised the inspection process, enabling comprehensive visual assessments and façade defects to be detected faster and more accurately, as compared to conventional methods that employ binoculars and handheld cameras.

As part of our ongoing efforts to enhance the capabilities of Drone Service Providers (DSPs), BCA and Singapore Accreditation Council (SAC) would launch an accreditation programme to verify the DSPs' AI defect detection capabilities and data management systems. In line with this, a Memorandum of Understanding (MoU) was signed between BCA and the Institution of Engineers (IES) for the latter to train and keep a registrar of technical assessors to provide third-party technical and AI capability assessment of the DSPs. The accreditation programme will help ensure high standards, while instilling confidence in the quality of façade inspections conducted by DSPs.

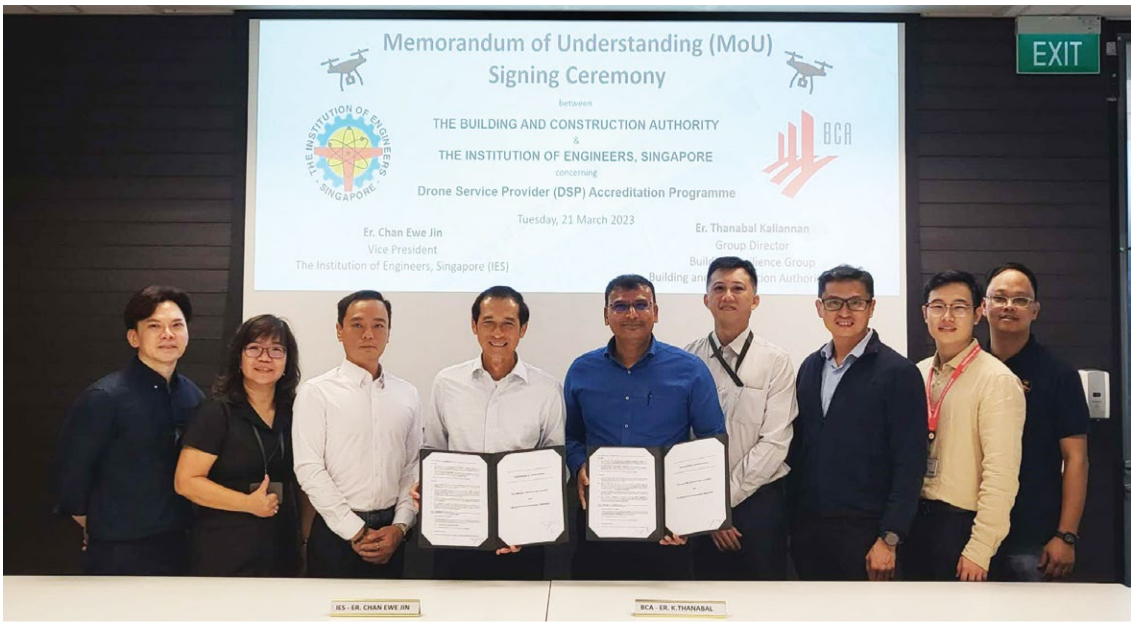
Improving Guidelines for Structural Inspections

BCA enhanced its "Guidelines for Structural Engineers" to address the increasing importance for inspection and maintenance of Singapore's ageing buildings stock.

Apart from enhancing the competency of structural engineers, these guidelines ensure that inspections are carried out effectively and thoroughly. One of the key enhancements focuses on providing clarity and establishing consistency in inspection coverage. Taking a pre-emptive approach, we made sure that engineers assess all critical areas, and identify and rectify potential risk areas before they escalate into major issues. Collectively, these guidelines will significantly improve the competency of structural engineers and ultimately contribute to a safer built environment for all.

Since the Periodic Façade Inspection (PFI) programme was rolled out in January 2022, more than **75%** of local buildings which have been inspected to date have deployed drones for façade inspection.

As of March 2023, there are more than **20 DSPs** that can offer PFI services, of which **11** had developed AI defect detection capabilities.



Signing of MoU between BCA and IES for the latter to provide a third-party technical and AI capability assessment of DSPs.

BCA and JTC collaborated on a two-year pilot on different Remote Monitoring and Diagnostics solutions to monitor lift operations.

Deploying AI for Predictive Lift Maintenance

On 29 July 2022, BCA announced a new regulatory sandbox regime allowing lifts which are connected to Remote Monitoring and Diagnostics (RM&D) solutions to be subjected to a longer maintenance interval. A RM&D solution deploys sensors and AI to monitor and diagnose lift operations, thereby enabling predictive capabilities in lift maintenance. The solution deployed must meet the "Code of Practice (COP) for Design and Performance of RM&D Solution for Lifts" – the world's first COP for RM&D solutions in lift maintenance which was officially released by BCA in 2022.

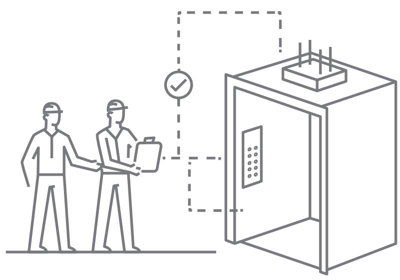
These are the fruits of BCA's two-year collaboration with JTC, which piloted close to 200 lifts with different RM&D solutions and achieved an accuracy rate of at least 85% in predicting lift faults.

The pilot of lifts with RM&D solutions attained an accuracy rate of at least **85%** in predicting lift faults.

Elevating Lift Safety Through Training

Type-testing of lift safety components and lift assemblies will be an essential requirement for the approval of plan submissions for new lifts and escalators (L&E). This is an important step in ensuring compliance and quality, given that a lift has over 1,000 parts.

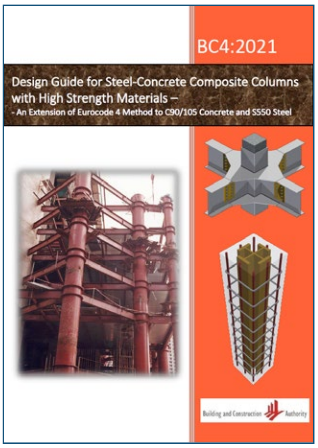
To prepare our Specialist Professional Engineers (SPEs) for this new regime, BCA led a delegation in November 2022 comprising SPEs and engineers from BCA, JTC, HDB and Land Transport Authority (LTA) to undergo a one-week training in type-testing of lift safety components and lift assembly, conducted by TUV SUD in Germany. Moving forward, BCA will organise more of such training to benefit additional SPEs to enhance the safety and quality of lifts.



Leading the Industry to Enhance Construction Productivity with Better Materials

BCA was awarded the Public Sector Pro-Enterprise Initiative (PEI) Award (Bronze) in recognition of our efforts to develop the BC4 Design Guide. This accolade is a culmination of our efforts from 2014 to 2021 to develop a series of guides to champion the use of high strength concrete and steel for composite columns to improve construction productivity and structural efficiency, especially in high-rise buildings. On top of this, the initiative helped the sector to strengthen environmental sustainability through savings in construction materials.

Since its maiden publication, the BC4 Design Guide has benefitted several high-rise developments. These include the 305m-tall 8 Shenton Way building, which will be the tallest building in Singapore when completed, as well as completed projects such as the Outram Community Hospital and Afro-Asia building (above).



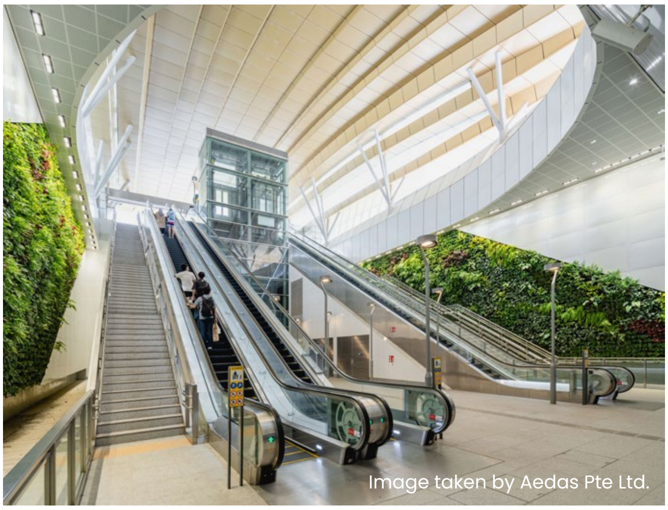
Cover of BC4:2021 "Design Guide for Steel-Concrete Composite Columns with High Strength Materials - An Extension of Eurocode 4 Method to C90/105 Concrete and S550 Steel".
Find out more here.

The team involved in developing the BC4 Design Guide, including BCA officers and an NUS representative, receiving the Public Sector Pro-Enterprise Initiative (PEI) 2022 Award (Bronze) together with one of the judges.

Ensuring the Safety of Major and Complex Projects

BCA remained vigilant in upholding safety as we processed the plans for several major projects, while monitoring ongoing projects with complex structures and deep underground works.

Among the completed projects were high-rise complex developments such as Avenue South Residence, the world's tallest high-rise Prefabricated Prefinished Volumetric Construction project as of February 2022, as well as deep underground projects that include the Thomson-East Coast Line (Stage 3) and Deep Tunnel Sewerage System Phase 2. Meanwhile, ongoing major projects include high-rise mixed-use projects with long span structures and inter-terminal tunnels at Changi Airport.



BCA monitored major projects with deep underground construction works, such as the Thomson-East Coast Line (Stage 3).

CHAPTER 3

Ensuring Liveability for All

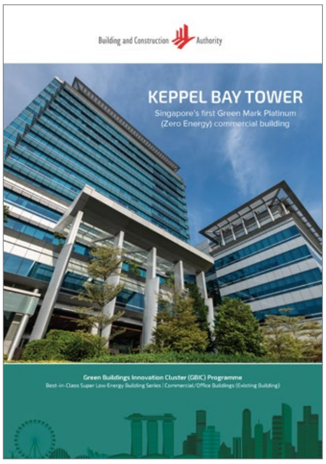
Understanding the needs of Singapore's residents and businesses, we partnered with the built environment industry to shape green spaces while improving liveability and accessibility. Together, we aim to create an inclusive and sustainable built environment where people can live, work and thrive.

Ensuring Liveability for All

Shaping a Greener Built Environment

After introducing the Singapore Green Building Masterplan (SGBMP) in 2021, which aims to deliver the three key targets of "80-80-80 in 2030", BCA has progressively implemented several initiatives to support these outcomes, while striving to decarbonise our built environment (BE).

1st SGBMP Key Outcome	2nd SGBMP Key Outcome	3rd SGBMP Key Outcome
80% of Singapore's Buildings to be Green by GFA by 2030	**80% of New Developments by GFA to be Super Low Energy (SLE) Buildings from 2030**	**80% Improvement in Energy Efficiency over 2005 Levels for Best-In-Class Green Buildings by 2030**
As of the end of 2022		
Approximately 55% of Singapore's buildings by gross floor area (GFA) have been greened. To further improve the energy efficiency of existing buildings, BCA launched the enhanced $63 million Green Mark Incentive Scheme for Existing Buildings 2.0 (GMIS-EB 2.0). Aimed at helping building owners achieve higher energy performance standards – such as Platinum, Super Low Energy and Zero Energy ratings for their properties – this scheme is available from 30 June 2022 until the allotted funds have been fully committed or 31 March 2027 (whichever is earlier).	Nearly 20% of new developments by GFA in 2022 are SLE buildings. Under the GreenGov.SG initiative, the government will continue to take the lead in making SLE buildings mainstream. To achieve this, all new and existing government buildings undergoing major retrofitting must achieve Green Mark Platinum SLE standard or equivalent, where feasible. To drive adoption of SLE standards, BCA has raised the sustainability standards for projects developed on land sold under the Government Land Sales (GLS) programme. Additionally, we introduced the BE Transformation Bonus GFA Scheme. These measures collectively contribute to accelerating the pace of SLE adoption in private developments.	The best-in-class buildings had achieved a 71% improvement in energy efficiency compared to 2005 levels. To further advance energy efficiency in buildings, BCA launched the $45 million Green Buildings Innovation Cluster (GBIC) 2.0 programme. This initiative currently focuses on developing alternative cooling technologies like Passive Displacement Cooling, data-driven smart buildings solutions and hybrid ventilation. The GBIC 2.0 programme also supports building owners, developers and their value chain to scale up adoption of innovative technological solutions through commercialisation and deployment. BCA also collaborated with both local and international innovation communities to retrofit our Zero Energy Building (ZEB) at BCA Braddell Campus to "ZEB Plus" – a positive energy building that produces at least 20% more energy than it consumes.



BCA, in collaboration with Keppel Land, published a case study on how Keppel Bay Tower was retrofitted and certified as the first Green Mark Platinum Zero Energy commercial building. Find out more here.

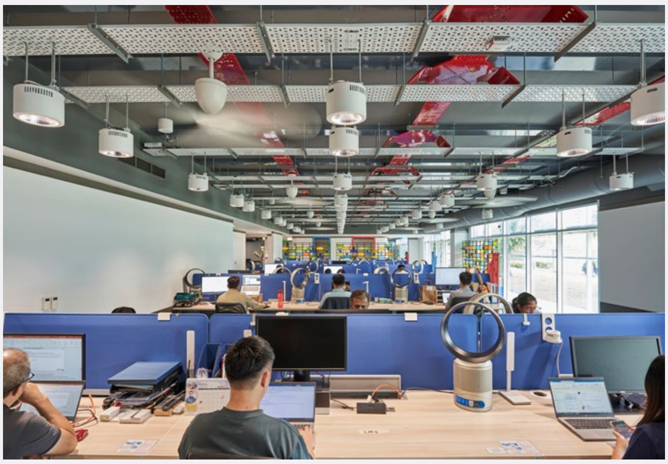
Transforming from Zero Energy to Positive Energy

The Zero Energy Building (ZEB) in BCA Braddell Campus was retrofitted to ZEB Plus, a positive energy building that generates more energy than what it consumes.

Achieved **77%** energy efficiency improvement compared to a typical office in 2005.

Generated at least **20%** net surplus energy from on-site high-efficiency solar PV panels.

By adopting hybrid cooling, the building achieved cooling energy savings of **32%**, without compromising the thermal comfort of its occupants.



Hybrid cooling — air-conditioning with fans — used in the ZEB Plus office.

BCA published the "ZEB Plus@ BCA Braddell Campus" e-publication to share its experience on transforming a zero energy building to a positive energy building. Find out more here.

Strengthening Our Leadership in Green Buildings

In Singapore, many projects are progressively meeting higher Green Mark standards under the BCA Green Mark certification scheme.

As an internationally recognised scheme, BCA Green Mark certification continues to be popular overseas. Singapore's Environmental Sustainability Design (ESD) consultants are engaged by overseas developers as sustainability consultants, and to facilitate application and assessment processes.

BCA conducted the inaugural Singapore-US Smart Cities Green Building Programme in September 2022 for participants from ASEAN countries. The programme outlined Singapore's commitment towards combatting climate change. It aimed to enhance collaborative efforts among smart, sustainable cities within the ASEAN region and promote green building standards, industry practices and innovation.

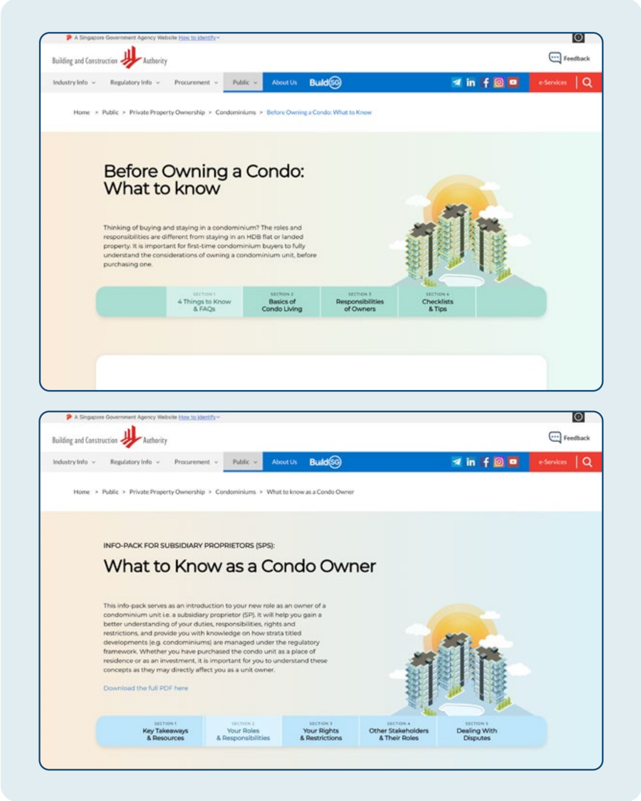
Over FY2022, a total of **33** Green Mark contracts for assessment services were offered to overseas developers, an **increase of 65%** compared to FY2021.

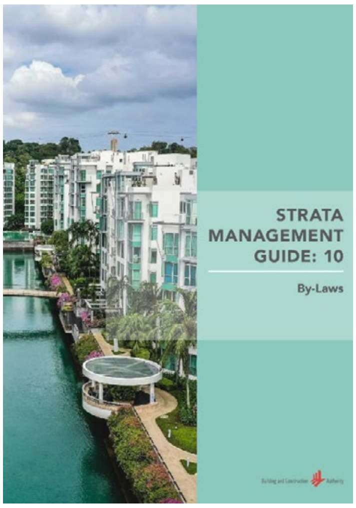
Meanwhile, a total of **32** Singapore firms are involved in these projects as developers, architects, engineering consultants, specialists or ESD consultants.

Through the inaugural Singapore-US Smart Cities Green Building Programme, BCA also shared Singapore's leadership in green buildings, while fostering connections and growth opportunities for local firms.

Promoting Awareness of Strata Living Matters

BCA implemented a public awareness plan to reinforce the importance of good strata living. At the same time, we sought to help stakeholders gain a better understanding of their roles and responsibilities as well as what they can expect from living within a strata community.





To support our efforts, we undertook various measures, such as publishing a Buyer's Guide for potential condominium buyers (top), providing an info-pack for new condominium owners, and developing a series of Strata Management Guides for Management Corporations and Strata Owners (left).

Improving Accessibility for Persons with Disabilities (PwDs)

To foster greater inclusiveness in society, BCA is committed to enhancing the accessibility of buildings and infrastructure for people of all ages and abilities. Since the launch of the Accessible City Network (ACN), we have worked closely with community partners to co-implement and oversee the gradual completion of accessibility improvement works at Raffles Place for PwDs.

We also rolled out the enhanced Accessibility Fund (AF) that offers support to owners of existing buildings to retrofit their premises with Universal Design (UD) features. To promote the AF, we carried out targeted outreach efforts with industry stakeholders, such as building owners, Qualified Persons, and business associations.

In September 2022, BCA implemented the Universal Design index (UDi) self-assessment framework, which provides guidance for developers and designers on the adoption of UD in their projects. To recognise exemplary projects and outstanding efforts by the industry, BCA conferred the Universal Design Excellence Awards (UDEA) to four projects in November 2022.

At Raffles Place, our partners - representatives from the PwDs community, built environment sector, public and social service agencies - held workshops and site surveys to co-create solutions, and engaged developers and building owners on incorporating accessibility improvements.

CHAPTER 4

Embracing Our People and Planet

We always strive to do better for our people and the environment. With this in mind, we are inculcating a sustainability mindset throughout BCA to inspire eco-friendly practices, while securing staff well-being and equipping our people in our drive to become a technologically-savvy organisation.


Welcome to ClickShare-MMR
ClickShare

Embracing Our People and Planet

The BCA Braddell Campus houses three best-in-class Green Mark Platinum buildings, including the newly completed block (above).

Fostering a Sustainable Organisation

As part of our ongoing commitment, we promote the 3Rs principle of Reduce, Reuse and Recycle among our staff members. This seeks to conserve natural resources and reduce greenhouse gas emissions.

Throughout our offices, there are numerous initiatives to encourage eco-friendly behavioural changes and habits. These include automatic light shut-off in the evenings, which also promotes a healthy work-life balance; motion sensors in all meeting rooms; pre-programmed air-conditioning systems; and optimal office temperature settings.

Both the BCA HQ@JEM office and the BCA Braddell Campus have attained the BCA-HPB Green Mark for Healthier Workplaces (Platinum) for their interior spaces. Additionally, the BCA Braddell Campus houses three best-in-class Green Mark Platinum buildings. These achievements underscore our commitment to implementing sustainable practices, technologies and solutions to inspire our community.

Cultivating Professional Development

To support BCA's transformation towards becoming a data-driven and technologically-savvy organisation, we continued to intensify our training efforts. These initiatives aim to equip our people with new skills, including data analytics, robotics process automation and design thinking, among others. Besides empowering them to confidently utilise data, this will enable them to co-create solutions with their stakeholders.

As part of BCA's transition towards competency-based growth and adopting a more holistic approach to assessing staff performance, we have enhanced our performance management framework. This involves the incorporation of Our Core Competencies (OCC) Framework and BCA's Core Values. The OCC Framework provides a Whole-of-Government (WOG) structure to guide our people in charting their professional development journey to build a wider, all-round set of competencies. Moreover, it also provides a common language in performance evaluation across BCA.

Nurturing Staff Well-Being

With the implementation of our current hybrid working arrangements, we have boosted employee engagement, while enhancing our workplace offerings to support staff returning to the office. Notable enhancements include the introduction of vending machines that offer healthy snacks and drinks, as well as e-coupons for redeeming nutritious beverages.

Besides staff recreational activities, we capitalised on Corporate Social Responsibility (CSR) initiatives like the Charity Bazaar, volunteering at organisations such as the Singapore Association of the Visually Handicapped (SAVH) and organising beach clean-up events to foster stronger connections among our people, while making positive contributions to the community.

BCA staff participated in a beach clean-up in support of the "Keep Clean, Singapore!" movement.

As part of SG Cares National Day Celebrations, BCA staff volunteered with the Singapore Association of the Visually Handicapped and engaged with the beneficiaries.

Event Highlights

23 August 2022

MoU between BCA and the Singapore Institute of Architects

MoU signed to work towards a progressive future for the architectural industry and to rebrand the profession to attract and retain talents.

8 September 2022

CEOs in Conversation

On Day 3 of the International Built Environment Week, a panel of industry leaders spoke passionately about the future of the sector, in particular, the attraction and development of young talent and the importance of collaboration between stakeholders in the Built Environment value chain.

6 September 2022

Opening ceremony of the International Built Environment Week

Minister Desmond Lee announced the refreshed Built Environment Industry Transformation Map.

26 October 2022

Built Environment Future Leaders Retreat

Over 70 iBuildSG scholarship and sponsorship recipients received their awards by sponsoring firms in the industry.

28 November 2022

The BCA Academy Graduation Ceremony

Over 900 graduates received their diplomas and specialist diplomas at the ceremony.

12 January 2023

BCA-REDAS Built Environment and Property Prospects Seminar
BCA projected that the construction demand would be stable for 2023 ranging between S$27 billion – S$32 billion and continue to remain steady in the medium term.

21 March 2023

MoU signed between BCA and Institution of Engineers, Singapore to support the accreditation programme for Drone Service Providers (DSP) for the inspection of building facades.

16 March 2023

CORENET X Leadership Forum
The event was organised to connect with built environment industry leaders and share the importance of leadership in driving change and transformation, in preparation for the launch of CORENET X.

30 March 2023

First BE Innovation Exchange
The event saw a robust exchange of ideas between the industry and SUTD on how reconfigurable robots are already deployed and can be adapted for use in the Built Environment sector.

Annual Financial Statements

Building and Construction Authority and Its Subsidiaries

Statement by the Board

In our opinion:

(a) the accompanying financial statements of Building and Construction Authority (the "Authority") and its subsidiaries (collectively, the "Group"), set out on pages 6 to 50 are properly drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018 ("the PSG Act"), the Building and Construction Authority Act 1999 (the "Act") and Singapore Statutory Board Financial Reporting Standards ("SB-FRSs") so as to present fairly, in all material respects, the state of affairs of the Group and the Authority as at 31 March 2023, and the results and changes in reserves of the Group and the Authority, and cash flows of the Group for the financial year ended on that date;

(b) the receipt, expenditure, investments of moneys and the acquisition and disposal of assets by the Authority during the financial year have been in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority; and

(c) proper accounting and other records have been kept, including records of all assets of the Authority whether purchased, donated or otherwise.

On behalf of the Board of the Building and Construction Authority and its subsidiaries

....
Chairman
Lim Sim Seng

....
Chief Executive Officer
Kelvin Wong

11 August 2023

Independent Auditor's Report

To The Board Members of
Building and Construction Authority

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Building and Construction Authority (the "Authority") and its subsidiaries (collectively, the "Group"), which comprise the statements of financial position of the Group and the Authority as at 31 March 2023, statements of comprehensive income and statements of changes in reserves of the Group and the Authority, and consolidated cash flow statement of the Group for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 6 to 50.

In our opinion, the accompanying consolidated financial statements of the Group, the statement of financial position, the statement of comprehensive income and the statement of changes in reserves of the Authority are properly drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018 ("the PSG Act"), the Building and Construction Authority Act 1999 (the "Act") and Statutory Board Financial Reporting Standards ("SB-FRS") so as to present fairly, in all material aspects, the state of affairs of the Group and the Authority as at 31 March 2023 and results and changes in reserves, of the Group and the Authority and consolidated cash flows of the Group for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing (SSAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Group in accordance with the Accounting and Corporate Regulatory Authority (ACRA) *Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities* (ACRA Code) together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Matters

The consolidated financial statements of the Group and the statement of financial position, the statement of comprehensive income and the statement of changes in reserves of the Authority for the financial year ended 31 March 2022 were audited by another firm of auditors who expressed an unmodified opinion on those financial statements on 16 August 2022.

Independent Auditor's Report (cont'd)

To The Board Members of
Building and Construction Authority

Information Other than Financial Statements and Auditor's Report Thereon

Management is responsible for other information. The other information comprises the Statement by the Authority set out on page 1, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities Of Management And Those Charged With Governance For The Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the provisions of the PSG Act, the Act and SB-FRSs, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

A statutory board is constituted based on its constitutional act and its dissolution requires Parliament's approval. In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless there is intention to wind up the Group or for the Group to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

(a) Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Independent Auditor’s Report (cont’d)

To The Board Members of
Building and Construction Authority

(b) Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

(c) Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

(d) Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

(e) Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

(f) Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Other Legal and Regulatory Requirements

Opinion

In our opinion:

(a) the receipts, expenditure, investment of moneys and the acquisition and disposal of assets by the Authority during the financial year are, in all material respects, in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority; and

(b) proper accounting and other records have been kept, including records of all assets of the Authority whether purchased, donated or otherwise.

Independent Auditor's Report (cont'd)

To The Board Members of
Building and Construction Authority

Basis for opinion

We conducted our audit in accordance with SSAs. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Compliance Audit* section of our report. We are independent of the Group in accordance with the ACRA Code together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on management's compliance.

Responsibilities of Management for Compliance with Legal and Regulatory Requirements

Management is responsible for ensuring that the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority. This responsibility includes monitoring related compliance requirements relevant to the Authority, and implementing internal controls as management determines are necessary to enable compliance with the requirements.

Auditor's Responsibilities for the Compliance Audit

Our responsibility is to express an opinion on management's compliance based on our audit of the financial statements. We planned and performed the compliance audit to obtain reasonable assurance about whether the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the PSG Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority.

Our compliance audit includes obtaining an understanding of the internal control relevant to the receipts, expenditure, investment of moneys and the acquisition and disposal of assets; and assessing the risks of material misstatement of the financial statements from non-compliance, if any, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Because of the inherent limitations in any internal control system, non- compliances may nevertheless occur and not be detected.

Deloitte & Touche LLP

Public Accountants and
Chartered Accountants
Singapore

11 August 2023

Statements of Financial Position

As at 31 March 2023

	Note	Group 2023 $'000	Group 2022 $'000	Authority 2023 $'000	Authority 2022 $'000
ASSETS					
Non-current assets					
Property, plant and equipment	4	200,358	169,100	200,358	169,100
Investments in subsidiaries	5	-	-	-	-
Trade and other receivables	6	24,282	41,060	24,282	41,060
Total non-current assets		224,640	210,160	224,640	210,160
Current assets					
Trade and other receivables	6	51,437	60,679	50,760	60,841
Cash and bank balances	7	423,672	432,293	413,682	422,011
Total current assets		475,109	492,972	464,442	482,852
Total assets		699,749	703,132	689,082	693,012
LIABILITIES AND EQUITY					
Non-current liabilities					
Fees received in advance	8	27,658	27,623	27,658	27,623
Lease liabilities	9	27,954	50,077	27,954	50,077
Provision for pension costs	10(a)	2,605	2,725	2,605	2,725
Provision for reinstatement costs	10(b)	2,447	2,062	2,447	2,062
Deferred capital grants	11	9,370	6,685	9,370	6,685
Total non-current liabilities		70,034	89,172	70,034	89,172
Current liabilities					
Fee received in advance	8	57,139	57,925	53,391	54,430
Lease liabilities	9	39,929	58,608	39,929	58,608
Trade payables		9,406	8,640	9,255	8,592
Other payables and accruals	12	71,388	66,659	71,389	66,321
Provision for pension costs	10(a)	183	186	183	186
Grants received in advance	13	88	75	88	75
Deferred capital grants	11	1,554	1,154	1,554	1,154
Provision for contribution to consolidated fund	14	4,279	3,447	4,279	3,447
Income tax payables		77	27	-	-
Total current liabilities		184,043	196,721	180,068	192,813
Capital and reserves					
Share capital	15	36,887	29,827	36,887	29,827
Capital account	16	30,817	30,817	30,817	30,817
Accumulated surplus		377,968	356,595	371,276	350,383
Total capital and reserves		445,672	417,239	438,980	411,027
Total liabilities and equity		699,749	703,132	689,082	693,012
Net assets of trust and agency funds	17	25,739	18,324	25,739	18,324

See accompanying notes to financial statements

Statements of Comprehensive Income

Year ended 31 March 2023

	Note	Group 2023 $'000	Group 2022 $'000	Authority 2023 $'000	Authority 2022 $'000
Operating income					
Plan fees		31,854	34,801	31,854	34,801
Course fees		20,250	25,241	20,250	25,241
Trade test fees		39,297	13,238	39,297	13,238
Quality and green mark assessment fees		17,475	10,252	17,012	9,994
Advertisement licence fees		6,753	6,483	6,753	6,483
Certification fees		-	732	-	732
Contractors registration fees		4,840	4,788	4,840	4,788
Operating lease income		11,886	1,976	11,886	1,976
Management fees		13,321	18,565	13,321	18,565
Other income		17,110	14,700	15,836	14,023
Total operating income		162,786	130,776	161,049	129,841
Operating expenditure					
Employee benefit costs	19	134,879	132,972	134,879	132,033
Depreciation of property, plant and equipment	4	16,185	16,090	16,185	16,090
Provision of impairment loss on trade receivables	24	1,126	1,456	1,126	1,456
Other expenditure		71,363	50,400	70,165	50,095
Total operating expenditure		223,553	200,918	222,355	199,674
Net operating deficit		(60,767)	(70,142)	(61,306)	(69,833)
Non-operating income/(expenses)					
Interest income		7,561	4,730	7,561	4,730
Interest expense		(2,898)	(4,526)	(2,898)	(4,526)
Property, plant and equipment written off/expensed		(294)	(199)	(294)	(199)
		4,369	5	4,369	5
Deficit before government grants		(56,398)	(70,137)	(56,937)	(69,828)
Government grants					
Operating and development grants	13	81,072	88,371	81,072	88,371
Deferred capital grants amortised	11	1,037	1,733	1,037	1,733
		82,109	90,104	82,109	90,104
Surplus before contribution to consolidated fund and income tax		25,711	19,967	25,172	20,276
Contribution to consolidated fund	14	(4,279)	(3,447)	(4,279)	(3,447)
Income tax expense	20	(59)	(367)	-	-
Surplus for the year	21	21,373	16,153	20,893	16,829
Re-measurement gain on defined benefit plan representing other comprehensive income for the year, net of tax	10(a)	-	294	-	294
Total comprehensive income for the year		21,373	16,447	20,893	17,123

See accompanying notes to financial statements

Statements of Changes in Reserves

Year ended 31 March 2023

	Note	Share capital $000	Capital account $000	Accumulated surplus $000	Total $000
Group					
Balance at 1 April 2021		8,448	30,817	340,148	379,413
Surplus for the year		-	-	16,153	16,153
Re-measurement gain on defined benefit plan	10(a)	-	-	294	294
Total comprehensive income for the year		-	-	16,447	16,447
Issue of share capital representing transactions with owners, recognised directly in equity	15	21,379	-	-	21,379
Balance at 31 March 2022		29,827	30,817	356,595	417,239
Surplus for the year, representing total comprehensive income for the year		-	-	21,373	21,373
Issue of share capital representing transactions with owners, recognised directly in equity	15	7,060	-	-	7,060
Balance at 31 March 2023		36,887	30,817	377,968	445,672
Authority					
Balance at 1 April 2021		8,448	30,817	333,260	372,525
Surplus for the year		-	-	16,829	16,829
Re-measurement gain on defined benefit plan	10(a)	-	-	294	294
Total comprehensive income for the year		-	-	17,123	17,123
Issue of share capital representing transactions with owners, recognised directly in equity	15	21,379	-	-	21,379
Balance at 31 March 2022		29,827	30,817	350,383	411,027
Surplus for the year, representing total comprehensive income for the year		-	-	20,893	20,893
Issue of share capital representing transactions with owners, recognised directly in equity	15	7,060	-	-	7,060
Balance at 31 March 2023		36,887	30,817	371,276	438,980

See accompanying notes to financial statements

Statements of Cash Flows

Year ended 31 March 2023

	Note	Group 2023 $'000	Group 2022 $'000
Cash flows from operating activities			
Deficit before government grants		(56,398)	(70,137)
Adjustments for:			
Depreciation of property, plant and equipment	4	16,185	16,090
Interest income		(7,561)	(4,730)
Interest expense		2,898	4,526
Loss on lease modification		-	214
Property, plant and equipment written-off/expensed		294	199
Impairment loss on receivables	24	1,126	1,456
Provision for pension costs	10(a)	65	71
Provision for reinstatement costs	10(b)	339	1,248
		(43,052)	(51,063)
Changes in working capital:			
Decrease in trade and other receivables		34,702	56,664
(Decrease)/increase in fees received in advance		(751)	6,187
Increase/(decrease) in trade payables		767	(6,564)
Increase/(decrease) in other payables and accruals		8,672	(32,828)
Increase in cash not available for general use		(15,220)	(7,786)
Cash flows used in operations		(14,882)	(35,390)
Payment of contribution to consolidated fund		(3,447)	-
Payment of income tax		(348)	(343)
Pension paid		(188)	(180)
Net cash used in operating activities		(18,865)	(35,913)
Cash flows from investing activities			
Purchase of property, plant and equipment (Note A)		(51,604)	(33,020)
Interest received		3,116	6,072
Net cash used in investing activities		(48,488)	(26,948)
Cash flows from financing activities			
Payment of lease liabilities	9	(45,177)	(65,650)
Issuance of shares	15	7,060	21,379
Government grants received		83,985	91,958
Deferred capital grants received		200	-
Interest paid		(2,556)	(4,223)
Net cash from financing activities		43,512	43,464
Net decrease in cash and cash equivalents		(23,841)	(19,397)
Cash and cash equivalents at beginning of the year		414,087	433,484
Cash and cash equivalents at end of the year	7	390,246	414,087

Statements of Cash Flows (cont'd)

Year ended 31 March 2023

	Note	Group 2023 $'000	Group 2022 $'000
Note A:			
Purchase of property, plant and equipment:			
Additions of property, plant and equipment	4	47,737	42,819
Add: Opening accruals for the purchase of property, plant and equipment	12	7,155	2,215
Less: Closing accruals for the purchase of property, plant and equipment	12	(3,288)	(7,155)
Less: Property, plant and equipment funded through capital grant		-	(800)
Less: Property, plant and equipment not paid		-	(4,059)
		51,604	33,020

See accompanying notes to financial statements

Notes to the Financial Statements

Year ended 31 March 2023

1 Domicile and activities

The Authority is established as a statutory board in the Republic of Singapore under the Building and Construction Authority Act 1999 (the "Act"). The address of the Authority's registered office is 52 Jurong Gateway Road, #11-01, Singapore 608550.

The mission of the Authority is to transform the built environment sector and shape a liveable and smart built environment for Singapore. The principal activities of the subsidiaries are disclosed in Note 5 to the financial statements.

2 Basis of preparation

2.1 Statement of compliance

The financial statements have been prepared in accordance with the provision of the Act and the Statutory Board Financial Reporting Standards ("SB-FRS"). SB-FRS includes Statutory Board Financial Reporting Standards, Interpretations of SB-FRS and SB-FRS Guidance Notes. The related changes to significant accounting policies are described in note 2.5.

2.2 Basis of measurement

The financial statements have been prepared on the historical cost basis except as otherwise described in the notes below.

2.3 Functional and presentation currency

These financial statements are presented in Singapore Dollars, which is the Authority's functional currency, unless otherwise stated.

2.4 Use of estimates and judgements

The preparation of the financial statements in conformity with SB-FRSs requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Information about significant areas of estimation uncertainty and critical judgements in applying accounting policies that have most significant effect on the amount recognised in the financial statements is included in the following notes:

- Note 3.8 (i) – provision for pension costs
- Note 3.9 – revenue recognition
- Note 4 – estimation of useful lives of property, plant and equipment
- Note 6 – recoverability of trade and other receivables

The accounting policies used by the Group have been applied consistently to all periods presented in these financial statements.

2.5 Changes in accounting policies

New standards and amendments

On 1 April 2022, the Group and the Authority adopted all the new and revised SB-FRS pronouncements that are mandatorily effective and are relevant to its operations. The adoption of these new/revised SB-FRSs pronouncements did not result in changes to the Group's and the Authority's accounting policies and has no material effect on the disclosures or on amounts reported for the current or prior years.

3 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these financial statements, except as explained in note 2.5, which addresses changes in accounting policies.

3.1 Basis of consolidation

(i) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

The accounting policies of subsidiaries have been changed when necessary to align them with the policies adopted by the Group.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

3.2 Foreign currency

<u>Foreign currency transactions</u>

The individual financial statements of each entity are measured and presented in the currency of the primary economic environment in which the entity operates (its functional currency). In preparing the financial statements, transactions in currencies other than the entity's functional currency (foreign currencies) are recognised at the rates of exchange prevailing on the dates of the transactions. At each reporting date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are translated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated. Exchange differences are recognised in profit or loss in the period.

3.3 Financial instruments

(i) Recognition and initial measurement

<u>Non-derivative financial assets and financial liabilities</u>

Trade receivables are initially recognised when they are originated. All other financial assets and financial liabilities are initially recognised when the Group becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus or minus, for an item not at fair value through profit or loss ("FVTPL"), transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

(ii) Classification and subsequent measurement

<u>Non-derivative financial assets</u>

On initial recognition, a financial asset is classified as measured at: amortised cost; fair value through other comprehensive income ("FVOCI") – equity investment; or FVTPL.

Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

<u>Financial assets at amortised cost</u>

A financial asset is measured at amortised cost if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Financial assets: Business model assessment

The Group makes an assessment of the objective of the business model in which a financial asset is held at a portfolio level because this best reflects the way the business is managed and information is provided to management. The information considered includes:

- the stated policies and objectives for the portfolio and the operation of those policies in practice. These include whether management's strategy focuses on earning contractual interest income, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of any related liabilities or expected cash outflows or realising cash flows through the sale of the assets;

- how the performance of the portfolio is evaluated and reported to the Group's management;

- the risks that affect the performance of the business model (and the financial assets held within that business model) and how those risks are managed; and

- the frequency, volume and timing of sales of financial assets in prior periods, the reasons for such sales and expectations about future sales activity.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Group's continuing recognition of the assets.

Financial assets that are held-for-trading or are managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

Non-derivative financial assets: Assessment whether contractual cash flows are solely payments of principal and interest.

For the purposes of this assessment, 'principal' is defined as the fair value of the financial asset on initial recognition. 'Interest' is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g. liquidity risk and administrative costs), as well as a profit margin.

In assessing whether the contractual cash flows are solely payments of principal and interest, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making this assessment, the Group considers:

- contingent events that would change the amount or timing of cash flows;

- terms that may adjust the contractual coupon rate, including variable rate features;

- prepayment and extension features; and

- terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse features).

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

A prepayment feature is consistent with the solely payments of principal and interest criterion if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable additional compensation for early termination of the contract. Additionally, for a financial asset acquired at a significant discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable additional compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

Non-derivative financial assets: Subsequent measurement and gains and losses.

Financial assets at amortised cost

These assets are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognised in profit or loss. Any gain or loss on derecognition is recognised in profit or loss.

Non-derivative financial liabilities: Classification, subsequent measurement and gains and losses

Financial liabilities are classified as measured at amortised cost or FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for-trading or it is designated as such on initial recognition. Financial liabilities at FVTPL are measured at fair value and net gains and losses, including any interest expense, are recognised in profit or loss. Directly attributable transaction costs are recognised in profit or loss as incurred.

Other financial liabilities are initially measured at fair value less directly attributable transaction costs. They are subsequently measured at amortised cost using the effective interest method. Interest expense and foreign exchange gains and losses are recognised in profit or loss. These financial liabilities comprised trade and other payables.

(iii) Derecognition

Financial assets

The Group derecognises a financial asset when:

- the contractual rights to the cash flows from the financial asset expire, or
- it transfers the rights to receive the contractual cash flows in a transaction in which either:
  - substantially all of the risks and rewards of ownership of the financial asset are transferred or
  - the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

Transferred assets are not derecognised when the Group enters into transactions whereby it transfers assets recognised in its statement of financial position but retains either all or substantially all of the risks and rewards of the transferred assets.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Financial liabilities

The Group derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value.

On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognised in profit or loss.

(iv) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

(v) Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and cash balances with the Accountant-General Department that are subject to an insignificant risk of change in their fair value.

For the purpose of the consolidated statement of cash flows, cash and cash equivalents comprise cash at bank and cash with the AGD excluding cash at bank not available for general use.

(vi) Share capital

Ordinary shares

Pursuant to Finance Circular Minute No. M26/2008 on capital management framework for statutory boards, equity injection from the government is recorded as share capital.

(vii) Financial guarantees

Financial guarantees are financial instruments issued by the Group that require the issuer to make specified payments to reimburse the holder for the loss it incurs because a specified debtor fails to meet payment when due in accordance with the original or modified terms of a debt instrument.

Financial guarantees issued are initially measured at fair value. Subsequently, they are measured at the higher of the loss allowance determined in accordance with SB-FRS 109 and the amount initially recognised less, when appropriate, the cumulative amount of income recognised in accordance with the principles of SB-FRS 115.

Expected credit losses ("ECL") are a probability-weighted estimate of credit losses. ECLs are measured for financial guarantees issued as the expected payments to reimburse the holder less any amounts that the Authority expects to recover.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

3.4 Property, plant and equipment

(i) Recognition and measurement

Items of property, plant and equipment are measured at cost, which includes capitalised borrowing costs, less accumulated depreciation and accumulated impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes:

- the cost of materials and direct labour;
- any other costs directly attributable to bringing the assets to a working condition for their intended use; and
- when the Group has an obligation to remove the asset or restore the site, an estimate of the costs of dismantling and removing the items and restoring the site on which they are located.

Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

If significant parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment (calculated as the difference between the net proceeds from disposal and the carrying amount of the item) is recognised in profit or loss.

(ii) Depreciation

Depreciation is based on the cost of an asset less its residual value. Significant components of individual assets are assessed and if a component has a useful life that is different from the remainder of that asset, that component is depreciated separately.

Depreciation is recognised as an expense in profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment, unless it is included in the carrying amount of another asset.

Depreciation is recognised from the date that the property, plant and equipment are installed and are ready for use, or in respect of internally constructed assets, from the date that the asset is completed and ready for use.

The estimated useful lives for the current year are as follows:

• Right-of-use assets	5 and 30 years
• Office buildings and structures	29 and 30 years
• Site office and land improvement	10 years
• Office, training and mechanical & electrical ("M&E") equipment	5 to 10 years
• Furniture, fittings and fixtures	8 years
• Data processing equipment	3 to 5 years

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted if appropriate.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

3.5 Impairment

(i) Non-derivative financial assets

The Group recognises loss allowances for expected credit losses ("ECLs") on financial assets measured at amortised cost.

Loss allowances of the Group are measured on either of the following bases:

- 12-month ECLs: these are ECLs that result from default events that are possible within the 12 months after the reporting date (or for a shorter period if the expected life of the financial asset is less than 12 months); or
- Lifetime ECLs: these are ECLs that result from all possible default events over the expected life of a financial asset or contract asset.

Simplified approach

The Group applies the simplified approach to provide for ECLs for all trade receivables. The simplified approach requires the loss allowance to be measured at an amount equal to lifetime ECLs.

General approach

The Group applies the general approach to provide for ECLs on all other financial assets. Under the general approach, the loss allowance is measured at an amount equal to 12-month ECLs at initial recognition.

At each reporting date, the Group assesses whether the credit risk of a financial asset has increased significantly since initial recognition. When credit risk has increased significantly since initial recognition, loss allowance is measured at an amount equal to lifetime ECLs.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment and includes forward-looking information.

If credit risk has not increased significantly since initial recognition or if the credit quality of the financial assets improves such that there is no longer a significant increase in credit risk since initial recognition, loss allowance is measured at an amount equal to 12-month ECLs.

The Group considers a financial asset to be in default when the borrower is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to actions such as realising security (if any is held).

The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Measurement of ECLs

ECLs are probability-weighted estimates of credit losses. Credit losses are measured at the present value of all cash shortfalls (i.e. the difference between the cash flows due to the Group in accordance with the contract and the cash flows that the Group expects to receive).

Credit-impaired financial assets

At each reporting date, the Group assesses whether financial assets carried at amortised cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the borrower or issuer;
- breach of contract such as a default;
- the restructuring of a loan or advance by the Group on terms that the Group would not consider otherwise; or
- it is probable that the borrower will enter bankruptcy or other financial reorganisation.

Presentation of allowance for ECLs in the statement of financial position

Loss allowances for financial assets measured at amortised cost are deducted from the gross carrying amount of these assets.

Write-off

The gross carrying amount of a financial asset is written off (either partially or in full) to the extent that there is no realistic prospect of recovery. This is generally the case when the Group determines that the debtor does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

(ii) Non-financial assets

The carrying amounts of the Group's non-financial assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. An impairment loss is recognised if the carrying amount of an asset or its related cash-generating unit ("CGU") exceeds its estimated recoverable amount.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs of disposal. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or CGUs.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Impairment losses are recognised in profit or loss. Impairment losses recognised in respect of CGUs are allocated to reduce the carrying amounts of the other assets in the CGU (group of CGUs) on a pro rata basis.

Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

3.6 Trust and agency funds

Trust and agency funds are government grants and contributions from other organisations where the Authority is not the owner and beneficiary of the funds. The Authority is merely administering the funds on behalf of the holders of these funds. Income and expenditure of these funds are taken directly to the funds. The net assets relating to the funds are shown as a separate line item in the statements of financial position.

Trust and agency funds are reported on cash basis.

3.7 Employee benefits

(i) Defined contribution plans

The Group makes contributions to the Central Provident Fund ("CPF") scheme in Singapore, a defined contribution pension scheme. Contributions to defined contribution pension schemes are recognised as an expense in the period in which the related service is performed.

(ii) Employee leave entitlement

Employee entitlements to annual leave are recognised as a liability when they accrue to the employees. The estimated liability for leave is recognised for services rendered by employees up to the end of the reporting period.

(iii) Defined benefit retirement obligations

Provision for pension benefits is made for pensionable officers transferred to the Authority on 1 April 1999. Defined benefit retirement obligations due to pensionable officers are recognised in the Statements of financial position in accordance with the Pensions Act 1956.

The Authority had engaged an actuarial to assess the provision for pension costs.

An actuarial valuation is conducted once every four years or as and when required to determine the cost of pension benefits due to these officers using the Projected Unit Credit Method.

Defined benefit costs comprise the following:

- Service cost
- Interest cost on the provision for defined benefits
- Re-measurements of the provision for defined benefits

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Service costs which include current service costs, past service costs and gains or losses on non-routine settlements are recognised as expense in income or expenditure. Past service costs are recognised when plan amendment or curtailment occurs.

Interest cost on the provision for defined benefits is the change during the period in the provision that arises from the passage of time which is determined by applying the discount rate based on the Singapore Government bond yield to the provision. Interest cost on the provision is recognised in income or expenditure.

Re-measurements comprising actuarial gains and losses are recognised immediately in other comprehensive income in the period in which they arise. Re-measurements are recognised in accumulated surplus within equity and are not reclassified to income or expenditure in subsequent periods.

(iv) Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided.

A liability is recognised for the amount expected to be paid under short-term cash bonus if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

3.8 Provisions

Provisions are recognised when the Group has a present or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provision are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

(i) Provision for pension cost

As described in Notes 3.7(iii) and 10(a), the Group determines the provision for pension cost due to pensionable officers based on the expected pay-outs to be made by the Group in respect of services provided by these pensionable officers up to reporting date.

Any possible change in key assumptions, on which the provision for pension is based, will affect the amount of employee benefit costs in the income and expenditure account.

(ii) Provision for reinstatement cost

The provision for reinstatement costs from contractual obligation to restore the leased office to their original states are provided at the present value of expected costs to settle the obligation using estimated cash flows and are recognised as part of the cost of that particular asset. The cash flows are discounted at a current pre tax rate that reflects the risks specific to the reinstatement liability. The unwinding of the discount is expensed as incurred and recognised in profit or loss as a finance cost. The estimated future costs of reinstatement are reviewed annually and adjusted as appropriate. Changes in the estimated future costs or in the discount rate applied are added to or deducted from the cost of the asset.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

(iii) Provision for onerous contract

A provision for onerous contracts is recognised when the expected benefits to be derived by the Group from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract. Before a provision is established, the Group recognises any impairment loss on the assets associated with that contract.

3.9 Revenue

Revenue is recognised when the Group satisfies a performance obligation ("PO") by transferring control of a promised good or service to the customer. The amount of revenue recognised is the amount of the transaction price allocated to the satisfied PO. The Group assesses its revenue arrangements to determine if it is acting as principal or agent. The Group has concluded that it is acting as a principal in all of its revenue arrangements. The following specific recognition criteria must also be met before revenue is recognised:

- Plan fees are recognised as income over the expected duration of each category of project (by size and nature of work) Judgement is required to determine the expected duration of each category of projects based on historical information on the duration required to complete the projects;
- Advertisement licence fees are recognised as income over the validity periods of the licence;
- Course fees are recognised as income over the duration of the courses;
- Quality and green mark assessment fees are recognised as income over the assessment period;
- Certification fees are recognised upon issuance of the certification;
- Trade test fees are recognised as income on completion of trade tests;
- Contractors registration fees are recognised as income over the validity period of the registration;
- Operating lease income is recognised on a straight-line basis over the lease term; and
- Management fees are recognised as income over the period of services rendered.

Source of estimation uncertainty

Plan fees are recognised as income over the expected duration of each category of projects. The Group reviews the estimated duration of the projects regularly to determine the amount of revenue to be recorded at each financial year. Changes in the expected duration of the projects could impact the revenue and consequently affect the Group's results.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

3.10 Government grants

Government grants are recognised initially at fair value when there is reasonable assurance that they will be received and the Group will comply with all the conditions associated with the grants.

(i) Operating grants from Government

Government grants that compensate the Group for expenses incurred are recognised in profit or loss on a systematic basis in the same periods in which the expenses are recognised.

(ii) Development grants

Government grants received from other agencies for specific development project expenditure are recognised as grant received in advance on the statement of financial position and are recognised in profit or loss on a systematic basis in the same periods in which the development expenses are recognised.

3.11 Leases

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

(i) As a lessee

At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property, the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

The Group determines its incremental borrowing rate by using Ministry of Finance's Cost of Equity with the Risk-free rate and Market Risk Premium, with adjustments made for tenure, to reflect the terms of the lease and type of the asset leased.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Lease payments included in the measurement of the lease liability comprise the following:

- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and
- the exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised in-substance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short-term leases and leases of low-value assets

The Group has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets and short-term leases, including IT equipment. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

(ii) As a lessor

At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classifies the sub-lease as an operating lease.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

3.12 Statutory contribution to consolidated fund

The Authority is required to make contributions to the Consolidation Fund in accordance with the Statutory Corporation (Contributions to Consolidated Fund) Act 1989 and in accordance with the Finance Circular Minute No. M5/2005 with effect from 2004/2005. The contribution is based on a percentage, as decided by Ministry of Finance, of the net surplus of the Authority (before donations) for the financial period. Contribution to consolidated fund is provided for on an accrual basis.

3.13 Interest income

Interest income is recognised as it accrues in the statement of comprehensive income, using effective interest method.

3.14 Tax

Tax expense comprises current and deferred tax. Current tax and deferred tax were recognised in profit or loss except to the extent that it relates to a business combination, or items recognised directly in equity or in OCI.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years. The amount of current tax payable or receivable is the best estimate of the tax amount expected to be paid that reflects the uncertainty related to income taxes, if any.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for:

- temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss; and
- temporary differences related to investments in subsidiaries, associates and joint arrangements to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that they will not reverse in the foreseeable future.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date.

The measurement of deferred taxes reflects the tax consequences that would follow the manner in which the Group expects, at the reporting date, to recover or settle the carrying amount of its asset and liabilities. Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

A deferred tax asset is recognised for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilised. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

In determining the amount of current and deferred tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes and interest may be due. The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. This assessment relies on estimates and assumptions and may involve a series of judgements about future events. New information may become available that causes the Group to change its judgement regarding the adequacy of existing tax liabilities; such changes to tax liabilities will impact tax expense in the period that such a determination is made.

3.15 Standards issued but not yet effective

At the date of authorisation of these financial statements, the Group and the Authority have not applied the following SB-FRSs pronouncements that have been issued but are not yet effective:

<u>Effective for annual periods beginning on or after 1 January 2023</u>

- Amendments to SB-FRS(I) 1-1 and SB-FRS(I) Practice Statement 2: *Disclosure of Accounting Policies*
- Amendments to SB-FRS(I) 1-8: *Definition of Accounting Estimates*
- Amendments to SB-FRS Guidance Note 11 *Accounting for Grants Administered by Statutory Boards*

<u>Effective for annual periods beginning on or after 1 January 2024</u>

- Amendments to SB-FRS(I) 1-1: *Classification of Liabilities as Current or Non-current*

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

4 Property, plant and equipment

The Group and the Authority reviews annually the estimated useful life of property, plant and equipment based on factors such as business plans and strategies, expected level of usage and future technological developments. It is possible that future results of operations could be materially affected by changes in these estimates brought about by changes in the factors mentioned above. A reduction in the estimated useful life of property, plant and equipment would decrease the net profit and decrease the carrying value of property, plant and equipment.

	Right-of-use assets	Office buildings and structures	Site office and land improvement	Office, training and M&E equipment	Furniture, fitting and fixtures	Data processing equipment	Assets under construction	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Group and Authority								
Cost:								
Balance at 1 April 2021	87,022	56,634	1,895	28,021	32,533	37,845	35,211	279,161
Additions	1,248	-	91	757	337	1,021	39,365	42,819
Reclassification	-	128	-	648	(340)	1,023	(1,459)	-
Disposal(i)	-	-	-	(2)	-	-	-	(2)
Written-off(ii)	-	-	-	(2,011)	(687)	(1,256)	(76)	(4,030)
At 31 March 2022	88,270	56,762	1,986	27,413	31,843	38,633	73,041	317,948
Additions	339	-	-	31	3	3,854	43,510	47,737
Reclassification	-	-	-	-	-	6,059	(6,059)	-
Disposal(i)	(10,999)	-	-	-	-	-	-	(10,999)
Written-off(ii)	-	(464)	-	(979)	(388)	(3,468)	-	(5,299)
At 31 March 2023	77,610	56,298	1,986	26,465	31,458	45,078	110,492	349,387

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

	Right-of-use assets	Office buildings and structures	Site office and land improvement	Office, training and M&E equipment	Furniture, fitting and fixtures	Data processing equipment	Assets under construction	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Group and Authority								
Accumulated depreciation:								
Balance at 1 April 2021	22,001	35,814	1,198	26,243	23,749	27,586	-	136,591
Depreciation for the year	7,137	954	188	724	2,914	4,173	-	16,090
Disposals[i]	-	-	-	(2)	-	-	-	(2)
Written-off[ii]	-	-	-	(2,006)	(570)	(1,255)	-	(3,831)
At 31 March 2022	29,138	36,768	1,386	24,959	26,093	30,504	-	148,848
Depreciation for the year	7,226	925	175	679	2,944	4,236	-	16,185
Disposals[i]	(10,999)	-	-	-	-	-	-	(10,999)
Written-off[ii]	-	(181)	-	(979)	(377)	(3,468)	-	(5,005)
At 31 March 2023	25,365	37,512	1,561	24,659	28,660	31,272	-	149,029
Carrying amounts:								
At 31 March 2022	59,132	19,994	600	2,454	5,750	8,129	73,041	169,100
At 31 March 2023	52,245	18,786	425	1,806	2,798	13,806	110,492	200,358

Property, plant and equipment includes right-of-use assets of $42,493,000 (2022: $44,072,000) relating to leasehold land and $9,752,000 (2022: $15,060,000) relating to office buildings and structures. See Note 22.

(i) Assets disposed refer to assets that have been sold or whose right-of-use has expired.

(ii) Assets written-off refer to assets that that have been discarded without any sale proceeds.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

5 Investments in subsidiaries

Unquoted shares at cost are at $2 (2022: $2).

The subsidiaries at 31 March 2023 are:

Name of subsidiaries	Country of incorporation and principal place of business	Principal activities	Percentage of ownership interest	
			2023	2022
			%	%
BCA International Private Limited	Singapore	Construction-related consultancy and advisory services	100	100
Built Environment Technology Alliance Ltd	Singapore	Research and experimental development on engineering	100	100

6 Trade and other receivables

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Trade receivables	13,428	11,847	13,075	11,803
Other receivables	9,852	4,260	9,044	3,749
Lease receivables	48,722	84,368	48,722	84,368
Grant receivable	1,921	12	1,921	12
Amounts due from subsidiaries	-	-	541	774
Deposits	101	101	101	101
Trade and other receivables	74,024	100,588	73,404	100,807
Prepayments	1,695	1,151	1,638	1,094
Total trade and other receivables	75,719	101,739	75,042	101,901
Represented by:				
Current	51,437	60,679	50,760	60,841
Non-current	24,282	41,060	24,282	41,060
	75,719	101,739	75,042	101,901

Other receivables

The other receivables are mainly interests receivables from Accountant-General's Department ("AGD") under the Centralised Liquidity Management ("CLM") scheme and amount due from sundry debtors.

Amounts due from subsidiaries

The amounts due from subsidiaries are unsecured, interest-free, repayable on demand and are to be settled in cash. The outstanding balances are not impaired as at the financial year end.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Impairment losses

In determining the recoverability of a receivable, the Group considers any change in the credit quality of the receivables from the date credit was initially granted up to the reporting date. If the financial condition of the customers were to deteriorate, the Group would be required to record additional impairment losses. Credit risk is limited due to management's on-going evaluation of the creditworthiness of the Group's customers and that majority of the Group's trade receivables are within their expected cash collection cycle.

Source of estimation uncertainty

The Group evaluates at the end of each reporting period whether there is any objective evidence that trade and other receivables are impaired and determines the amount of impairment loss as a result of the inability of the customers to make required payments having considered the probability of insolvency and credit-worthiness of its receivables except for the impaired receivables, the Group believes that no impairment loss is necessary in respect of the remaining receivables due to the good track record of its customers.

The Group's exposure to credit risk and impairment losses from trade and other receivables are disclosed in note 24.

7 Cash and bank balances

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Cash at bank	18,599	11,130	8,609	849
Cash with the AGD	405,073	421,163	405,073	421,162
	423,672	432,293	413,682	422,011
Less: Cash at bank not available for general use	(33,426)	(18,206)	(33,426)	(18,206)
Cash and cash equivalents in cashflow statement	390,246	414,087	380,256	403,805

Cash at bank not available for general use

The Group acts as a collection agent for various parties on certain projects and collects payments on their behalf.

Cash with the AGD

On 2 November 2009, the Accountant-General's Department ("AGD") issued a Circular No. 4/2009 to centrally manage the cash of all Statutory Boards and Ministries under the Centralised Liquidity Management ("CLM") scheme. This scheme aims to achieve higher returns and to better manage credit risk at the Whole-of-Government level. The Authority has participated in the CLM scheme since 25 March 2010.

The weighted average CLM yield for the year ended 31 March 2023 is 1.56% per annum (2022: 0.30% per annum).

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

8 Fees received in advance

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
At beginning of the year	85,548	79,361	82,053	76,027
Add: Fees received	123,879	105,436	123,266	105,017
Less: Fees recognised as revenue	(124,630)	(99,249)	(124,270)	(98,991)
At end of the year	84,797	85,548	81,049	82,053
Represented by:				
Current	57,139	57,925	53,391	54,430
Non-current	27,658	27,623	27,658	27,623
	84,797	85,548	81,049	82,053

Amounts relating to fees received in advance are balances received from customers for services to be performed by the Group and the Authority. The Group and the Authority will recognise contract liability for payment received and work has not been performed. Any amount previously recognised as a contract liability is recognised in revenue when the services are delivered to the customer.

There are no significant changes in the contract liabilities balances during the reporting period.

The following table shows how much of the revenue recognised in the current reporting period relates to brought-forward fees received in advance. There was no revenue recognised in the current reporting period that related to performance obligations that were satisfied in a prior year.

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Operating income	54,781	49,717	54,370	49,492

9 Lease Liabilities

	Group and Authority	
	2023	2022
	$'000	$'000
Maturity analysis:		
- Less than one year	41,274	61,110
- One to two years	11,893	25,415
- Two to three years	1,507	10,523
- Three to four years	1,285	1,248
- Four to five years	1,285	1,248
- More than five years	19,170	19,857
Total undiscounted lease liabilities	76,414	119,401
Unearned interest	(8,531)	(10,716)
Net lease liabilities	67,883	108,685
Analysed as:		
Current	39,929	58,608
Non-current	27,954	50,077
	67,883	108,685

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Reconciliation of movement of liabilities to cash flows arising from financing activities

	Lease liabilities	
	2023	**2022**
	$'000	**$'000**
Balance as at 1 April	108,685	147,957
Changes from financing cash flows		
Payment of lease liabilities	(45,177)	(65,650)
Interest paid	(2,556)	(4,221)
Total changes from financing cash flows	(47,733)	(69,871)
Other changes		
Interest expense	2,588	4,199
New leases	4,343	26,400
Total other changes	6,931	30,599
Balance as at 31 March	67,883	108,685

The Group and the Authority do not face a significant liquidity risk with regard to its lease liabilities. Lease liabilities are monitored within the Group's and the Authority's finance function.

10 Provisions

(a) Provision for pension costs

	Group and Authority	
	2023	**2022**
	$'000	**$'000**
At beginning of the year	2,911	3,314
Add: Amount provided during the year	65	71
	2,976	3,385
Less: Pension paid during the year	(188)	(180)
Less: Remeasurement gain during the year	-	(294)
At end of the year	2,788	2,911
Represented by:		
Current	183	186
Non-current	2,605	2,725
	2,788	2,911

The above provision includes the provision for pension costs for 12 (2022:12) pensioners who have exercised the option for reduced pension with gratuity payment under the pension scheme other than CPF. There is no employee of the Group who have not exercised any pension options under the pension scheme. The pension amount to be paid to each employee upon retirement under the pension scheme is dependent on, among other factors, the number of years of service and the last drawn salary. The total pension costs are shared between the Group and the AGD. The Group is only liable for the pension costs for the period of service completed by the employee with the Group.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

The employees are entitled to select one of the following pension options upon retirement:

(i) Full pension;

(ii) Reduced pension with gratuity payment; or

(iii) Fully commuted pension gratuity.

The defined retirement benefits obligations due to pensionable officers are determined based on the last drawn salaries of the respective pensionable officers and the pensionable officers' cumulative service period served with the Authority at the time of retirement, assuming that all pensionable officers work till the age of 62 years.

The provision has been estimated by management based on the valuation of the pension scheme performed by an independent firm of professional actuaries.

These defined benefit plans expose the Group to actuarial risks, such as longevity risk and interest rate risk.

The principal assumptions used by the professional actuaries in determining the pension costs are:

- Discount rate – Gratuity : 2.3% per annum (2022: 2.3% per annum)
- Discount rate – Pension : 2.3% per annum (2022: 2.3% per annum)
- Expected salary increment : Nil (2022: Nil)
- Mortality rate : Singapore Mortality Table
- Expected retirement age : 62 (2022: 62)

Assumptions regarding future mortality have been based on published statistics and mortality tables. The current longevities underlying the values of the defined benefit obligation at the reporting date were as follows:

	2023	2022
Longevity at age 65 for current pensioners		
Males	24	24
Females	26	26

At 31 March 2023, the weighted-average duration of the defined benefit obligation was 11 years (2022: 11 years).

The sensitivity analysis below has been determined based on reasonably possible changes of each significant assumption on the provision for pension costs as of the end of the reporting period, assuming all other assumptions were held constant:

	Group and Authority			
	2023		2022	
	Increase/ (decrease)	$'000	Increase/ (decrease)	$'000
Discount rates	+ 25 basis points	(63)	+ 25 basis points	(69)
	- 25 basis points	66	- 25 basis points	71
Mortality rates	+ 1 year	105	+ 1 year	103
	- 1 year	(107)	- 1 year	(105)

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

(b) Provision for reinstatement costs

Provision for reinstatement cost is the estimated cost of restoring the leased offices to their original states. The amount has been capitalized in the cost of the property, plant and equipment.

	Group and Authority	
	2023	**2022**
	$'000	**$'000**
At beginning of the year	2,062	794
Add: Amount provided during the year	339	1,248
Add: Unwinding of discount on reinstatement costs provision	46	20
At end of the year	2,447	2,062
Represented by:		
Non-current	2,447	2,062

11 Deferred capital grants

	Note	Group and Authority	
	Note	**2023**	**2022**
		$'000	**$'000**
At beginning of the year		7,839	5,185
Add: Government grants received/receivable			
- Transferred from grants received in advance	13	2,913	3,587
- Assets funded by grants		1,209	800
Less: Amortisation of deferred capital grants		(1,037)	(1,733)
At end of the year		10,924	7,839
Represented by:			
Current		1,554	1,154
Non-current		9,370	6,685
		10,924	7,839

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

12 Other payables and accruals

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Amounts due to MND (i)	15,799	8,736	15,799	8,736
Amounts due to Maritime and Port Authority of Singapore ("MPA") (ii)	750	566	750	567
Amounts due to subsidiary - non-trade (iii)	-	-	12	12
Maintenance deposits	8	6	8	6
Sundry creditors (iv)	3,045	845	3,035	845
Accruals for unconsumed leave	5,543	7,457	5,543	7,457
Accruals for operating expenses	20,430	22,068	20,430	21,717
Advances received for Corenet 2.0 (v)	7,720	4,324	7,720	4,324
Accruals for the purchase of property, plant and equipment	3,288	7,155	3,288	7,155
Security/tender deposits (vi)	11,993	12,973	11,993	12,973
Scholarships	2,812	2,529	2,811	2,529
Total other payables and accruals	71,388	66,659	71,389	66,321

(i) The amounts collected on their behalf by the Authority for certain projects which the Group acts as an agent, are unsecured, interest-free, repayable on demand and are to be settled in cash.

MND has programs to support initiatives in developing Singapore's economy which the Authority administers for MND. These projects include infrastructural development undertaken on behalf of the government, consultancy works and managing government quarantine facilities.

The Authority disbursed funds to external parties who participated in these programs. The agency funds payable/receivable from the MND relates to the amount that is received in advance/to be reimbursed by MND for amounts disbursed. During the year, the agency funds amounts received from MND and disbursed to external parties are $22,203,000 (2022: $79,587,000) and $23,729,000 (2022: $79,063,000) respectively.

(ii) The amounts due to MPA mainly pertain to the amounts collected on their behalf by the Authority for certain projects which the Group acts as an agent. These balances due to MPA are unsecured, interest-free, repayable on demand and are to be settled in cash.

(iii) Amount due to subsidiary is unsecured, interest-free and repayable on demand.

(iv) Sundry creditors are non-interest bearing and normally have an average term of six months.

(v) This amount was collected in advance from participating agencies in the development of Corenet 2.0.

(vi) Included in security/tender deposits is an amount of $6,372,000 (2022: $7,006,000) collected under the Balcony Bonus Gross Floor Area Incentive Scheme.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

13 Grants received in advance

	Note	Operating grants 2023 $'000	Operating grants 2022 $'000	Development grants 2023 $'000	Development grants 2022 $'000	Total 2023 $'000	Total 2022 $'000
Group and Authority							
At 1 April		-	-	75	73	75	73
Government grants received/receivable		83,985	91,958	-	-	83,985	91,958
Interest earned		-	-	13	2	13	2
Transfer to deferred capital grants	11	(2,913)	(3,587)	-	-	(2,913)	(3,587)
Transfer to income or expenditure		(81,072)	(88,371)	-	-	(81,072)	(88,371)
At 31 March		-	-	88	75	88	75

14 Provision for contribution to consolidated fund

The Authority is required to make contributions to the Consolidated Fund in accordance with the Statutory Corporations (Contributions to Consolidated Fund) Act 1989 and in accordance with the Finance Circular Minute No. M5/2005 with effect from 1 April 2004. The contribution is based on a percentage, as decided by the Ministry of Finance, of the net surplus of the Authority for the financial year. The percentage for FY2022/2023 is the prevailing corporate tax of 17% (2022: 17%).

The total contribution for the year can be reconciled to the total comprehensive income as follows:

	Authority 2023 $'000	Authority 2022 $'000
Surplus of the Authority subject to contribution	25,172	20,276
Contribution at 17% (2022: 17%)	4,279	3,447

15 Share capital

	Group and Authority 2023 No. of shares	2023 $'000	2022 No. of shares	2022 $'000
Issued and fully paid up:				
At beginning of the year	29,827	29,827	8,448	8,448
Issue of ordinary shares	7,060	7,060	21,379	21,379
At 31 March	36,887	36,887	29,827	29,827

Injection of capital is part of the Capital Management Framework for Statutory Boards under Finance Circular Minute M26/2008. The shares have been fully paid and are held by the Minister for Finance, a body incorporated by the Minister for Finance (Incorporation) Act 1959.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

16 Capital account

The capital account comprises the carrying amount of property, plant and equipment transferred from the former Building Control Division of the Public Works Department and the net value of assets and liabilities transferred from the former Construction Industry Development Board when the Authority was established on 1 April 1999.

17 Net assets of trust and agency funds

The trust and agency funds comprise 16 funds (2022: 18 funds) managed by the Authority on behalf of other agencies.

The following funds were set up by the Ministry of National Development:

(a) *MND Research Fund*

The MND Research Fund provides support for applied Research and Development projects to raise the quality of life in Singapore. The Authority is both the administrator and a recipient of the MND Research Fund.

(b) *Accessibility Fund*

The Accessibility Fund provides support to private building owners to provide basic accessibility features in their buildings.

(c) *Green Mark Incentive Scheme (New Buildings)*

The Green Mark Incentive Scheme (New Buildings) provides support to private developers and owners to attain higher Green Mark ratings for their developments by adopting Green Building technologies in new construction projects.

(d) *Green Mark Incentive Scheme (Existing Buildings)*

The Green Mark Incentive Scheme (Existing Buildings) provides support to private developers and building owners to improve energy efficiency of their existing buildings.

(e) *Green Mark Incentive Scheme (Design Prototype)*

The Green Mark Incentive Scheme (Design Prototype) supports efforts invested into the design stage of green buildings to achieve higher energy efficiency.

(f) *Green Mark Incentive Scheme (Existing Buildings and Premises)*

The Green Mark Incentive Scheme (Existing Buildings and Premises) provides support to SME building owners and tenants to embark on environmental sustainability and improve energy efficiency (EE) standards of their buildings and premises.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

(g) *Building Retrofit Energy Efficiency Financing Scheme*

The Building Retrofit Energy Efficiency Financing Scheme provides financial assistance to the less financially strong building owners, MCST and Energy Services Companies to carry out building retrofits. For applications received since the start of the scheme till 31 March 2018, Ministry of Finance (MOF) bears a portion of the risk if there is a default in payment by the applicants, and the remaining risk is borne by the financial institutions. For application received from 1 April 2018, BCA bears a portion of the risk if a default by applicants occurs and the remaining risk is borne by the financial institutions.

At 31 March 2023 and 31 March 2022, the risk shared by the scheme owner on the outstanding banking facilities amounted to S$678,000 and S$1,415,000 respectively.

(h) *Built Environment Assistance Package*

The Built Environment Assistance Package is one of the support measures approved by Ministry of Finance as part of the Fortitude Budget announced in May 2020 to help the Built Environment sector amid the COVID-19 pandemic.

The following funds were granted by the Productivity Fund Administration Board:

(i) *Construction Productivity and Capability Fund*

The Construction Productivity and Capability Fund inclusive of Construction Industry Transformation Map grant aims to transform the construction sector through workforce development, technology adoption and capability development.

(j) *SkillsFuture Study Awards for Built Environment Sector*

The SkillsFuture Study Awards targets Singaporeans in their early to mid-career stages with the skills needed for quality jobs, by encouraging them to develop and deepen specialised skills in areas of demand required by future economic growth sectors.

The following fund was granted by the SkillsFuture Singapore Agency with the aim to meet the long term requirements of the building and construction industry for different groups of professionals:

(k) *Workplace Safety and Health Professionals Workforce Skills Qualifications Framework Grant*

The Workplace Safety and Health (WSH) Professionals Workforce Skills Qualifications (WSQ) Framework Grant aims to build a pool of skilled workers to meet the long-term requirements of the WSH professionals. The Grant offers Training and Assessment and Assessment-Only-Pathway, which leads to qualifications under the WSQ system.

The trust fund was discontinued and the remaining advancement balance of $16 was utilised in May 2022.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

The following fund was set up by Ministry of National Development and Sino-Singapore Tianjin Eco-City Administrative Committee (ECAC):

(l) *MND-ECAC Research Fund*

The MND-ECAC Research Fund supports green building research and development projects between Singapore and China in the Sino-Singapore Tianjin Eco-City.

The following funds were set up by the National Research Fund:

(m) *Energy Innovation Research Programme for Building Energy Efficiency Grant*

The Energy Innovation Research Programme for Building Energy Efficiency Grant is meant for the administration and managing of the Energy Innovation Research Programme (EIRP) funding in the area of Building Energy Efficiency and to champion and coordinate green building R&D.

The trust fund was discontinued and the remaining balance of $22,000 was returned to EDB in June 2022.

(n) *Green Buildings Innovation Cluster*

The Green Buildings Innovation Cluster aims to accelerate commercialisation of promising building energy-efficient technologies and solutions and bring them closer to market adoption.

The following fund was granted by Workforce Singapore:

(o) *Professional Conversion Programme for BIM Professionals*

The Professional Conversion Programme aims to equip mid-career job seekers with the necessary knowledge and skills to take on a new career in the built environment industry.

The following grant was launched by the Authority, National Environment Agency and Economic Development Board:

(p) *Grant for Low-GWP Refrigerant Chillers*

The Grant for Low-GWP (Global Warming Potential) Refrigerant Chillers aims to encourage companies to make an early switch to water-cooled chillers using lower GWP refrigerants. The Authority will be administering the grant for existing buildings.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Details of the trust and agency funds are set out below and have been prepared from the records of the trust and agency funds and reflect only transactions handled by the Group and the Authority:

	Group and Authority	
	2023	2022
	$'000	$'000
At beginning of the year	18,324	23,006
Add: Receipts		
- Grants received	46,148	54,147
- Cash float to trust fund	1,500	-
- Interest income	48	25
- Others	167	636
- Grants to be received	-	(89)
	47,863	54,719
Less: Disbursements to:		
- External Parties	(37,700)	(52,735)
- The Authority	(1,615)	(1,817)
Admin grants paid to the Authority	(1,111)	(4,282)
Fund returned due to project closure	(22)	(567)
	(40,448)	(59,401)
At end of the year	25,739	18,324
Represented by:		
Cash at bank	7,508	4,602
Cash with AGD	18,231	13,722
Total cash representing net assets as at 31 March	25,739	18,324

18 Commitment

Capital commitments

Capital expenditure approved by the Group but not provided for in the financial statements is as follows:

	Group and Authority	
	2023	2022
	$'000	$'000
Amount approved and committed	57,536	65,366
Amount approved but not committed	550	6,383

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

19 Employee benefit costs

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Salaries, allowances and bonus	114,942	116,182	114,942	115,356
Central Provident Fund contribution	16,029	16,570	16,029	16,457
Pension benefits	65	71	65	71
Other staff costs	3,843	149	3,843	149
	134,879	132,972	134,879	132,033

20 Tax expense

Subsidiaries of the Authority are subject to tax under Section 10(1) and Section 11(2) of the Singapore Income Tax Act 1947:

	Group	
	2023	2022
	$'000	$'000
Current tax expense		
Current year	77	27
(Over)/under provision in prior year	(18)	340
	59	367
Reconciliation of effective tax rate		
Surplus before contribution to consolidated fund and taxation	25,711	19,967
Less: The Authority's surplus before contribution to consolidated fund and income tax expense	(25,172)	(20,276)
Subsidiaries' surplus/(deficit) before income tax expense	539	(309)
Tax at statutory rate of 17% (2022: 17%)	92	(53)
Tax exempt income	(17)	53
Non-deductible items	2	27
(Over)/under provision in prior year	(18)	340
Tax expense	59	367

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

21 Surplus for the year

The following items have been included in arriving at surplus for the financial year:

	Group		Authority	
	2023	2022	2023	2022
	$'000	$'000	$'000	$'000
Builders licensing fees	(2,372)	(2,271)	(2,372)	(2,271)
Importers licensing fees	(3,129)	(3,084)	(3,129)	(3,084)
Impairment loss on receivables	1,126	1,456	1,126	1,456
Input GST disallowed	4,100	3,530	4,100	3,530
Property tax	1,250	1,250	1,250	1,250
Contribution to consolidated fund	4,279	3,447	4,279	3,447
Loss on lease modification	-	214	-	214
Expenses relating to Covid-19	-	7,011	-	7,011
Employee benefit costs relating to Covid-19 (included in Note 19)	-	1,868	-	1,868
Board members' allowances	113	113	113	113
Foreign exchange loss	3	2	3	2
Interest income:				
- Interest income from cash and cash equivalents	5,382	1,160	5,382	1,160
- Interest income on lease receivables	2,179	3,570	2,179	3,570
	7,561	4,730	7,561	4,730
Interest expenses:				
- Interest expenses on lease liabilities	2,588	4,199	2,588	4,199
- Unwinding of discount on reinstatement costs provision	46	20	46	20
- Interest expenses on late payment	264	307	264	307
	2,898	4,526	2,898	4,526

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

22 Leases

Leases as lessee (SB-FRS 116)

The Group leases several assets including leasehold land, foreign workers' dormitories, integrated construction and precast hubs, office space and others. The average lease term is 5 years for office buildings and structures and 30 years for leasehold land and building (2022: 5 years and 30 years respectively).

The extension and termination options on the lease have been considered in the leases of the Group and the Authority.

All lease liabilities are transacted with other Statutory Boards. Information about leases for which the Group is a lessee is presented below.

Right-of-use assets

Right-of-use assets related to leased properties that do not meet the definition of investment property and are presented as property, plant and equipment (see note 4).

Group and Authority	Leasehold land and building $'000	Office buildings and structures $'000	Total $'000
Balance at 1 April 2021	46,029	18,992	65,021
Additions to right-of-use assets	26,400	1,248	27,648
Depreciation charge for the year	(1,957)	(5,180)	(7,137)
Derecognition of right-of-use assets as a result of entering into finance sub-lease	(26,400)	-	(26,400)
Balance at 31 March 2022	44,072	15,060	59,132
Additions to right-of-use assets	4,343	339	4,682
Depreciation charge for the year	(1,579)	(5,647)	(7,226)
Derecognition of right-of-use assets as a result of entering into finance sub-lease	(4,343)	-	(4,343)
Balance at 31 March 2023	42,493	9,752	52,245

(a) The foreign workers' dormitories leased from Singapore Land Authority has a remaining tenure ranging from 1 year to 3 years. The integrated construction and precast hub leased from JTC Corporation has a remaining tenure of 20 years. The foreign workers' dormitories and integrated construction and precast hub were sub-leased to third parties with the same tenure period.

(b) The Group leases industrial lands for the development of the integrated construction and precast hub. As the leases were prepaid by the Group, no lease liabilities were recognised.

(c) During the financial year, the Group renewed leases for foreign workers' dormitories. The foreign workers' dormitories leased from Singapore Land Authority is for the period till 2025. As a result of entering into these finance sub-leases, lease receivables and lease liabilities of $4,343,000 (2022: $26,400,000) were recognised.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Amounts recognised in profit or loss:

Lease under SB-FRS 116	**2023** **$'000**	**2022** **$'000**
Interest on lease liabilities	2,588	4,199
Expenses relating to short-term leases	11,397	1,658
Expenses relating to non-lease component	1,886	1,891
Expenses relating to leases of low-value assets, excluding short-term leases of low-value assets	850	793

Amounts recognised in the statement of cash flows:

	2023 **$'000**	**2022** **$'000**
Total cash outflow for leases	47,733	69,871

Leases as lessor (SB-SB-FRS 116)

For the sub-leases of the foreign workers' dormitories, ready-mixed concrete sites and integrated construction and precast hubs, interest income on lease receivables of $2,179,000 (2022: $3,571,000) were recognised by the Group.

The following table sets out a maturity analysis of lease receivables, showing the undiscounted lease payments to be received after the reporting date.

	Group	
	2023 **$'000**	**2022** **$'000**
- Less than one year	35,709	55,545
- One to two years	8,182	19,849
- Two to three years	1,507	6,813
- Three to four years	1,285	1,247
- Four to five years	1,285	1,247
- More than five years	19,170	19,858
Total undiscounted lease receivables	67,138	104,559
Unearned finance income	(8,273)	(10,048)
Impairment loss	(10,143)	(10,143)
Net investment in the lease	48,722	84,368

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

23 Related party

In addition to the related party information disclosed elsewhere in the financial statements, significant transactions between the Group and related parties took place on terms agreed between the parties during the financial year. The balances are unsecured, interest-free, repayable on demand and to be settled in cash, unless otherwise stated.

Key management personnel compensation

Key management personnel of the Group are those persons having the Authority and responsibility for planning, directing and controlling the activities of the entity. The Board members and executive key management are considered as key management personnel of the Group.

The compensation to key management personnel is as follows:

	Group and Authority	
	2023	**2022**
	$'000	**$'000**
Short-term benefits	7,271	6,935
CPF contributions	365	356
Termination benefits	-	13
	7,636	7,304

Other related parties transactions

During the financial year, the Group entered into the following transactions with related parties (i.e. entities in which the Board members have control or joint control) which are not government-related entities:

	Group and Authority	
	2023	**2022**
	$'000	**$'000**
Plan fees	90	506
Course fees	120	106
Trade test fees	3,858	271
Other income	189	391
Employee benefit costs	(47)	(911)
Other expenditure	(85)	(1,208)

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Government-related entities transactions

The Authority is a Statutory Board under the Ministry of National Development ("MND"), championing the development of an excellent built environment for Singapore. "Built environment" refers to buildings, structures and infrastructure in our surroundings that provide the setting for the community's activities.

The Singapore Government has control over the Authority, as well as Ministries, Organs of State and other Statutory Boards.

Collectively, but not individually significant transactions

The following significant transactions took place between the Group and other Ministries, Organs of State and other Statutory Boards. These transactions are conducted in the ordinary course of the Authority's business on terms comparable to those with other entities that are not government related.

	Group and Authority	
	2023	**2022**
	$'000	**$'000**
Service rendered		
Plan fees	12,846	5,740
Course fees	1,450	1,422
Quality and green mark assessment fees	4,648	2,495
Management fee	6,880	4,963
Service received		
Employee benefit costs	1,964	1,119
Expenses related to short-term lease	12,697	2,127
IT services	7,474	3,601

24 Financial instruments

(i) Financial risk management

Overview

The Group has exposure to the following risks arising from financial instruments:

- credit risk
- liquidity risk
- market risk

This note presents information about the Group's exposure to each of the above risks, the Group's objectives, policies and processes for measuring and managing risk, and the Group's management of capital.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Risk management framework

The Group and the Authority are exposed to financial risks arising from its operations and the use of financial instruments. The Group has documented financial risk management policies. These policies set out the Group's overall business strategies and its risk management philosophy. The Group's overall financial risk management programme seeks to minimise potential adverse effects of the financial performance of the Group. Such written policies are reviewed annually by the management and periodic reviews are undertaken to ensure that the Group's policy guidelines are complied with. The key financial risks arising from the Group's financial instruments are liquidity risk and credit risk.

The Group does not hold or issue derivative financial instruments for trading purposes. The board reviews and agrees policies for managing each of these risks and they are summarised below.

Credit risk

Credit risk is the risk of loss that may arise on outstanding financial instruments should a counterparty default on its obligations. The Group's and the Authority's exposure to credit risk arise primarily from trade and other receivables. For other financial assets (including cash and bank balances), the Group and the Authority minimise credit risk by dealing exclusively with high credit rating counterparties.

Before accepting any new customer, the Group assesses the potential customer's credit quality. A majority of the Group's receivables that are neither past due nor impaired are credit worthy counterparties with good track record of credit history.

In determining the recoverability of a receivable, the Group considers any change in the credit quality of the receivable from the date credit was initially granted up to the end of the reporting period. If the financial condition of the customers were to deteriorate, the Group would be required to record additional impairment losses. Credit risk is limited due to management's on-going evaluation of the credit worthiness of the Group's customers and given that the majority of the Group's trade receivables are within their expected cash collection cycle.

Credit risk concentration profile

The Group determines concentration of credit risk by monitoring the customer profile of its trade and other receivables on an ongoing basis.

At the end of the financial year, approximately 21% (2022: 11%) of the Group's trade and other receivables was due from 1 (2022: 1) major customer with a total balance of $15,742,000 (2022: $11,019,000) located in Singapore.

Expected credit loss assessment ("ECL") as at 31 March 2022 and 31 March 2023

The Group uses an allowance matrix to measure the ECLs of trade and other receivables. Loss rates are based on actual credit loss experience. Management considers the differences between economic conditions during the period over which the historical data has been collected, current conditions and the Group's view of economic conditions over the expected lives of the receivables. The amount of the allowance on this balance is insignificant.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

The following tables provide information about the exposure to credit risk and ECLs for trade and other receivables as at 31 March 2023:

	2023		2022	
	Gross carrying amount	Impairment losses	Gross carrying amount	Impairment losses
	$'000	$'000	$'000	$'000
Group				
Not past due	65,185	(1,187)	99,160	(4,417)
Past due:				
- less than 3 months	4,002	(4)	3,266	-
- 3 months to 6 months	136	(4)	2,121	(1)
- more than 6 months to 12 months	4,920	(16)	5,561	(5,123)
- more than 12 months	12,103	(11,111)	1,676	(1,655)
	86,346	(12,322)	111,784	(11,196)
Authority				
Not past due	64,750	(1,187)	99,423	(4,417)
Past due:				
- less than 3 months	3,968	(4)	3,222	-
- 3 months to 6 months	12	(4)	2,121	(1)
- more than 6 months to 12 months	4,893	(16)	5,561	(5,123)
- more than 12 months	12,103	(11,111)	1,676	(1,655)
	85,726	(12,322)	112,003	(11,196)

At 31 March 2023, the individual impairment losses of the Group and the Authority related to several customers that had indicated that they were not expecting to be able to pay their outstanding balances, mainly due to economic circumstances.

Movement in allowance for impairment in respect of trade and other receivables

The movement in the allowance for impairment in respect of trade and other receivables during the year was as follows:

	Lifetime ECL	
	2023	2022
	$'000	$'000
At beginning of the year	11,196	9,740
Allowance for impairment loss	1,126	1,456
At end of the year	12,322	11,196

The Group and the Authority believe that the unimpaired amounts are still collectible in full, based on historic payment behaviour and extensive analyses of customer credit risk.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

Financial guarantees

The Group participated in an agreement with financial institutions to provide financial guarantees to qualifying scheme applicants since 1 April 2018 under The Building Retrofit Energy Efficiency Financing ("BREEF") Scheme. As at the respective financial years ended, the Authority has an outstanding guarantee to a bank in respect of credit facilities granted to 1 (2022: 1) scheme applicant. The guarantee is subject to the impairment assessment under SB-FRS 109.

At 31 March 2023 and 31 March 2022, the risk shared by the Authority on the outstanding banking facility amounted to $191,000 and $312,000 respectively.

Based on the annual credit review by the financial institution, the scheme applicant has the financial capacity to meet the contractual cash flow obligations in the near future and hence, the Authority does not expect significant credit losses from this guarantee.

Cash and bank balances

The cash and bank balances as disclosed in Note 7 to the financial statements are held with bank and financial institution counterparties which are rated P-1, based on Moody's ratings. The Authority participated in the Centralised Liquidity Management scheme starting from 25 March 2010.

Impairment on cash and bank balances has been measured on the 12-month expected loss basis and reflects the short maturities of the exposures. The Group and the Authority consider that its cash and bank balances have low credit risk based on the external credit ratings of the counterparties. The amount of the allowance on cash and bank balances is negligible.

Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting financial obligations due to shortage of funds. The Group's exposure to liquidity risk arises primarily from mismatches of the maturities of financial assets and liabilities. The Group manages the liquidity risk by maintaining sufficient cash and bank balances to enable them to meet their normal operating commitments.

Analysis of financial instruments by remaining contractual maturities

All financial liabilities in 2022 and 2023 are repayable on demand or due within 1 year from the end of the reporting period, except for lease liabilities.

Market risk

There has been no change to the Group's exposure to these financial risks or the manner in which it manages and measures the risk. Market risk exposures are measured using sensitivity analysis indicated below.

Interest rate risk management

The Group's interest-bearing financial instruments mainly relates to cash and bank balances which are all short-term. Hence, management does not expect future fluctuations in interest rates to have significant impact on the Group's results or cash flows.

Notes to the Financial Statements (cont'd)

Year ended 31 March 2023

(ii) Fair values of financial instruments

The fair value of a financial instrument is the amount at which the instrument could be exchanged or settled between knowledgeable and willing parties in an arm's length transaction, other than in a forced or liquidation sale.

Financial instruments whose carrying amount approximates fair value

Management has determined that the carrying amounts of trade and other receivables, amounts due from its subsidiaries, cash and bank balances, trade and other payables reasonably approximate their fair values because these are mostly short-term in nature.

(iii) Capital risk management policies and objectives

The capital structure of the Authority consists of share capital, capital account and accumulated surplus. The Authority manages its capital to ensure it will be able to continue as a going concern and in accordance with the Capital Management Framework formulated by the Ministry of Finance. The framework sets out the basis of equity contribution by the Government to the Authority and the principle of dividend distribution to the Government. The Authority's overall strategy remains unchanged from the previous financial year.

25 Reclassifications and comparative figures

Certain reclassifications have been made to prior year's financial statements to enhance comparability with the current year's financial statements and provide better clarity.

As a result, certain line items have been amended in the notes to the financial statements. Comparative figures have been adjusted to conform to the current year's presentation.

The items were reclassified as follows:

	Group		Authority	
	Previously reported	After reclassification	Previously reported	After reclassification
	2022	2022	2022	2022
	$'000	$'000	$'000	$'000
Trade receivables	16,161	11,847	16,117	11,803
Lease receivables	80,054	84,368	80,054	84,368

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Building and Construction Authority

52 Jurong Gateway Road
#11-01, Singapore 608550

www1.bca.gov.sg