

our 10-year story

BCA ANNUAL REPORT 2008/09

Statistics on our Built Environment

29,937

advertisement licences issued

40

private estates upgraded

Highest CONQUAS score for a building
95.6

307
Green Mark Projects

48

MND Research Fund projects approved with funding of about

\$32 million

22,787

lifts lodged with BCA

2,723

Management Corporations in Singapore

535

public shelters and

25

transit shelters

51,000

household shelters and

1,600

storey shelters in private residential buildings

Close to

27,500

residential units committed to Quality Mark

\$12.34 million

committed for

61

projects under the Green Mark Incentive Scheme GMIS

43

buildings to be upgraded or upgraded with support from the Accessibility Fund

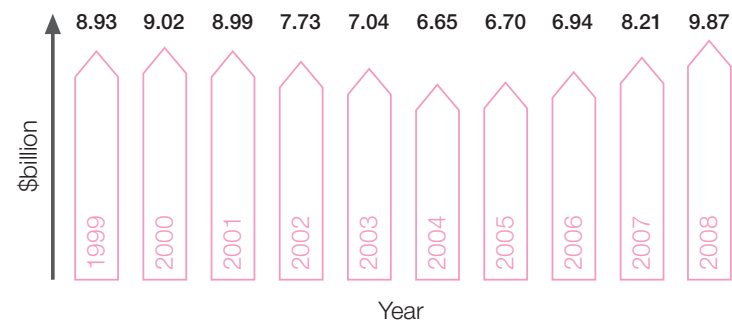
1,200

buildings rated with 5 different levels of friendliness so far

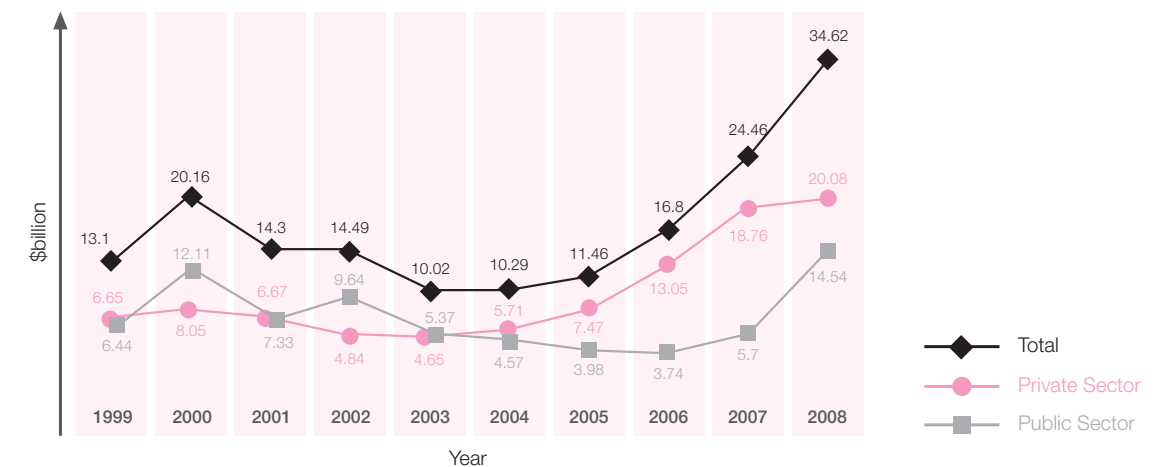
10-Year

Industry Performance Statistics

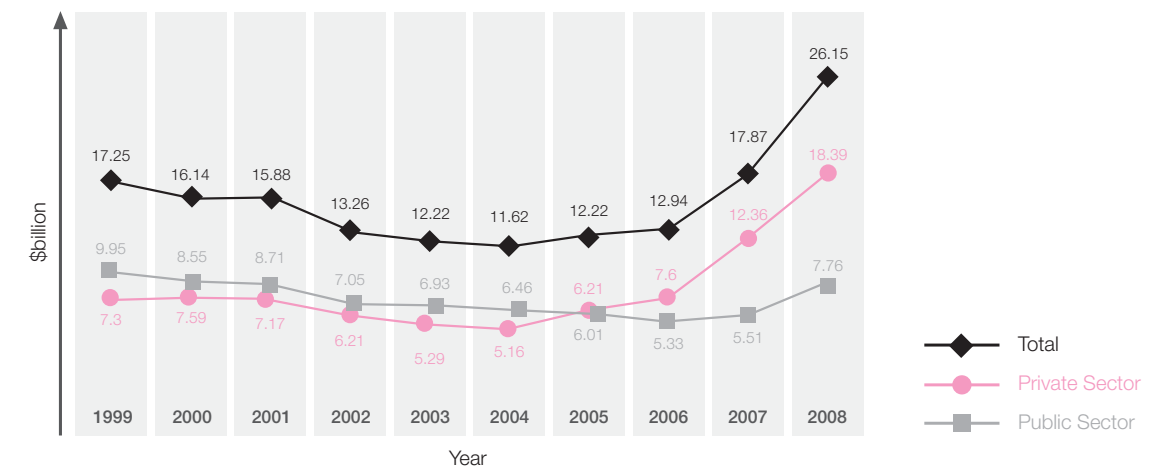
Construction GDP



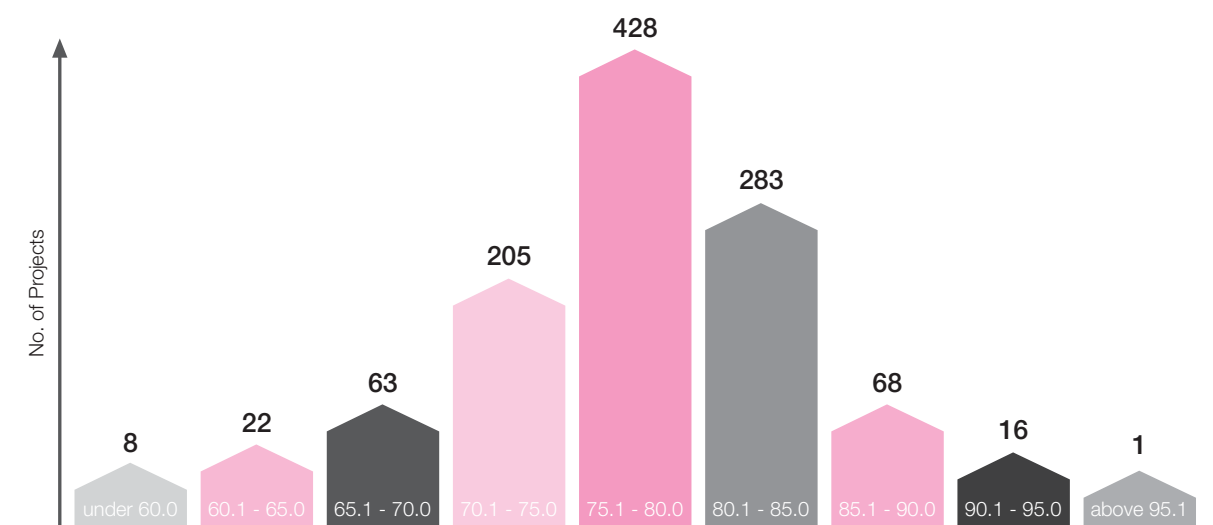
Construction Demand



Construction Output



Distribution Chart of Conquas From 1999 to 2008



BCA and Industry Statistics (FY2008)

111,040 workers skills-tested and **75,487** certified

25 Overseas Testing Centres

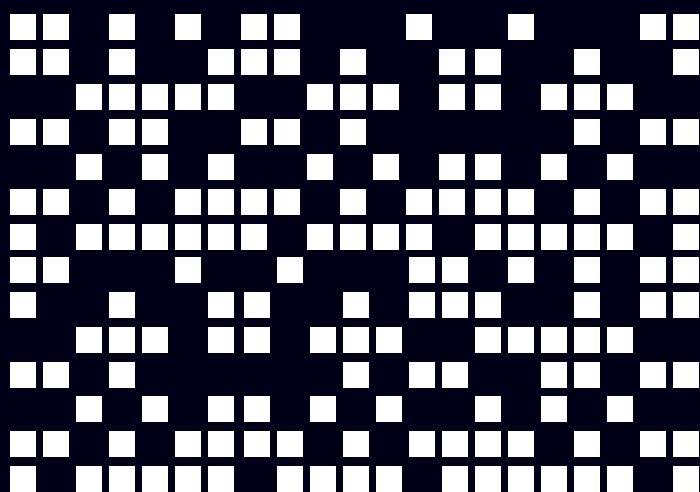
\$1.6 billion worth of overseas construction contracts clinched in 2008

BCA oversees **15** commercial dormitories for construction workers

4,437 construction permits issued

We are a young statutory board with a great mission to shape a safe, high quality, sustainable and friendly built environment. Within this decade, we have persevered and made great strides in contributing to the creation of the best built environment for Singapore. Here's the story behind the shaping of what Singapore's built environment is today.

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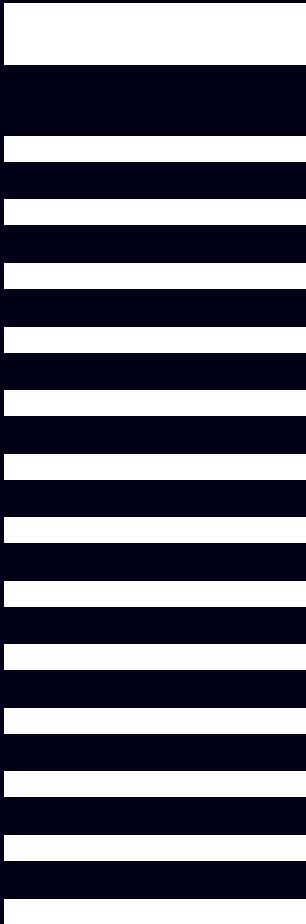
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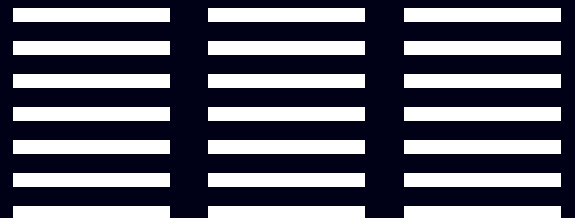
Our Leaders

Our People
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The 10th year
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The Fruits
of our
Labour



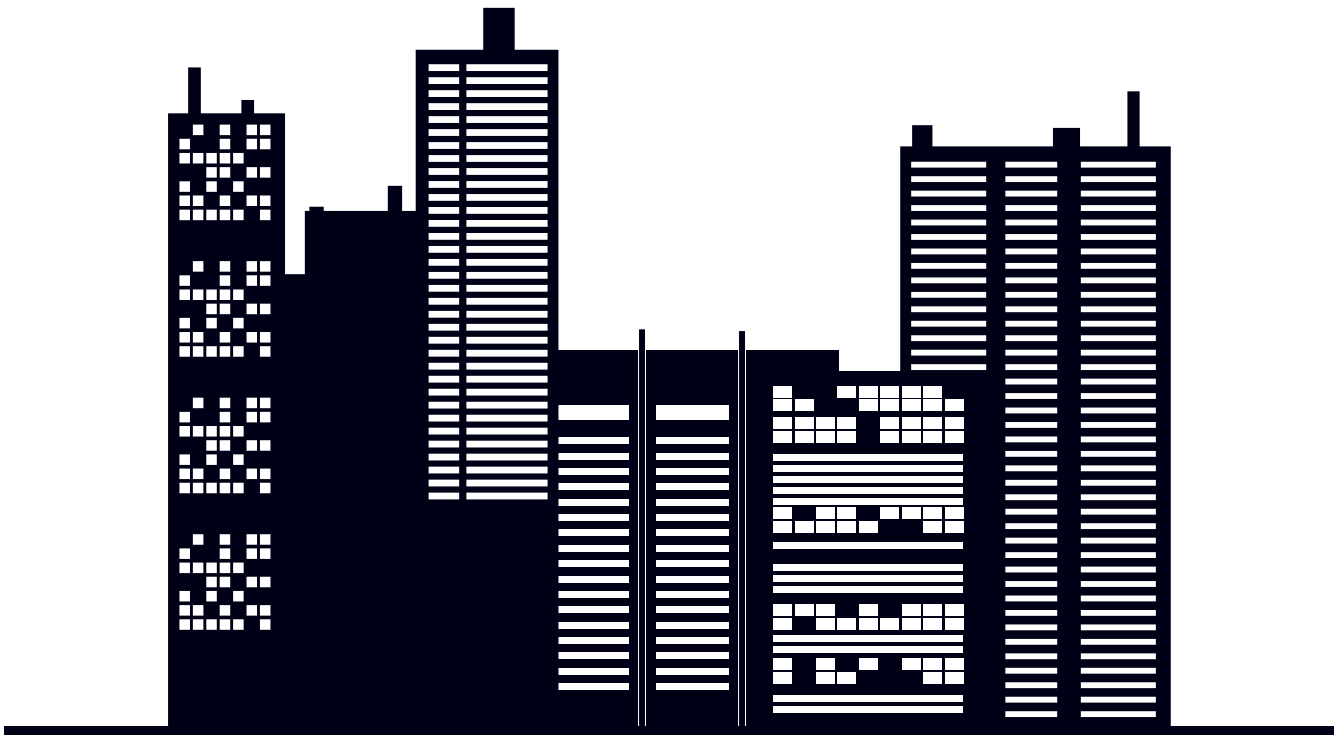
A night-time photograph of a city skyline. In the background, several tall skyscrapers are illuminated with various lights, including yellow, blue, and red. The sky is a deep blue. In the foreground, there is a dense residential area with many smaller buildings, some of which are also lit up. The overall scene is a vibrant urban landscape at night.

“Knowing that we can make a difference in this world is a great motivator. How can we know this and not be involved?”

Susan Jeffers

We have a vision for Singapore.

It is to have the best built environment which is safe,
high quality, sustainable and friendly. With our sights cast
on this common vision, we work together with our
stakeholders in a constellation of teams to develop it.
Only then will we be able to bring the talents and resources
together to take on the challenge of creating the best built
environment for Singapore - one that we call home.



P01

mission and vision

Our mission is to shape a safe, high quality, sustainable and friendly built environment.

Safety, Quality, Sustainability and User-friendliness are four key attributes of our built environment where BCA has a significant influence on. They distinguish Singapore's built environment from those of other cities. Hence, our vision is to have the best built environment for Singapore, our distinctive global city.

strategic thrusts

We aim to be a caring and progressive organization that values its people, the innovative spirit, integrity, and service excellence.

We ensure high safety standards and promote quality excellence in the built environment.

We champion barrier-free accessibility and sustainability of the built environment.

We lead and transform the building and construction industry by:

- enhancing skills and professionalism
- improving design and construction capabilities
- developing niche expertise
- promoting export of construction-related services

We forge effective partnerships with the stakeholders and the community to achieve our vision.

core values

We Care

We care for the well-being of our staff, the community and the environment. We serve our customers with respect and integrity.

We Dare to Dream

We dare to be innovative and seek opportunities to transform BCA and the industry.

We Can Do

We are a resilient organisation with the confidence, courage and ability to overcome challenges.



BCA's Corporate Social Responsibility Statement

BCA is dedicated to contributing to the well-being of the community and the environment through our efforts in shaping a sustainable and friendly built environment.

Serving The Community

To us, serving the community is a privilege. Embedded in our core value, We care, we take pride in each and every contribution as we serve with our hearts for the better good of the community and an inclusive society. To achieve this, BCA will:

- shape a friendly built environment for Singapore through improving accessibility and promoting Universal Design;
- inculcate a spirit of volunteerism among staff;
- work closely with volunteer welfare organisations to understand their needs, provide resources and organise purposeful programmes that help to bring about a better built environment
- for all and raise public awareness of the importance of a friendly built environment through dialogues, public education and collaborative projects.

Greening The Built Environment (BCA's Environmental Policy)

BCA takes pride as the Green Leader for Singapore's built environment. Care for the environment is embedded strongly in our core values, and we are fully committed to championing this worthy cause together with our stakeholders to help promote environmentally sustainable development.

To achieve this, BCA will:

- Spearhead green strategies and initiatives towards sustainability in the built environment;
- Champion and lead the building and construction industry in the development of sustainable building and sustainable construction;
- Actively engage stakeholders through dialogues, public education and collaborative projects; and
- Inculcate environmental awareness and commitment amongst our staff through educational and actionable programmes.

Corporate Governance

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

Board Members

The Board currently comprises 12 members. All are non-executive members, except Dr John Keung who is BCA's Chief Executive Officer (CEO). The Board comprises representatives from the industry, academia and Ministries. The diverse representation of the Board provides an appropriate range of experience, skills, knowledge and perspectives to enable it to play an active role in guiding BCA to achieve its mission and vision.

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

The Board meets at least six times a year to evaluate, approve and monitor the plans and budgets of BCA. It also oversees the work and performance of Management and assesses the financial health of BCA. The BCA Act empowers the Board to form committees from among 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 a review of BCA's material internal controls, including financial, operational and compliance controls, and risk management, is conducted annually through internal and/or external audits according to the direction of the Finance and Audit Committee.

Finance and Audit Committee

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

chairman's message



Singapore's built environment is currently teeming with construction activities and developments. BCA interviewed Chairman Quek See Tiat on the plans and initiatives to lead the billion dollar industry to transform and improve our built environment.



Since the formation of BCA 10 years ago, what were some of the most significant milestones in the last ten years in BCA's history?

In the short span of 10 years, we have established a robust and yet user-friendly building control framework that ensures all buildings in Singapore are safe for continued occupation. We have also now established ourselves as one of the leading green building authorities in the world. Many of our schemes, such as CONQUAS (Construction Quality Assessment Scheme), Quality Mark and Green Mark, are also widely used as national yardsticks and recognised as part of the prestigious Singapore brand in the region. In terms of barrier-free accessibility, we definitely see a vast improvement made in our built environment as compared to 10 years ago.

What are the goals for BCA in 2010 and beyond?

Concerns such as climate change, sustainable growth, ageing population, increase in urban density, productivity and competitiveness currently preoccupy our agenda. For BCA in 2010 and beyond, we will continue to play a role in helping our local industry players of the built environment navigate an increasingly challenging business environment. Our goal in 2010 is to help it build capabilities in key strategic areas, such as sustainable development and barrier-free accessibility, and enhance its long-term competitiveness.

What's the game plan for sustainable development?

In 2009, we have taken the first steps to launch various initiatives under our Second Green Building Masterplan. We will continue to work on capacity programmes and enhancing standards especially to tackle the existing building stock in order to achieve a sustainable built environment in Singapore by 2030.

At the same time, we want to solidify Singapore's position as a focal point for sustainable development in the region. To raise our profile, we will focus on collaborations with international bodies in sustainable policies and research and development as well as leveraging on platforms such as the inaugural International Green Building Conference and the upcoming Zero-Energy Building.

In sustainable construction, an international panel of experts had endorsed BCA's Sustainable Construction Masterplan as an important instrument to guide the industry in implementing sustainable construction concepts, and they also offered recommendations to complement our existing initiatives. Going forward, BCA will fine-tune our Masterplan and incorporate key proposals such as setting up a capability development fund for the industry.

Changes to our climate due to global warming could also impact our island's coastline. Hence, BCA is embarking on a study to look into issues on coastal protection and propose strategies which will eventually form Singapore's Resilience Coastline Masterplan.

The challenge is always with upgrading our existing buildings and their surroundings. How is BCA overcoming such challenges in terms of user-friendliness and accessibility in buildings?

BCA will continue to encourage the industry to adopt Universal Design for our buildings so that they are accessible to diverse users such as the disabled, senior citizens and families.

We will also set up an international panel of experts on Universal Design to review our building code provisions and to suggest improvements based on best practices adopted in other countries. This is in view of our plan to revise the Code on Accessibility in the built environment to introduce more Universal Design features in future.

As for existing private buildings, BCA will push on to encourage building owners to upgrade their buildings through the Accessibility Fund to put in basic accessibility features. For public buildings and facilities which have high human traffic, BCA will carry on working with the relevant agencies to incorporate user-friendly and accessible features.





What is the thinking behind BCA's thrust to build industry capability in the key areas? What will be the main challenges?

Building industry capability in strategic areas is important to help enhance the industry's resilience to the cyclical nature of construction demand, as well as reap economic benefits such as higher investment spending and creation of higher value-added jobs.

BCA will work on programmes to build capabilities in key strategic areas to improve competitiveness of our industry. This will also help to strengthen Singapore's brand in the region and enable Singapore-based firms to expand their reach internationally.

"As an industry that is essential in supporting the growth of Singapore's economy, the workforce is its spine. The training of a green collar workforce will be our main priority in order to support our commitment to the national Sustainable Development blueprint."

Over the next 10 years, there will be a demand for some 18,000 to 20,000 green professionals and associate professionals throughout the value chain to achieve the national objective of reducing carbon emission from buildings through sustainable design, construction, operation and maintenance of buildings. In this aspect, our BCA Academy plays a strategic role in putting out a comprehensive training framework with relevant and up-to-date training programmes to develop capability in green building design, sustainable development and management.

Improving productivity of the construction workforce is another main concern, as it will affect our long-term competitiveness. The transient nature of our workforce creates constraints but much of our efforts will be focused on building up a stable core of local and foreign construction personnel to lead and anchor the workforce. BCA will look into ways to improve productivity through technology adoption and manpower development.

BCA will also continue to lead in promoting built environment careers as viable and attractive options for Singaporeans looking for an outlet to shape our skyline and contribute to sustainable development. This will be done through a series of outreach activities for students and public programmes to change perceptions of careers in the built environment.

We have experienced several challenges which we have never experienced before, especially in the last few years. How important is it for us to be resilient?

Being able to overcome challenges is one of the best indications of a resilient industry. I am delighted that the BCA has played a significant role in helping industries involved in Singapore's built environment develop resilience amid uncertain conditions, such as sudden disruption to supply of basic construction materials and the construction resources crunch due to the construction boom during the recent two years.

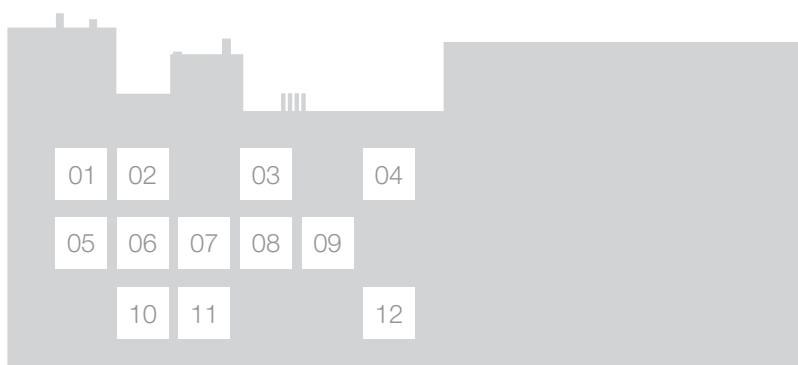
There is much for us to study, plan and implement in the coming year, which I believe, will be filled with exciting challenges. There will be uncertainties and changes that may threaten the industry but I am confident that with well thought out plans and programmes, we will emerge through all of these unscathed.

As we have learnt through the many crises in the past, our response should never be one of avoidance or worse, fear. BCA will forge ahead and remain committed to working with our partners on strategies that will prepare us in overcoming the challenges of tomorrow.

Quek See Tiat
Chairman

board of directors





01. Mr Quek See Tiat (Chairman)

*[From April 2001, Appointed Chairman since April 2006]
Partner and Deputy Chairman
PricewaterhouseCoopers, Singapore*

02. Dr John Keung

*[From June 2006]
Chief Executive Officer
Building and Construction Authority*

03. Mr Cheong Yip Seng

*[From April 2007]
Chairman
Advisory Council for the Impact of New Media on Society*

04. Mr Federic Perez

*[From April 2007]
Project Director
Dragages Singapore Pte Ltd*

05. Prof Howard Hunter

*[From April 2009]
President and Professor of Law
Singapore Management University*

06. Mr Norman Ip

*[From April 2009]
President and Group Chief Executive Officer
The Straits Trading Company Limited*

07. Mr Lee Chuan Seng

*[From April 2003]
Chairman
Beca Carter Hollings and Ferner (SEA) Pte Ltd*

08. Mr John Lim

*[From April 2009]
Director (Security Plans and Development Directorate)
Ministry of Home Affairs*

09. Mr Pek Lian Guan

*[From April 2007]
Managing Director
Tiong Seng Contractors Pte Ltd*

10. Mr Richard Hassell

*[From April 2009]
Founding Director
WOHA Architects Pte Ltd*

11. Mr Song Wee Ngee

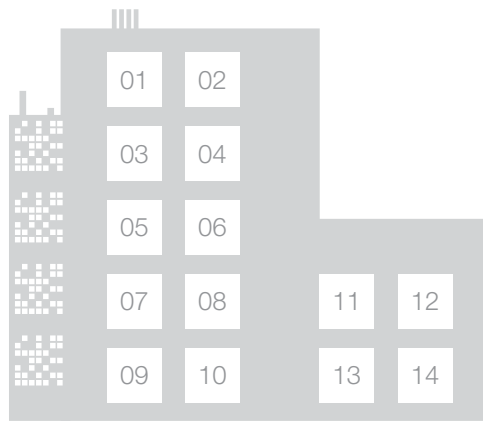
*[From April 2007]
Managing Director
KTP Consultants Pte Ltd*

12. Mr Kevin Wong

*[From April 2009]
Group CEO
Keppel Land Limited*

senior management





01. Dr John Keung

Chief Executive Officer

02. Mr Benedict Tan

Managing Director (BCA Academy)

03. Mr Lam Siew Wah

Deputy CEO, Industry and Corporate Development

04. Mr Ong See Ho

Deputy CEO, Building Control
Commissioner of Building Control

05. Mr Choo Whatt Bin

Executive Director, Research and International Development

06. Mr Wong Wai Ching

Deputy Managing Director, Training and Professional Development (BCA Academy)

07. Mr Tan Tian Chong

Director, Technology Development Division

08. Mr William Tan Yong Keh

Director, Business Development Division

09. Mr Ong Chan Leng

Director, Special Functions Division

10. Mr Chin Chi Leong

Director, Building Plan and Management Division
Commissioner of Buildings

11. Mr Cheng Tai Fatt

Director, Corporate Development Division
Deputy Managing Director, Corporate Services (BCA Academy)

12. Mr Chew Keat Chuan

Director, Building Engineering Division

13. Mr Ang Kian Seng

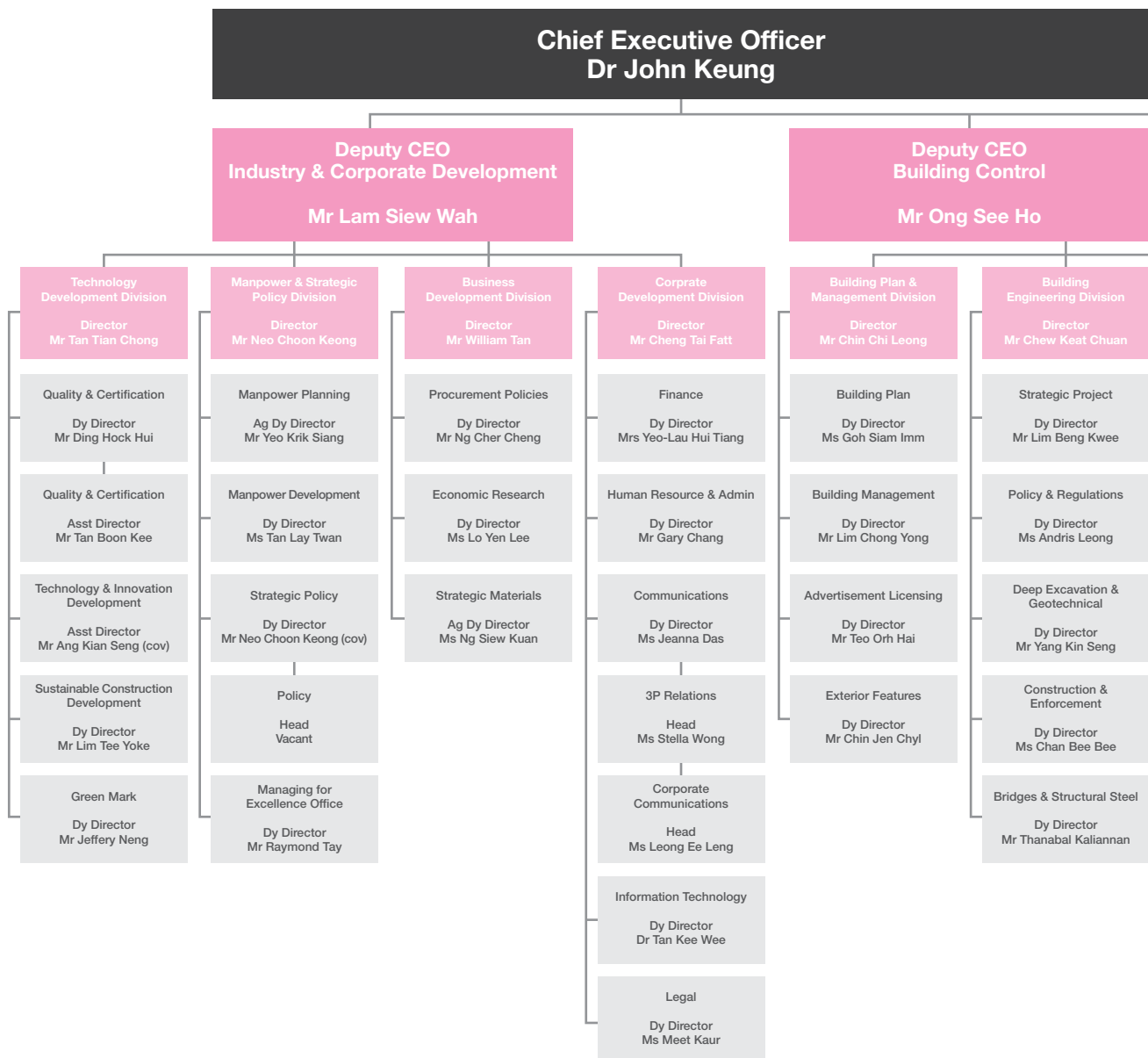
Director, Research

14. Mr Neo Choon Keong

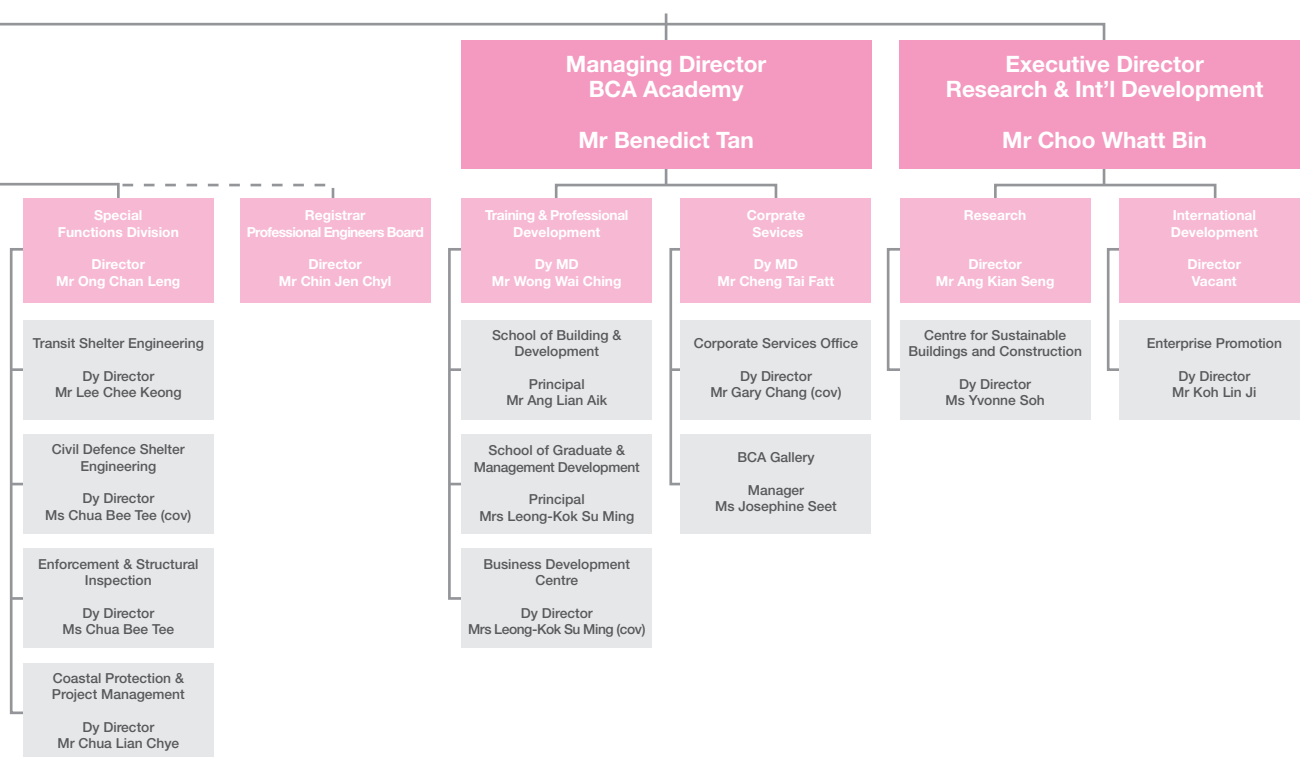
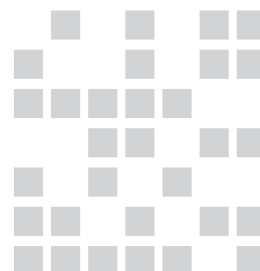
Director, Manpower and Strategic Policy Division


bca organisation

(As at 1st July 2009)



structure





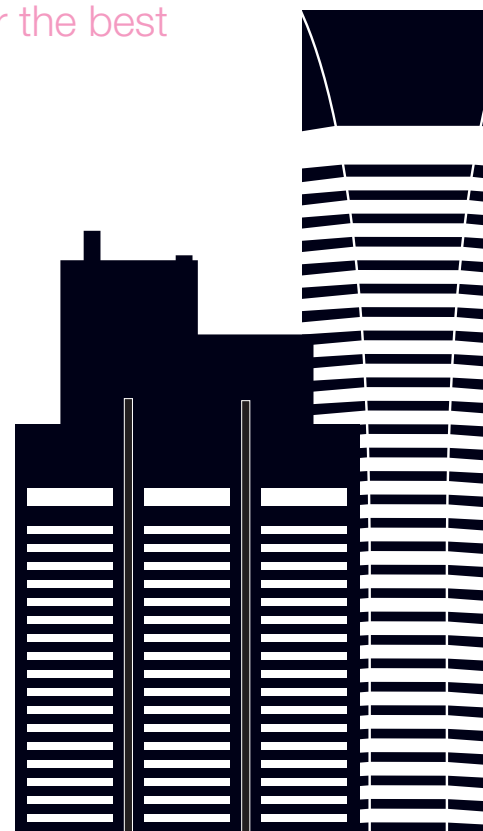
**“What the mind can
conceive and believe,
the mind can achieve.”**

– Napoleon Hill

The year in review

was filled with excitement and challenges. Construction activities were in full swing with several mega projects underway but the activities brought with them an unexpected situation - a construction resources crunch.

However, adversity results in opportunities to find innovative solutions. With the 'CAN-DO' spirit in BCA, we moved in quickly and work closely with our stakeholders to ease the situation. It will be our constant endeavour to work with our partners to deliver the best built environment for Singapore.



The

10th

Year

Shaping our industry and our built environment



Strengthening Safety in the Built Environment

Reviewing regulatory requirements

Following the passing of the Building Control (Amendments) Bill in September 2007, two key regulations were implemented. From October 2008, underground building works would require a specialist geotechnical engineer and/or a specialist Accredited Checker to undertake geotechnical aspects of such works at both design and construction stages. From December 2008, general builders and specialist builders in stipulated trades were required to apply for license and were given a six-month grace period to do so.

To continually enhance our building control regulatory regime, BCA convened a Technical Expert Panel (TEP) comprising local and international geotechnical experts in

January 08. The main intent was to review regulatory controls on the design and construction of temporary earth retaining structures for deep excavation. Recommendations by the TEP were considered and incorporated to enhance our regulatory requirements.

Testing regime on imported aggregates

Following the sand and granite supply disruption in 2007, the industry turned to seek diversification in supply sources. BCA introduced a three-stage testing regime to determine the quality of imported aggregates to ensure the safety of buildings constructed using concrete. This paved the way for the licensing of sand and granite importers when the Building and Construction Authority (Amendment) Bill was passed in March 2009. This was to ensure the imported materials met high standards and help safeguard supply.



Promoting Quality Excellence in the Built Environment

Raising quality standards

BCA continued to leverage on the CONQUAS and Quality Mark schemes to enhance quality standards in building projects. In 2008, 85% of new private residential and commercial projects (by value) adopted CONQUAS, with the industry's mean CONQUAS score reaching 81.0. In addition, about 38% of residential developments came on board the voluntary Quality Mark scheme, signalling developers' commitment to high quality.

Introducing CoreTrade

BCA has proactively reached out to the existing construction personnel, in particular the registered crane operators, licensed plumbers and licensed electricians. These eligible construction personnel are given 6 months from December 2008 to register as trade foremen and tradesmen under the CoreTrade. More than 5,000 construction personnel had applied for the CoreTrade registration.



Enhancing Sustainability in the Built Environment

Successful implementation of 1st Green Building Masterplan

BCA successfully implemented initiatives under the 1st Green Buildings Masterplan formulated in 2006 to spearhead the delivery of new green buildings. The new Building Control (Environmental Sustainability) Regulations 2008 came into effect on 15 April 2008, legislating minimum environment sustainability standards for all new buildings and existing ones undergoing major retrofitting works. A total of 20 projects received funding under the Green Mark Incentive Scheme (New Buildings) with \$2.7 million of the funding committed in FY2008.

Formulation of Second Green Building Masterplan

Riding on the green wave and the success of the first Green Building Masterplan, BCA has formulated the Second Green Building Masterplan with a focus on greening the existing stock of buildings. BCA also called an International Panel of Experts (IPE) on Environmental Sustainability together in September/October 2008 to share their experience and views on greening the existing stock of buildings.

To further demonstrate and test-bed the use of green building technologies, BCA has also commenced construction of the Zero Energy Building at the BCA Academy, which would be completed by October 2009.

Sustainable Construction

Beyond enhancing the supply resilience of strategic construction materials, sustainable construction has also become an integral part of our drive towards delivering a highly sustainable built environment. Under the Sustainable Construction Masterplan, BCA has launched a number of design guides to build industry capabilities in sustainable construction. To promote wider adoption of recycled materials, declaration of demolition waste became a requirement for application of permit to carry out demolition work in January 2008.

The Standard on Specification for Aggregates for Concrete was also introduced to allow the use of recycled aggregates. To ensure consistent quality standard of recycled aggregates, BCA worked with the Waste Management and Recycling Association of Singapore (WMRAS) to establish an accreditation scheme for recyclers.

In addition, we have incorporated the Concrete Usage Index (CUI) as part of the optional requirements of the BCA Green Mark scheme to promote more efficient design and use of concrete.

Research and development

Under the MND Research Fund for the Built Environment, a total of six Green Buildings Technology (GBT) related proposals and two Sustainable Construction (SC) related proposals were accepted for funding support in 2008 at an estimated amount of \$5 million.



Championing a User-Friendly Built Environment

Expanded scope for new buildings and those undergoing major retrofitting

The previous Code on Barrier-Free Accessibility in Buildings was reviewed to expand its scope to cover the whole built environment and to create a seamless connection so that people of all ages and physical conditions will be able to enjoy our city. The Code was renamed Code on Accessibility in the Built Environment 2007 and came into force on 1 April 2008 to reflect its expanded scope.

Improving accessibility of existing buildings

Under the Barrier-free Accessibility Masterplan, BCA has adopted a two-prong strategy in the upgrading of existing buildings. First, BCA has been facilitating the upgrading of existing government buildings by providing consultations to public agencies. Second, to encourage more private buildings to be upgraded, BCA also increased the funding support criteria under the \$40 million Accessibility Fund in October 2008. Up to 80% of the cost of providing basic barrier-free features or a maximum of \$300,000 per building can now be funded. To further impel the private sector, BCA introduced an Accessibility Rating System and a “Friendly Building Portal” to create recognition and public demand for the provisions of barrier-free facilities. In March 2009, BCA extended barrier-free features as part of the Estate Upgrading Programme, with MacPherson Gardens Estate being the first to be designed with extensive barrier-free and Universal Design features to enable seamless and effortless connections for residents.



Managing rapid changes in market situation

Facilitating Adequate Supply of Construction Resources

The surge in construction activities from 2007 to end 2008 put immense pressure on the supply and cost of construction resources. In response, BCA swiftly implemented measures to moderate construction demand, ease the supply of construction resources, and make available essential information to help the construction industry make informed decisions.

Several measures were also implemented to expand contracting resources and ease supply of construction manpower at all levels to cope with the surge in construction demand. For example, BCA has reviewed the registration criteria of the BCA's Contractors Registry System and promoted available Government incentive schemes to encourage existing contractors to upgrade and expand their capacity.

To ease the supply of construction manpower at the PMET level, BCA facilitated suitable foreign personnel to be brought in to meet the short-term manpower needs of the industry. These included the expansion in the list of acceptable overseas qualifications for registration of Resident Engineers (REs) and Resident Technical Officers (RTOs).

Mitigating Impact of Global Financial Crisis

To mitigate negative impact of the global slowdown on the construction sector, BCA worked with MND and relevant Government agencies to implement targeted measures to help the industry tide over the worsening economic downturn. One example was the advancing of an additional \$1.3 billion worth of small and medium-sized public sector contracts to help SME firms.



BCA has also worked with the relevant Government agencies to roll out several measures to ease the cash flow position of contractors. These include enhancements to SPRING's business financing schemes, prompt and more frequent payments for public sector projects and lower security deposits for public sector projects.



Championing Industry Development

Career Promotion

BCA stepped up efforts to attract more locals to join the industry as a longer-term solution. Initiatives include re-branding the BCA-Industry Built Environment Scholarship, launching the Building Careers Portal, and organising the inaugural Built Environment Scholarship, Training and Career Fair in January 2009.

At the tradesmen level, BCA expanded the test certification capacity at 20 existing Overseas Testing Centres (OTCs) and set up another 5 new OTCs in 2008. BCA also stepped up JRP (Job Recreation Programme) efforts to attract suitable locals as tradesmen in the higher value-adding trades which are better paid and introduced the CoreTrade scheme to build a core group of skilled and experienced locals (and suitable longer-staying foreign workers) to anchor the workforce.

Comprehensive training road map at the BCA Academy

The BCA Academy continued to be a key platform to provide alternative entry routes for new entrants to the building and construction sector and comprehensive upgrading programmes for the existing workforce at all levels.

The Core and Core-Plus programmes were rolled out to train foremen and tradesmen in key construction trades. Professional conversion programmes targeted at PMETs from other sectors were also launched. To help the existing workforce advance its capabilities, the BCA Academy offered a comprehensive range of training and education programmes to industry personnel at all levels for their career advancement. These include the BCA-SMU Advance Management Programme to nurture leaders, the various specialist diplomas and certification courses for the professional and technical personnel, as well as the NBQ programme for existing supervisors and new entrants with 'O' or 'N' level qualification.

To support the demand for green buildings, the BCA Academy introduced a new Master of Science course on Sustainable Building Design in collaboration with Nottingham University in March 2009. This first-of-its-kind post-graduate course will help build up Singapore's capabilities in green building design.

Built Environment Young Leaders Programme

BCA recently started the programme to actively engage young professionals through networking activities or events and policies formulation. To attract more youths to join the building and construction workforce, these young leaders will also promote careers in the industry as career ambassadors and be profiled as role models of the industry.



Nurturing partnerships with stakeholders

Engagement sessions

BCA continued engaging its stakeholders through various channels to exchange ideas, receive feedback and explain policies. Platforms such as dialogues, Feedback@BCA, CEO networking lunches and Friday@BCA served to enhance communication links with external partners.

Outreach to community

The BCA Green Mark campaign continued its second phase in late 2008 to raise awareness about the benefits of living in Green Mark homes. The Green Mark portal was also revamped and used successfully as an outreach media to educate homeowners.

To spread the message of the need to improve accessibility in the built environment, BCA set up roving exhibitions at various grassroots locations. This outreach channel enabled the public to better understand accessibility issues and the measures BCA has put in place to make our built environment barrier-free. A Friendly Built Environment Week was organised in October 08 to extend the outreach to VWOs and students.



Organisational Excellence

2008 also saw an added emphasis on corporate social responsibility (CSR) in BCA. A People and CSR Committee was formed to formulate a three-year roadmap to inculcate the CSR culture. To encourage staff participation in CSR activities, BCA introduced a two-day volunteer leave for all staff in January 2009. A CSR Portal was also launched internally to share information on BCA's commitment to the environment and the community.

BCA has also accelerated its pace towards the organisational excellence journey. A milestone achievement was attaining the People's Developer status in August 2009. The next milestone would be getting the Singapore Quality Class (SQC) renewal in October 2009.

A night photograph of a city skyline reflected in water. The sky is dark blue with several colorful light trails (red, green, blue) swirling across it. A bright full moon is visible in the upper left. The city skyline features various buildings, including a prominent crane on the left and a large, brightly lit building on the right. The lights from the city are reflected in the water, creating a shimmering effect.

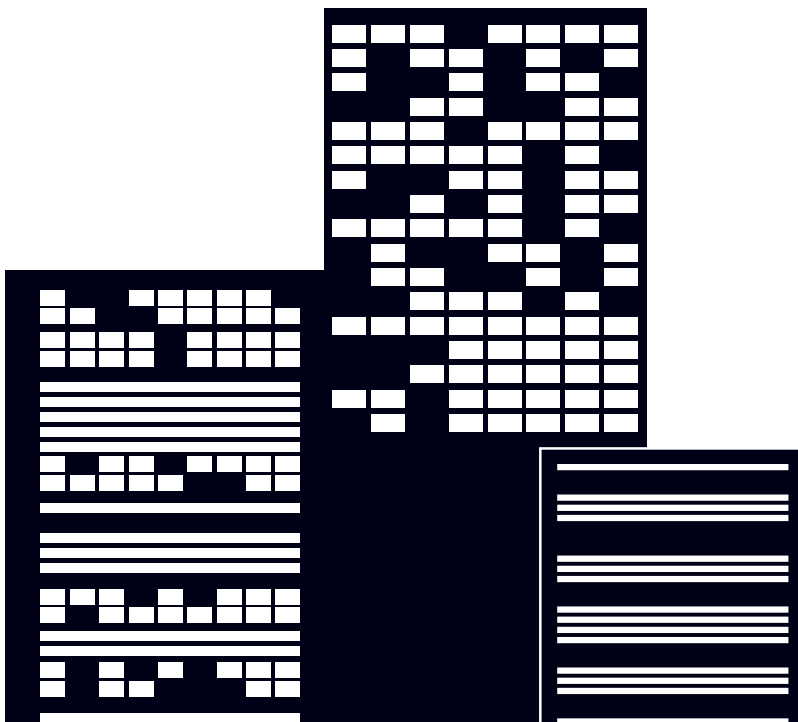
**“The biggest room in the world
is the room for improvement.”**

– Unknown

Ten years

have passed since the formation of BCA. We did many things, great and small, alongside with our stakeholders.

Behind the physical built environment we see today are carefully crafted policies and creative initiatives to guide and transform the building and construction industry. Instead of sitting back and enjoying the present fruits of our labour, we seek continual improvement to make our built environment even better because WE CARE and WE DARE TO DREAM.



The Fruits of Our Labour

A summary of our work in the last 10 years



Advertisement Licensing

A pro-business move to de-regulate the display of indoor advertisement signs was implemented in September 2002. In consultation with URA, BCA also lifted the restriction on the display of signs with flickering, flashing and running lights to boost the vibrancy of popular tourist spots. Currently, only outdoor advertisement displays are regulated.

Accredited Checking System

The accredited checking system was introduced, after the collapse of Hotel New World in 1986, to provide an independent check on the design prepared by a Qualified Person to confirm the design adequacy. After 15 years, following the collapse of a primary school roof during construction, it was further strengthened to give more attention to the involvement of Professional Engineers and Accredited Checkers in the design of large and complex structures.



Barrier-free Accessibility

Since the inception of the Code of Barrier-free Accessibility in 1990, it has undergone three reviews to give more attention to the needs of the elderly and to introduce design guidelines that would benefit a diverse group of users. The final review resulted in the renaming of the code to "Code on Accessibility in the Built Environment", which covers more than just accessibility within buildings. To further encourage private owners to upgrade their buildings, \$40 million was set aside to co-fund voluntary upgrading on barrier-free accessibility. Recently, the funding support was doubled to encourage more to do the improvement works.



BCA Academy

The former Construction Industry Training Institute was the national agency for the certification of skilled construction workers as well as a training provider to develop the professionalism of our workforce. In 2007, it was transformed into the BCA Academy to reposition itself as the leader in education and research for the building and construction industry. Since then, the new Academy had put in place a training road map to help the industry develop expertise in key areas.

BCA Gallery and Sensory Garden

The BCA Gallery was officially opened in April 2008 to showcase the development of Singapore's built environment and raise public awareness of BCA and the industry's role in shaping the built environment.

Buildable Design

The concept of buildable design, which is aimed at raising construction productivity and reducing our reliance on unskilled foreign labour, was made mandatory in January 2001.

Building Energy Efficiency Masterplan

BCA's first initiatives on promoting energy efficiency in buildings started with the review of the overall thermal transfer value (OTTV) formulation in our building regulations. There were also energy audits and banding on government buildings to establish energy efficiency indices for buildings with substantial air-conditioning loads.

Building Maintenance and Strata Management (BMSM)

The new BMSM Act was introduced in 2005 to provide flexibility in managing private estates by empowering management corporations and encouraging greater self-regulation.



Civil Defence Shelters

We have been constantly seeking solutions to ensure flexibility in the design for CD shelters. The staircase shelter was introduced in 2006 in replacement of household shelters to save functional space.

Career Promotion

The built environment career promotion is part of our ongoing efforts to build up a strong core of locals at all levels to anchor and lead the foreign workforce in the construction industry. To reach out and attract potential candidates to take up careers in the built environment, BCA conducts career talks and career fairs, offer scholarships jointly with the industry and developed a new building careers portal.

Construction 21 (C21) Blueprint

BCA was tasked as the championing agency for most of the C21 recommendations.

Construction Information

BCA has been providing key construction statistics such as demand trends and prices of construction materials to the industry. The previous Construction Economics Report is now known as Construction Infonet which is available online.

Construction Industry Joint Committee

BCA led the formation of the CIJC in September 2000 following the signing of a Memorandum of Understanding which formalised the cooperative framework among nine industry bodies for improving the industry. Henceforth, BCA has been engaging CIJC on a regular basis to solicit feedback on industry policies and programmes.

Construction Industries Park

Completed in June 2009, the park brings the industry together at one location to produce concrete or precast concrete from raw materials. This would greatly reduce the needtime needed to transport construction raw materials all over the island.

Contractors Registry System

The Contractors Registry was set up more than 20 years ago to form a pool of builders whom government agencies can engage to undertake their construction projects. A revamp was implemented in July 2002 to raise standards for builders tendering for public sector projects. A Price-Quality Method was also introduced for selecting builders for public projects, where both price and quality attributes would be used for tender evaluation. Later in 2006, BCA introduced a third-party credit rating system to strengthen the registry requirements.

CONQUAS

CONQUAS was developed by BCA's predecessor (CIDB) in 1989 as a guide for the industry to measure construction quality. It was first used to assess the level of workmanship in public sector building projects, but now it has been widely accepted in the private sector as a national benchmark for quality. BCA later enhanced the requirements to cover latent defects such as watertightness for wet areas.

CORENET

The Construction and Real Estate Network (CORENET) was launched in 2001 to re-engineer the business processes of the construction industry and to encourage the widespread use of information and communications technology (ICT) in the industry. The e-Submission system had significantly changed the way the industry conducted building plan transactions with government agencies. The e-information system has also been useful in facilitating the exchange of construction related information.

CoreTrade

The Construction Registration of Tradesmen (CoreTrade) Scheme was formulated to build up a permanent core of skilled workers. It became part of the requirements for Licensing of Builders under the Building Control Act. Recognising the need to develop a competent and progressive construction workforce, the Construction Re-skilling for Employment (CORE) Plus Programmes have also been incorporated into the \$600 million SPUR programme to upgrade the manpower capabilities of both companies and workers.



Estate Upgrading Projects (EUP)

BCA was appointed in December 2002 to administer the projects under EUP to provide physical upgrading to public land and facilities within private residential areas. To date, 40 estates were upgraded.

Export of Construction-related Services

BCA has been actively involved in promoting Singapore's construction-related firms to venture overseas. Initiatives include promoting and facilitating consortia involving the entire value chain in niche markets and leading mission trips.

Exterior Features

To safeguard the public from falling exterior features of high-rise buildings, BCA implemented a few legislations to improve the safety of our built environment. In October 1999, air-conditioning units were required to be mounted on stainless steel brackets to ensure the safety of passer-by below them. To minimise cases of falling windows due to corrosion of aluminium rivets, legislation was introduced requiring owners to retrofit their casement windows with stainless steel rivets.

Foreshore Structures

BCA manages a number of foreshore structures on behalf of the Ministry of National Development. These include jetties, revetments and retaining walls.

Green Building Masterplan

The 1st Green Building Masterplan was formulated in 2006 and emphasis was then placed on new buildings and those undergoing major retrofitting. It was successful in creating a 'green wave' in Singapore. Subsequently, the 2nd Green Building Masterplan focusing on greening existing buildings was launched in April 2009 after BCA convened an International Panel of Experts for Sustainability of the Built Environment to review BCA's Green Building Masterplan.

Green Mark Schemes

BCA first launched the Green Mark for Buildings scheme in 2005 to assess new and existing buildings for their building performance and environmental impact. The Scheme was later expanded to include officer interior, landed houses, infrastructures and parks.

Green Mark Related Incentives and Initiatives

Several incentives such as the Green Mark Incentive Schemes and MND Research Fund were also introduced to promote the development of environmentally sustainable buildings. These include the various Green Mark Incentive Schemes and Green Mark Gross Floor Area (GFA) Incentive Scheme. There were also several new Awards to recognise industry efforts in their sustainable development initiatives, including Green Mark Champion and Green and Gracious Builders Award.



Incentive Schemes

To progress with the needs of the industry, the incentive schemes which BCA administered have also changed. Ten years ago, the focus was on productivity improvement and hence incentive schemes, such as LETAS and IAS, were offered to firms to improve operations and processes. Now, with the emphasis on sustainability and barrier-free accessibility, incentive schemes such as the Green Mark Incentive Scheme and Accessibility Fund have also been developed to assist the industry in achieving the goals.

ISO Certification

Adopting international certification systems of quality has been a way to help keep our industry competitive since 1991. By July 1999, the then G6 to G8 builders were required to obtain ISO 9000 certification scheme. The scope of certification was later expanded to include ISO 14000, covering the environmental management system and OHSAS 18001, for the occupational health and safety management system.

Managing Resources

In the early part of 2007, Singapore was taken by surprise with the disruption of sand and granite supply when Indonesia banned its sand exports to Singapore. Singapore was facing a construction boom at that time with many on-going mega projects and BCA had to take swift measures to overcome the challenges posed: (1) release stockpile supplies, (2) open up new supply sources, (3) bring industry together on cost-sharing practice note, (4) reschedule \$4.7 billion worth of public sector projects, (5) increase supply of construction manpower, and many others.

National Building Qualification

The BCA Academy introduced the National Building Qualification (NBQ) to enhance the career prospects of its supervisory training programme graduates. It allows trainees with different learning abilities to enroll in courses at the appropriate level and upgrade their qualifications.

National Productivity and Quality Specifications (NPQS)

The NPQS was launched in May 2004 to harmonise building specifications into a common set of specifications.



Performance-based Building Regulations

To encourage flexible and creative design solutions, BCA introduced a performance-based regulation in 2004 to replace the prescriptive building regulations. The aim was to allow innovative solutions and keep our standards on par with other developed countries which have also used performance-based regulatory systems.

Periodic Structural Inspection

The periodic structural inspection served to ensure that buildings are structurally sound for continued occupation. From August 2000, government buildings were included in this mandatory inspection programme.

Public Sector Panels of Consultants

In 2000, BCA started to administer the Panels of Consultants which are pre-qualified lists of private consultants eligible to undertake public sector design and project management projects. In 2004, a Quality-Fee method was also introduced for public agencies to procure consultancy services for their building construction projects. It takes into consideration both the quality criteria submitted by the firms and their fee proposals.

Public Sector Standard Conditions of Contract (PSSCOC)

The PSSCOC was introduced in 1995 to establish a common contract form used in public sector construction projects. It is now a prerequisite for all major public agencies. The PSSCOC was regularly reviewed to address areas of variations and dispute resolution and to create a more balanced contractual relationship for the contracting parties in 1999 and 2004 respectively.

Quality Mark for Good Workmanship

The Quality Mark was launched on 1 July 2002 to further encourage developers to meet rising expectations for better quality homes. It assesses every individual residential unit and awards certificate only to those that have met stipulated workmanship standards.

Research and Development (R&D)

BCA has undertaken the role of coordinating R&D efforts for the building and construction industry since 1999. At that time, a \$10 million R&D budget was set aside to focus on strategic areas such as buildability and construction information technology. In 2007, BCA took on the secretariat role for the \$50 million MND Research Fund for the Built Environment, with a focus on sustainable development.

Security of Payment

In April 2005, BCA introduced a security of payment legislation to tackle in payment problems in the industry. With this, payment disputes could be settled more expeditiously thus improving cashflow which is the lifeline of the industry.

Skills Evaluation Certification

The Skills Evaluation Certificate, known as SEC(K), requires workers to take a hands-on practical test and a written trade knowledge test to be qualified as skilled workers. It was developed to improve the skills of our workforce.

Sustainable Construction Masterplan

To encourage sustainable construction, BCA first launched a campaign in April 2007. Then, the Sustainable Construction Steering Group was formed to focus on designing for sustainable construction and using recycled materials in construction.

Universal Design

Since 2006, BCA has been actively promoting universal design principles in support of ageing in place and an inclusive society that caters to the diverse needs of all users.

Zero Energy Building (ZEB)

BCA has retrofitted a building in the BCA Academy to make it into a zero energy building. The ZEB is part of BCA's plan to raise awareness on sustainability in the built environment and is BCA's flagship R&D project under its Green Building Masterplan.





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

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