

Pillars

WE SHAPE A **SAFE**, **HIGH QUALITY**, **SUSTAINABLE** AND **FRIENDLY** BUILT ENVIRONMENT | ISSUE 04/JUL 2012



BCA AWARDS 2012
Recognising Excellence in the Built Environment

Building Towards Excellence

The construction industry celebrates BCA Awards 2012

Pillars

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Pillars is published bi-monthly by the Communications Department Building and Construction Authority 5 Maxwell Road #16-00 Tower Block MND Complex

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CONTINUOUS PURSUIT FOR EXCELLENCE

Dear Readers,

The BCA Awards is like the Olympics. While the Olympics celebrates stellar performers like Usain Bolt and Michael Phelps, the BCA Awards recognises outstanding firms like CDL, CapitaLand, Ascendas, Woh Hup, Swee Hong and many others in Singapore's building and construction industry for their achievements. I would like to extend my congratulations to all the 2012 BCA Award winners for their commendable efforts in raising construction quality and productivity, as well as championing green buildings, universal design and a safe built environment.

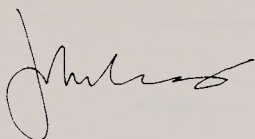
While individual construction firms compete on their level of quality and performance, the industry as a whole has to continue to keep ahead of changing times and rising public expectations. We must build up our resilience in view of future challenges and continue to work hard to shape and mould an excellent built environment for Singapore.

I am encouraged that more firms are giving back to the society as part of their corporate social responsibility. More than half a million was raised by the construction industry at our inaugural President's Challenge charity drive held in conjunction with this year's BCA Awards. I would like to thank all the donors for making this fund raising effort a big success.

Also, more organisations are considering the impact of construction on the community. There has been a very significant increase in the number of organisations greening their buildings. This will help create a better and more sustainable living environment for our present and future generations.

In addition, more contractors are receiving the Green and Gracious Builder Award for promoting sustainability, environmental protection and considerate practices during construction. For example, some firms are taking the initiative and have invested in technologies to minimise disruption and inconvenience to the public. More building owners are also incorporating basic accessibility and universal design in their developments. This will benefit users of all ages, and ease mobility for the elderly.

I urge all winners to keep up your good work, learn from each others' best practices and commit to making excellence your priority!



Dr John Keung
Chief Executive Officer



BUILDING TOWARDS EXCELLENCE



The Construction Industry Celebrates BCA Awards 2012

SINGAPORE'S CONSTRUCTION SECTOR CONGREGATED AT THE BCA AWARDS CEREMONY TO CELEBRATE ITS STERLING ACHIEVEMENTS AND CONTRIBUTIONS TO THE BUILT ENVIRONMENT



Top | From left to right: Mr Ho Wan Boon, Dr John Keung, Mr Lee Yi Shyan, Dr Tony Tan, Mr Lee Chuan Seng, Mr Liew Mun Leong

On 24 May 2012, more than 2,200 guests attended the BCA Awards ceremony at Resorts World Sentosa, including Guest-of-Honour President Tony Tan and Senior Minister of State for Trade and Industry and National Development Lee Yi Shyan.

For the first time, a charity drive was held in conjunction with the BCA Awards and raised \$578,000 for the beneficiaries of the President's Challenge 2012. This was BCA's largest charity drive involving the industry.



318 awards were given out this year. These include:

202 BCA Green Mark Awards

30 BCA Construction Productivity Awards

28 BCA Construction Excellence Awards

24 BCA Green and Gracious Builder Awards

14 BCA Universal Design Awards

11 BCA Design and Engineering Safety Excellence Awards

4 BCA-SGBC Green Building Individual Awards

3 BCA Green Mark Champion Awards

2 BCA Built Environment Leadership Awards

"I would like to congratulate all award winners for inventing new ways of doing things, pursuing excellence and raising productivity. I would also like to thank everyone from the built environment industry for helping to build our homes and create a better future. The industry has recently added to its multi-faceted contributions by raising more than half a million dollars for the President's Challenge. Well done, thank you for doing your part in caring for the community."

MR LEE YI SHYAN,
SENIOR MINISTER OF STATE FOR TRADE AND INDUSTRY AND NATIONAL DEVELOPMENT

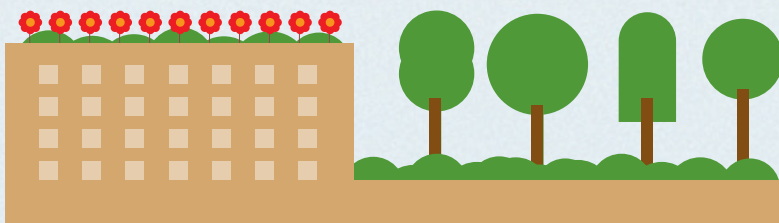
"The motivation behind the BCA Awards charity drive is to call on firms in the construction and real estate industry to give back to society as part of their corporate social responsibility. While the industry continues to raise its standards and improves the working conditions on site, it is important for everyone in the industry to care for our environment and our community, especially the less fortunate."

DR JOHN KEUNG,
CEO OF BCA

BCA GREEN MARK AWARD AND BCA GREEN MARK CHAMPION AWARD

More developers and building owners are coming onboard to green their buildings, as they recognise the growing importance of sustainable developments to their business and environment.

This year, Ascendas, CapitaLand Group and National University of Singapore were conferred the BCA Green Mark Champion Award for their strong commitment towards environmental sustainability. The number of BCA Green Mark Awards increased from 164 last year to 205 this year including three BCA Green Mark Champion Awards.



As of July 2012, there are more than 1,200 green buildings in Singapore, with a total gross floor area of about 37 million m² or 16% of the total estimated existing building floor space.

The BCA Green Mark Award assesses projects based on their environmental impact and performance, including energy efficiency, water efficiency, environmental protection, indoor environmental quality and other green features and innovation. The BCA Green Mark Champion Award recognises developers with strong commitment towards corporate social responsibility and outstanding achievements in environmental sustainability. To qualify for the award, developers must achieve at least ten Green Mark projects of Gold or higher rating, including a minimum of three Green Mark Platinum projects and three Green Mark Gold^{Plus} projects.



Right | Winners of the BCA Green Mark Champion Award receiving their trophies from President Tony Tan. From Top to Bottom: Ms Chong Siak Ching, President and CEO of Ascendas, Mr Liew Mun Leong, President and CEO of CapitaLand Group and Professor Tan Chorh Chuan, President, National University of Singapore



Above | NUS' Yong Loo Lin School of Medicine is one of the projects that was awarded the BCA Green Mark Platinum Award this year.

The National University of Singapore (NUS) is the first educational institution to be awarded the BCA Green Mark Champion Award. The university advances sustainability by incorporating innovative environmental strategies into its building developments on campus, and adopts a sustainable life cycle approach to facilities management. It also educates staff and students to be more environmentally responsible.

“As a leading educational institution, it is crucial for NUS to play an active leadership role in environmental sustainability and stewardship. Our goal is to make our campus more and more environmentally friendly and to incorporate the concept of sustainable development in our activities so as to reduce our environmental impact.”

PROFESSOR TAN CHORH CHUAN,
PRESIDENT, NUS



Above | Ascendas' Changi City was awarded the BCA Green Mark Gold^{Plus} Award this year for its high energy efficiency standards.

Ascendas, a business space solutions provider, also plays an active role to ensure that its business spaces are energy efficient and environmentally friendly, starting from the design of buildings to their maintenance and operations.

“We are extremely honoured that our green efforts have achieved recognition from our peers and the industry. The award is a testament to our unwavering commitment to minimise the impact that our business operations have on the natural environment. It has also motivated us to look at more energy conservation projects for our existing buildings and deliver green, sustainable business space solutions to our customers while continuing to drive the real estate industry standards in the region.”

MR TAN YEW CHIN,
ASCENDAS' EVP FOR REAL ESTATE SERVICES AND CEO OF ASCENDAS LAND (S) PTE LTD



Above | Bugis+, an existing building under CapitaMall Trust, was retrofitted to improve its energy efficiency. It won this year's BCA Green Mark Platinum Award.

CapitaLand embraces environmental sustainability through a community engagement programme to encourage its stakeholders and the public to play a role in protecting the environment. It also targets to achieve a minimum Green Mark Gold^{Plus} rating for all its projects in Singapore.

“CapitaLand is honoured to receive the BCA Green Mark Champion Award this year and to be recognised for the Group's relentless effort to realise its goal as a top global green developer. At CapitaLand, being an environmentally sustainable company is a natural extension of our credo of 'Building People'. CapitaLand is committed to be a good corporate citizen and to build a greener future, not just for this generation, but for generations to come.”

MR LIEW MUN LEONG, PRESIDENT AND CEO OF CAPITALAND GROUP

HAUS@SERANGOON GARDEN, one of this year's BCA Green Mark Award winners, is the first landed housing estate in Singapore to achieve the BCA Green Mark Platinum Award for incorporating green designs and technologies into each of its 96 landed terrace houses.

Developed by City Developments Limited (CDL) and Hong Realty (Private) Limited, HAUS@SERANGOON GARDEN is designed with environmental sustainability in mind. The development embraces an extensive use of both passive and active green building approaches

to ensure that a comprehensive sustainable design is incorporated from the beginning.

Besides having passive design for individual units, photovoltaic systems were also installed to convert sunlight into electricity. The estate will also implement an air-conditioner heat recovery system and rainwater harvesting system.



BCA GREEN AND GRACIOUS BUILDER AWARD

Out of the 24 winners of this year's BCA Green and Gracious Builder Award, 18 were awarded for the first time and six were re-certified to higher ratings under BCA's Green and Gracious Builders Scheme.

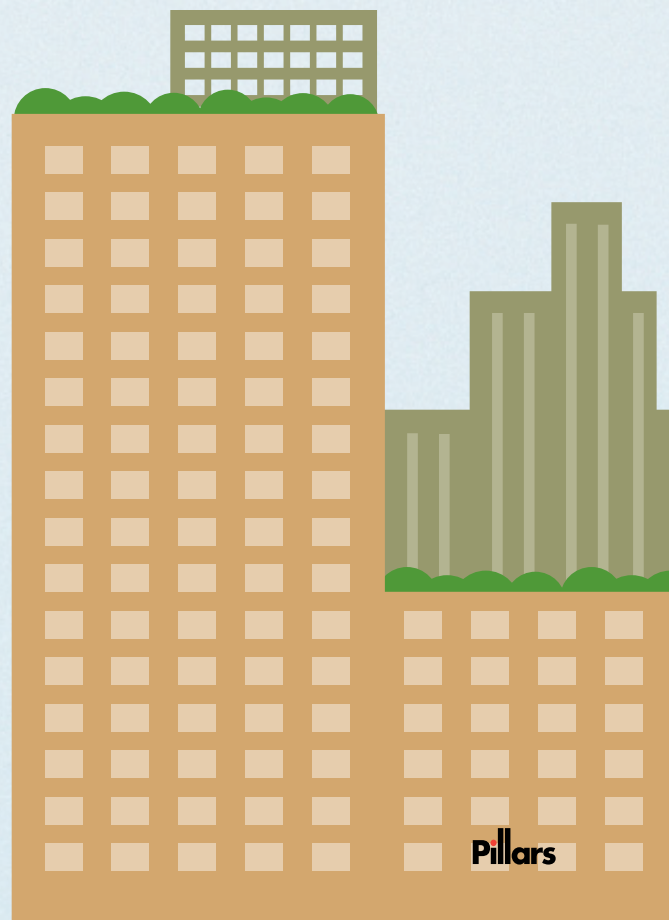
Hexacon Construction Pte Ltd, Ho Lee Construction Pte Ltd, Samsung C&T Corporation, Sembawang Engineers and Constructors Pte Ltd, Ssangyong Engineering & Construction Co., Ltd, Lend Lease Pharmaceutical Asia Pte Ltd and Lend Lease Singapore Pte Ltd clinched the top-tier BCA Green and Gracious Builder 'Star' Award this year.

From the start of each project, Ho Lee places a strategic Earth Control Measure Plan on site to reduce soil erosion from exposed earth surfaces. In their day-to-day activities, Ho Lee also ensures that used water is treated and recycled for non-potable consumption such as flushing of toilets, washing of vehicle wheels and watering plants. Plants around the project sites help enhance the surroundings and create a pleasant environment for workers.

Another 'Star' award winner, Sembawang Engineers and Constructors, also adopted good earth control measures by using coir logs at the bottom of slopes to prevent erosion. The company also adopted a paperless reporting system for its integrated construction management system and ensures that measures are taken to reduce noise and vibration during piling works.

Smaller builders also have a role to play in ensuring that environmental and public concerns are addressed during construction. Woodwater Integrated, a small and medium enterprise which won the BCA Green and Gracious Award, uses lightweight blocks for the construction of the site office, which could be demolished and recycled as infill for external pavement and drains. To reduce energy consumption, its site office was also created as an environmentally-friendly building.

The Green and Gracious Builder Award is part of BCA's efforts in promoting sustainability, environmental protection and considerate practices during the construction phase of a development. The award recognises progressive builders that have taken initiatives to address environmental and public concerns that may arise from construction works.



BCA-SGBC GREEN BUILDING INDIVIDUAL AWARD

Four outstanding individuals received the prestigious BCA-SGBC Green Building Individual Award this year for their efforts in driving the green building movement in Singapore. The winners comprise Green Advocates Mr Eugene Seah and Mr Tan Phay Ping, Green Architect Mr Tang Kok Thye and Green Innovator Er Tay Cher Seng.

The BCA-SGBC Green Building Individual Award recognises professionals and practitioners from the building and construction industry who have shown strong commitment and conviction in propelling environmental sustainability in their work.

Green Advocates of the Year



MR SEAH HSIU-MIN EUGENE

Deputy Chairman, Langdon & Seah Singapore Pte Ltd
Director, Langdon & Seah Project Management Pte Ltd

Mr Eugene Seah makes 'sustainability' the basis of his work. He advocates that sustainable building designs do not necessarily come at an excessive premium, which he would usually demonstrate through Value & Risk Management coupled with Sustainable Strategies. He has even produced a handbook and phone application on Green Building Products and Technologies available on a complimentary basis to academic institutions and the industry. Mr Seah also holds an adjunct professorship appointment at NUS where sustainability forms the cornerstone of his lectures.



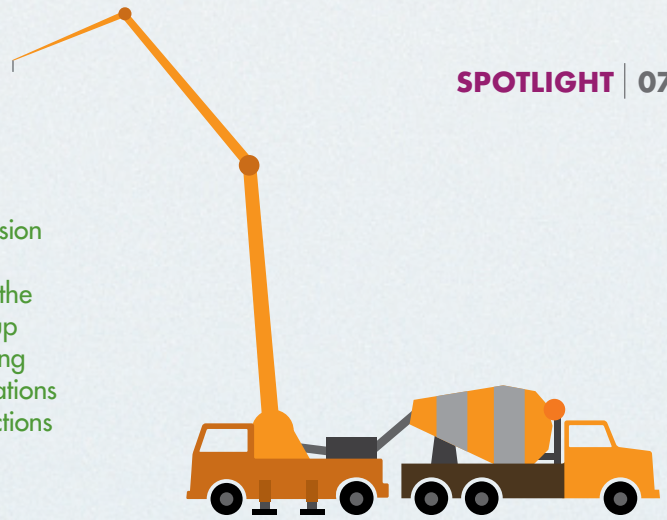
MR TAN PHAY PING

Managing Director,
Building System and Diagnostics (BSD) Pte Ltd

Mr Tan Phay Ping co-founded BSD, one of the pioneers in Singapore to provide energy and environmentally sustainable design consultancy services. Recognising the value of modeling tools at the design stage, Mr Tan has been instrumental in promoting the use of computer simulations to optimise building designs. Over the years, Mr Tan has been studying the trends and advancement in sustainable designs and technologies globally. He recently set up Climate Asia Pte Ltd to propel his efforts and raise the industry's awareness on carbon footprinting and carbon management.

“The creation of green buildings is often the result of vision, passion and innovation by outstanding individuals. These individuals include architects, engineers and innovators who help change the way green buildings are designed. There is also a special group of people whose tireless efforts help transform the green building industry. These are the green advocates. My sincere congratulations go out to all the four individuals who are exemplary in their actions and work.”

MR TAI LEE SIANG,
PRESIDENT, SINGAPORE GREEN BUILDING COUNCIL (SGBC)



Green Architect of the Year



MR TANG KOK THYE

Associate Partner,
ADDP Architects LLP

Mr Tang Kok Thye, a registered architect with more than 18 years of experience, is passionate about designing environmentally friendly buildings. He has designed nine BCA Green Mark building projects, of which four have won the BCA Green Mark Platinum Award. Mr Tang draws his inspiration from nature and integrates innovative green technologies and passive architecture into aesthetically pleasing yet practical building designs that complement the natural surroundings.

Green Innovator of the Year



ER TAY CHER SENG

Managing Director,
Natflow Pte Ltd

During his career as a mechanical engineer, Er Tay Cher Seng has been promoting green building technologies in enhancing the environmental performance of buildings. He is the brainchild of technologies such as the zero-energy hot water system which recovers waste heat to generate hot water. Another breakthrough project that Er Tay embarked on was a Passive Displacement Ventilation (PDV) system which moves cooled-air in a room, without the use of energy.

BCA CONSTRUCTION PRODUCTIVITY AWARD

A total of 30 BCA Construction Productivity Awards were given out this year to recognise firms for their achievements in improving productivity and demonstrating a productivity mindset for continuous improvement. Out of the 30 awards, there were 13 in the Best Practices and Innovations category, 10 in the Projects category and 7 in the Value-Added Productivity (VAP) category.

The Punggol Waterway Part 1 project by Koh Brothers Building & Civil Engineering Contractor (Pte.) Ltd was conferred the BCA Construction Productivity Platinum Award in the Projects category. One of its winning key features was the adoption of the Trench Cutting Re-mixing Deep Wall method (TRD) which acts as a temporary earth retaining system to reinforce and facilitate the excavation, as well as stabilise final embankment slopes. This helps to reduce construction cost and time.

This year, civil engineering company, Swee Hong Engineering Construction Pte Ltd, clinched three of the 13 awards in the Best Practices and Innovations category. One of the company's innovations is the development of an automatic safety shackle with remote control to carry out lifting works on site. The device reduces manpower, saves time and eliminates the possibility of accidents occurring on site. Besides maintaining a high level of productivity through company-wide adoption of best practices, Swee Hong also made use of innovative systems and technology such as the Building Information Modelling (BIM) software as well as an iPhone application for project management.

There are three categories under the BCA Construction Productivity Award:

1. **Projects** – Project teams are awarded for demonstrating productivity from the design to the end of construction
2. **Best Practices and Innovations** – Organisations are awarded for developing and implementing best practices or innovative ideas in improving construction productivity
3. **Value-Added Productivity** – The category recognises builders and progressive firms which strive towards higher productivity and take ownership in monitoring their own progress in productivity



Top | The Punggol Waterway Part 1 project was conferred this year's BCA Construction Productivity Platinum Award under the Projects category

Above | Swee Hong Engineering Construction Pte Ltd developed an automatic safety shackle with remote control to carry out lifting works on site

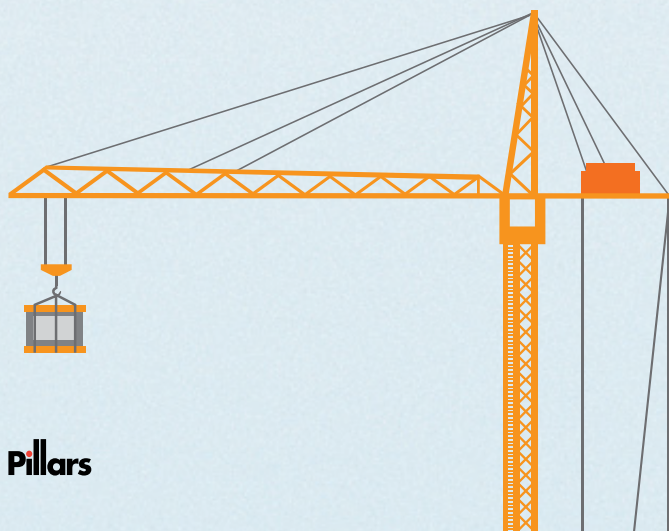
Right | Ssangyong Engineering and Construction Co., Ltd clinched two awards for their innovative construction methods used in the Marina Bay Sands Hotel project

"The BCA Construction Productivity Awards continue to receive strong support from the industry. This year's winners are able to demonstrate that complex engineering projects or structures do not necessarily hinder construction productivity if there are proper planning, usage of new technologies and innovation of construction methods."

MR KEVIN WONG,
CHAIRMAN OF THE BCA CONSTRUCTION PRODUCTIVITY AWARD ASSESSMENT COMMITTEE,
GROUP CEO, KEPPEL LAND LIMITED

"It is essential that firms take a long-term approach to productivity, especially in the current uncertain economic climate. We encourage companies to learn from the winning firms and we hope that more will step forward and begin their productivity journey."

DR JOHN KEUNG,
CEO OF BCA





Ssangyong Engineering and Construction Co., Ltd also clinched two awards for their innovative construction methods for the Marina Bay Sands Hotel project. These included an innovative temporary supporting method for the construction of the sloping tower structure of Marina Bay Sands Hotel, as well as a Restrain and Guide Cable System (RGCS) for access to an overhanging and slanting gable end wall to carry out external architectural works.

Five Best VAP Builder Awards and two Best VAP Improvement Builder Awards were conferred this year. Among the advanced technologies and construction methods adopted by the VAP award winners to enhance their productivity and improve their work processes were the use of system formwork, adoption of precast and prefabricated construction methods and the use of more efficient construction plant and equipment such as spray painting and scissor lift. In addition, several of the winners also adopted the Building Information Modeling (BIM) software to enhance their project management efficiency.

BCA UNIVERSAL DESIGN AWARD

Out of 14 BCA Universal Design Awards this year, United World College South East Asia (UWCSEA) at Tampines is the first international school and only award recipient to clinch the BCA Universal Design Gold Award. Safety, accessibility and way finding were some of its management top priorities besides maintaining a conducive learning environment for students, teachers and staff.

Some of the school's accessibility and universal design features include separate designated areas for pedestrian entrance, infant drop-off and bicycle parking on the first storey. Lifts and gentle ramps also facilitated barrier free movement around the campus, with features such as low height fountains, wash basins, two-tiered service counters and designated seats at the stadium for wheel chair users. The campus also provided family friendly facilities such as nursing room, diaper changing station, children toilet and first aid rooms.

Other notable BCA Universal Design Award winners include Reflections at Keppel Bay, Cliveden at Grange and the newly opened Changi City Point mall.



Above | Seamless interconnectivity at UWCSEA

The BCA Universal Design Award recognises good practices and special efforts taken to raise awareness of the importance of providing a seamless accessible built environment for all.

"The rising number of awards shows that today's industry players – architects, building owners, and developers – have a better understanding of Universal Design principles. It is not about state-of-the-art-design, but rather good and thoughtful design. We strongly urge existing building owners to incorporate Universal Design into their planning and implementation when they upgrade their buildings. It makes better business sense as Singapore is moving towards more inclusive developments. There's no better time than the present."

PROF BERTIL ANDERSSON,
BCA UNIVERSAL DESIGN AWARD ASSESSMENT COMMITTEE CHAIRMAN,
PRESIDENT, NANYANG TECHNOLOGICAL UNIVERSITY

BCA CONSTRUCTION EXCELLENCE AWARD

17 BCA Construction Excellence Awards and 11 certificates of merit were given out this year, reflecting the improvements to construction quality and workmanship standards, as well as higher expectations for building quality.

This year, local builder Woh Hup (Private) Limited clinched the highest number of BCA Construction Excellence Awards for the second consecutive year. It received three awards for its projects – The Cascadia, Marina Bay Residences and The Seafront on Meyer. To meet the changing demands of the construction industry and consistently deliver high quality, innovative building solutions, builders at Woh Hup are trained to meet stringent quality control guidelines, and overcome construction difficulties through innovations to the construction process and good project management.



The Seafront on Meyer



Cascadia

▶ The BCA Construction Excellence Award accords recognition to construction projects that have demonstrated the highest standards of construction excellence and quality in Singapore. The award also takes into account performance based on other criteria such as safety, environmental consciousness, innovation as well as a strong emphasis on productivity.



Marina Bay Residences

In addition, Penta-Ocean Construction Co., Ltd constructed The Orchard Residences, its first Quality Mark certified project, through productive construction methods such as precast construction and the installation of unitised curtain walls. This helped improve construction productivity and buildability, while achieving good structural finishes. Stringent in-process quality control checks also ensured quality internal finishes.

Other notable projects this year include Shuqun Secondary School, with a CONQUAS score of 93.0, the highest score under the institutional building category to date. Ion Orchard and Khoo Teck Puat Hospital are also top performers in the commercial/mixed development and institutional building categories respectively.

BCA DESIGN AND ENGINEERING SAFETY EXCELLENCE AWARD

Three BCA Design and Engineering Safety Excellence Awards were also given to engineers behind the Circle Line Stage 5, Flower Dome, and Cliveden at Grange projects for their engineering ingenuity in overcoming challenges and ensuring site and public safety. Eight other engineers received the Merit Award.

The BCA Design and Engineering Safety Excellence Award recognises the efforts of the qualified person for structural works, his firm and the project team for ingenious design processes and solutions in overcoming project challenges and ensuring safety in the design, construction and maintenance of building and civil engineering projects.



Circle Line Stage 5



Flower Dome, Gardens by the Bay

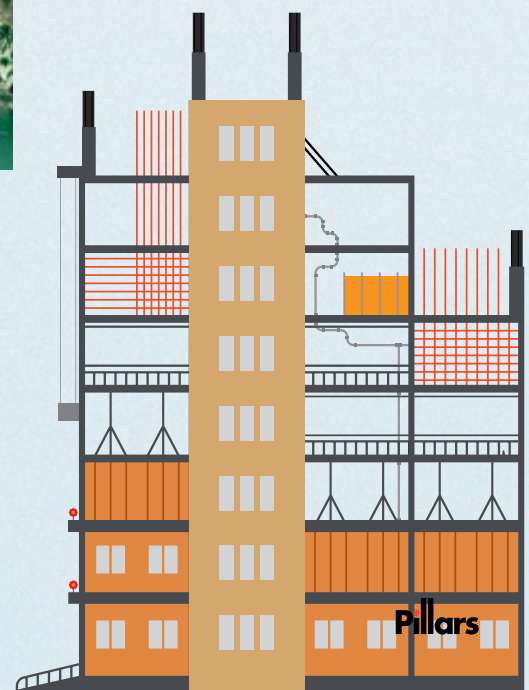
Engineers (Er) Peter Lee Chung Shek and S. Mahatma from AECOM Singapore Pte Ltd had to construct twin bored train tunnels and tracks for Circle Line Stage 5, which runs under one of Singapore's busiest viaduct and roads. Adding to the complexity was the close proximity of the underground tunnels to buildings on both sides of the viaduct and roads.

The project also involved tunnelling under two existing old shophouses and a canal without affecting their structural integrity. At certain points, the wall of the train tunnel was just two to three metres away from the viaduct's bored pile and the underground structures of buildings nearby.

When constructing the Flower Dome at Gardens by the Bay, Er Foo See Lim from Meinhardt Group came up with a solution to erect a series of temporary towers and decks to support both the building's arches and gridshell. These were built simultaneously and symmetrically so that the gridshell and arches could be constructed safely. This not only made the indoor gardens structurally safe, but also aesthetically pleasant.

"We congratulate all of the 2012 DESEA winners. The assessment committee was impressed with their work in resolving site constraints, problems and clients' requirements with excellent engineering designs in the 11 projects that were awarded. The three award winners stood out because of their outstanding designs, and how they had raised the safety standards of building projects in Singapore to a higher level."

MR PEK LIAN GUAN,
CHAIRMAN OF THE ASSESSMENT COMMITTEE AND BCA'S BOARD MEMBER
MANAGING DIRECTOR, TIONG SENG CONTRACTORS (PTE) LTD






Er Lauw Su Wee of LSW Consulting Engineers Pte Ltd had to construct four tower blocks of 24 storeys each for the Cliveden at Grange development that has a three-metre wide drain cutting across it. Due to the circular architectural design of each tower, every curve wall on each floor was designed and its measurements determined accurately using various computer software applications before they were constructed on site. Each precast wall component was then lifted and placed above one another, one floor at a time.

This construction method enabled the construction to be more buildable, of a better quality and also reduced the need for an external scaffold. This resulted in a safer working environment.

BCA BUILT ENVIRONMENT LEADERSHIP AWARD

This year, the Housing and Development Board (HDB) was conferred the Built Environment Leadership Platinum Award, the highest accolade for demonstrating excellence and leadership in shaping a safe, high quality, sustainable and friendly built environment in Singapore. This is the first time a public agency has been awarded the Built Environment Leadership Platinum Award since the Award was introduced in 2009.

Apart from HDB, Shimizu Corporation was also accorded the Gold Class status for this year's Built Environment Leadership Award. 



Above | HDB is the first public agency to win the BCA Built Environment Leadership Platinum Award.

ENGAGING THE COMMUNITY ON WINDOW SAFETY

BCA IS TAKING PROACTIVE STEPS TO EDUCATE AND ENGAGE HOMEOWNERS ON THE IMPORTANCE OF WINDOW MAINTENANCE.

Since 2009, BCA has been conducting the half yearly Window Safety Campaign every 6 June and 12 December, to remind homeowners of the importance of checking and maintaining their windows regularly. Campaign efforts include posters on window maintenance tips at selected private buildings and HDB blocks, advertisements on trains and buses, as well as informational standees at various bus interchanges. Other publicity initiatives such as the distribution of window safety eco-bags, glass door and table-top stickers also help raise awareness of window safety.

To further engage the community, BCA is reaching out to residents through roving exhibitions on window safety. Since June 2011, BCA has carried out window safety roving exhibitions at various community events organised by community clubs, neighbourhood committees and other grassroots organisations.

At the exhibitions, BCA's staff will explain to residents the importance of regular window maintenance, and demonstrate how this can be done using the mock-up window displays. Visitors will also be given a set of window maintenance toolkits to help them check and maintain their windows. **P**



Above | Mr Lim Chong Yong, BCA's Director of Building Management Department showing residents how they can check their windows using the window maintenance toolkit.

Left | Residents are given a simple toolkit to help them maintain their windows. The toolkit comprises a mirror, brush and a bottle of oil.

Bottom | BCA's staff explaining the importance of window safety and demonstrating window maintenance tips to residents at an exhibition held at Yishun Ring Road.



A list of BCA-approved window contractors and window maintenance tips can be found at:
www.bca.gov.sg/windows_safety
www.hdb.gov.sg/windows_safety
 or on the Window Safety Facebook Page at:
www.facebook.com/windowsafety



NEW INITIATIVES TO IMPROVE CONSTRUCTION WORKPLACE SAFETY AND HEALTH STANDARDS

BCA ACADEMY PROMOTES WORKPLACE SAFETY AND HEALTH AT THE INTERNATIONAL CONFERENCE ON WORKPLACE SAFETY AND HEALTH FOR THE CONSTRUCTION INDUSTRY.

Held from 4 to 5 June 2012, the inaugural BCAA-IOSH(Singapore) International Conference on Workplace Safety and Health (WSH) for the Construction Industry attracted more than 280 construction industry personnel comprising engineers, contractors, WSH professionals, government officials and overseas delegates from Indonesia, Brunei, Malaysia and Australia. The event was organised by BCA Academy together with the Institution of Occupational Safety and Health (IOSH) in support of the National Workplace Safety and Health campaign.

The event saw meaningful discussions of the latest WSH trends and issues in the construction industry, with an international perspective. Presentations covered various topics including international WSH practices in other sectors such as marine, manufacturing, construction, mining and education, safety while working-at-height, improving safety culture, legal compliance, incorporating safety at the design stage and occupational hygiene issues in the construction industry.

In his opening address, Guest-of-Honour Mr Hawazi Daipi, Senior Parliamentary Secretary for Education and Manpower emphasised the national vision of halving the construction fatality rate to less than 3.5 by 2013 and the need for the industry to continuously improve WSH standards to achieve this target.

In addition, BCA's CEO Dr John Keung and IOSH(Singapore)'s Chairman Mr Harry Ho talked about the importance of organising suitable training and education programmes for industry personnel in their welcome speeches.

A WSH Products and Services Exhibition was also organised in conjunction with the conference to showcase innovative and latest products that can be used to improve WSH standards.

In addition, BCA signed a Memorandum of Understanding (MoU) with IOSH(Singapore) to advance and promote WSH excellence in Singapore and the region.



Left | Mr Hawazi Daipi witnessed the signing of the MoU between BCA and IOSH

Below | During the conference, SPS Mr Hawazi Daipi officially launched the Workplace Safety and Health Learning Gallery. Commissioner of WSH, Ministry of Manpower's Er Ho Siang Hin (right) witnessed the launching ceremony.



Lastly, the Workplace Safety and Health Learning Gallery was launched during the conference. Located at BCA Academy and set up by the Academy's Centre for WSH Training, the gallery was built to provide students and industry personnel with a fun learning experience, while expanding their knowledge of WSH best practices in the construction industry. Focusing on five key WSH areas: work at height, confined space, noise hazard and controls, personal protection equipment and risk management, the gallery will also be open to the public and construction industry personnel.

With these initiatives, BCA Academy aims to be more involved in promoting WSH to the construction industry by organising regular WSH events and training programmes. **P**



Above and Bottom Left | BCA Academy's Mahaboob Khan led a guided tour of the WSH Learning Gallery and explained the interactive features of the gallery.

SCAL CRICKET CHALLENGE CUP 2012

CRICKET TOURNAMENT FOR MIGRANT WORKERS

Right | The winning team took home a cash prize of \$2,000.



As part of their efforts to promote a healthy lifestyle among migrant workers, the Singapore Contractors Association (SCAL) organised the SCAL Cricket Challenge Cup for the third year running. Held from 29 April to 1 May 2012, the event was also put together to recognise the contributions of these workers.

28 teams of foreign workers from various construction companies participated in the Cricket Challenge Cup, where they had the opportunity to interact with other workers, as well as their employers.

Dr Ho Nyok Yong, President of SCAL and Mr Hawazi Daipi, Senior Parliamentary Secretary for Manpower and Education were present to inaugurate the final match and give away the prizes.

The cricket matches were streamed live so that the workers' families and friends abroad could also enjoy the carnival atmosphere. A variety show featuring local celebrities from Mediacorp was also staged for the players, fans and spectators after the tournament. **P**

NUS GRE-MAZING RACE

EDUCATING THE YOUTH ON ENVIRONMENTAL ISSUES THROUGH GAMES AND ACTIVITIES

On 6 May 2012, some 200 students from the National University of Singapore (NUS) travelled around Singapore using green modes of transport to complete various eco-challenges at "pit-stops" including UTown@NUS, Treelodge@Punggol, City Square Mall and the BCA Academy.

This was part of the Gre-Mazing Race! which was one of the activities conceptualised by the Building and Management Society of NUS and supported by BCA. The competition aimed to create an awareness of sustainability efforts in Singapore among NUS students and educate them on the various environmental issues, particularly those pertaining to our built environment.



Participants were treated to interesting activities ranging from informative talks, stimulating games and enriching quizzes as well as an engaging session at the BCA Academy.

The competition provided a good opportunity for BCA to establish a long-term partnership with the society for future collaborations on sustainability outreach programs targeted at youths. BCA is also making use of this platform to help grow our Build It Green (BiG) Club and lay the groundwork for future BiG Club related events and initiatives. **P**



The Interlace by Ole Scheeren ©OMA

LEADERSHIP IN GREEN BUILDING LECTURE SERIES

USING BIM IN GREENING BUILDINGS

On 4 May 2012, BCA organised the 8th Leadership in Green Building Lecture Series, together with Autodesk Asia Pte Ltd and the Singapore Green Building Council.

Themed 'Green BIM in Planning, Design & Construction', international speakers and BIM experts shared some of the exciting advancements in Green Building Information Modelling (BIM) through the use of BIM to provide immediate insight into how design decisions impact building performance and its critical role in the construction of green buildings.

One of the keynote speakers was Mr Ole Scheeren, Principal of Buro Ole Scheeren and an internationally celebrated architect who delivered his paper on 'Integrated Environments'.

In his presentation, he elaborated on alternative models of creating sustainable architecture through processes of integrated planning and design in their social and cultural context, to generate truly sustainable scenarios for the future. He gave examples of his projects including Angkasa Raya in central Kuala Lumpur, The Interlace and the China Central Television Station (CCTV) and the Television Cultural Centre (TVCC) in Beijing.

In addition, Mr Brion Boucher, Director of Practice Technology, Architecture, Design + Planning and Economics from AECOM delivered a paper on '[BIM + Green] = Sustainable^(X)'.

Brion used real-life examples such as the design and construction of the NASA Sustainability Base at Moffett Fields near San Francisco, California, to share insights on best practice capabilities of sustainable projects using



"Utilising the latest and most appropriate tools to help us make the most informed and responsible design decisions makes good business sense. This is where BIM can be most effective in supporting green buildings and design."

MR BRION BOUCHER,
DIRECTOR, PRACTICE TECHNOLOGY, ARCHITECTURE, DESIGN + PLANNING AND ECONOMICS, AECOM

BIM technologies. He also shared how BIM technology approaches have been adapted to specific sustainable and delivery goals of different projects.

Lastly, Mr Ge Qing, Design Director of Shanghai Tower Construction and Development Company Ltd presented his paper on 'Envisioning Green in a Super-Tall Building: The Shanghai Tower'. He shared how BIM applications were used to handle the complexity of the structure of the Shanghai Tower project, and how it was able to reduce the carbon footprint in the planning stage and achieve high LEED and Three Star ratings. **P**

Launched in 2008, the "Leadership in Green Building Lecture Series" aims to motivate the industry towards environmental sustainability in buildings. It provides a platform for practitioners to gain insights from international award winning designs and projects, and be at the forefront of emerging trends and technologies.

Top | The Interlace by Ole Scheeren ©OMA

Right | The 8th Leadership in Green Building Lecture Series attracted a huge turnout

KEEPING UP WITH THE PACE OF CHANGE IN OUR BUILT ENVIRONMENT



GREEN ROOFS AND LOFTS EMERGED AS HOT TOPICS OF DISCUSSION IN A RECENT DIALOGUE SESSION.



On 30 April 2012, BCA conducted its regular dialogue session with over 50 Professional Engineers (PE) who have been active in carrying out appraisals of existing buildings. The session saw a lively exchange of views and suggestions.

BCA's Group Director of Special Functions, Mr Ong Chan Leng, stressed on building safety and highlighted the potential structural issues of two emerging trends: **green roofs and lofts** in new and existing buildings.

During the dialogue session, the QPs contributed various suggestions and shared their insights from their past experiences. The dialogue session is a useful platform for the BCA and PEs to exchange views, clarify certain regulatory requirements, and raise the standard of periodic structural inspection. **P**

Middle Left | Solaris, a 15-storey building, has an extensive rooftop garden and continuous vertical landscaping.

Photo courtesy: Goh Chee Hong, 2011, Solaris

Middle Right | Green roof at City Square Mall. Photo courtesy: Zheng Quanwen, 2011, City Square Mall @ Kitchener Road

Bottom | Examples of lofts in new housing apartments.

1. ROOF GARDENS IN HIGH-RISE BUILDINGS

Skyline greenery have been gaining popularity in recent years. Many existing buildings have also converted their bare roofs into green roofs or roof gardens.

While these roof gardens are aesthetically pleasing and have many environmental benefits, the Qualified Persons (QPs) are advised not to overlook the additional loads imposed on the roof during the periodic structural inspection (PSI) of existing and old buildings. Incidents involving the collapse of roofs can be prevented if roofs are properly designed for additional loads.

During this dialogue session, BCA urged Professional Engineers to thoroughly inspect the supporting structures of green roofs with the help of approved plans and ensure that there is no overloading or structural defects in the roof.



2. LOFTS IN NEW HOUSING APARTMENTS

Showrooms for shoebox apartments continue to draw interested buyers with beautifully furnished space-saving ideas such as lofts. However, the structural safety of such lofts is a concern if they are not properly designed and constructed.

During the dialogue session, BCA reminded QPs to pay special attention to the structural stability of lofts.



BENCHMARKING EXERCISE ON BCA ACADEMY'S DIPLOMAS

A BENCHMARKING STUDY WAS CONDUCTED TO ASCERTAIN THE QUALITY OF BCA ACADEMY'S DIPLOMAS AGAINST LOCAL POLYTECHNIC AND INTERNATIONAL STANDARDS.



BCA Academy recently commissioned the National Recognition and Information Centre for the United Kingdom (NARIC) to undertake a benchmarking study of BCA Academy's diplomas.

The study addressed two key areas: an analysis of the six full-time diplomas offered by BCA Academy through a comparative analysis with relevant programmes offered by the local polytechnics; and an analysis of the diplomas in an international context through comparisons against the Qualifications and Credit Framework (QCF) in England and the Australian Qualifications Framework (AQF).

The study revealed that BCA Academy diplomas were of comparable level to the diplomas offered by other local polytechnics. At the international level, the BCA Academy's diplomas were also closely aligned with the first year of degree

programmes in the United Kingdom and equivalent to the diplomas offered in Australia.

This prepares students with the necessary subject knowledge and skills to undertake further studies at the degree level in Singapore and overseas institutions.

The BCA Academy continues to work on improving its courses and programmes so as to better meet the needs of the industry and our key stakeholders. **P**



BCA ACADEMY'S FULL TIME DIPLOMA PROGRAMMES INCLUDE:

- Diploma in Construction Information Technology
- Diploma in Electrical Engineering and Clean Energy
- Diploma in Mechanical Engineering (Green Building Technology)
- Diploma in Strategic Facilities Management
- Diploma in Construction Engineering
- Diploma in Design (Interior and Landscape)

BCA WAS CONFERRED TWO PRESTIGIOUS AWARDS

BCA WINS UNITED NATIONS PUBLIC SERVICE AWARD 2012 AND SINGAPORE INSTITUTE OF ARCHITECTS (SIA) "FRIEND OF ARCHITECTURE AWARD 2012".



"The Contractors Registration System (CRS) helps to create a fair and level playing field for all contractors to participate in competitive bidding for public tenders. There is also increased accountability as all public agencies undertaking construction tenders are required to use the CRS, which the BCA administers as a neutral party. BCA's CRS has brought about greater transparency, convenience and knowledge-sharing in Singapore's public sector construction tendering process."

MR PETER ONG, PERMANENT SECRETARY OF THE MINISTRY OF FINANCE, SINGAPORE

BCA was conferred the United Nations Public Service Award (UNPSA) 2012 for the Contractors Registration System (CRS) under the "Preventing and Combating Corruption in the Public Service" category. This is the first time a public agency from Singapore has won in this award category. The award recognises BCA for promoting accountability for the procurement of public projects, demonstrating excellence in serving public interest and making a significant contribution to the improvement of public administration in Singapore. **P**

About the BCA Contractors Registration System

The BCA Contractors Registration System (CRS) was set up in 1985 as a centralised, one-stop registration system for contractors who wish to tender for public sector construction projects in Singapore. Prior to this, contractors who wished to tender for public sector projects had to register with the respective public agencies and meet different qualifying criteria.

The CRS provides greater transparency as contractors tendering for public sector projects in Singapore have to meet a uniform set of registration criteria. This includes relevant experiences and track records, professional and technical personnel, and financial capacity. The CRS grades and places the contractors into different types of construction work and the value of contracts that they can tender for. It also serves to raise the level of professionalism and capabilities of contractors by giving capable contractors with good track records the opportunity to rise through the ranks within the CRS and tender for public sector projects of higher value.

About the United Nations Public Service Awards

The United Nations Public Service Awards (UNPSA) is the most prestigious international recognition of excellence in public service. It rewards the creative achievements and contributions of public service institutions that lead to a more effective and responsive public administration in countries worldwide. Through an annual competition, the UN Public Service Awards promotes the role, professionalism and visibility of public service. There are five categories for the Awards this year.

“Singapore’s reputation as a country with little corruption is attained after years of intense emphasis. It requires sustained efforts from everyone and there is no room for complacency. The United Nations Public Service Award conferred to the Building and Construction Authority (BCA) in the category of preventing and combating corruption is a happy event to remind us of such efforts. BCA’s Contractors Registration System, a transparent one-stop system to help the public sector source for the most suitable contractors, has been noted by the UN to be a cost effective innovation in the fight against corruption. I congratulate the BCA. We are cheered by the recognition.”

MR KHAW BOON WAN, SINGAPORE’S MINISTER FOR NATIONAL DEVELOPMENT



Above | BCA’s CEO Dr John Keung (centre) received the United Nations Public Service Award 2012 from UN Chef de Cabinet His Excellency Dr. Mutlak Al-Qahtani (left) and UN Under-Secretary-General for Economic and Social Affairs Mr Sha Zukang (right) at the United Nations Public Service Day and Awards Ceremony in New York, USA.

“Throughout the years, we have been reviewing the CRS to raise the professionalism of the registered contractors. Contractors at the higher registration tiers, for example, need to have certified quality and environmental management systems, and their personnel are required to fulfill continuing education and training (CET) requirements. We have also been sharing our experiences on CRS with other countries that are interested in setting up similar registration systems for contractors. In fact, the South Africa’s Construction Industry Development Board had modelled their national Register of Contractors and Register of Projects after BCA’s CRS.”

DR JOHN KEUNG, CEO OF BCA

Separately, BCA also won the Singapore Institute of Architects (SIA) “Friend of Architecture Award 2012”.

The award recognises organisations that have worked closely with SIA and the industry through the implementation of policies that impact the architectural profession.



Above | BCA’s CEO Dr John Keung receiving the SIA Friends of Architecture Award 2012 from Mr Theodore Chan, President of SIA

“Through their patronage of SIA’s programme, activities and initiatives, BCA has contributed invaluable to the promotion of excellence in the architectural profession. BCA has also augmented the progression of the architectural profession through their own initiatives such as the International Green Building Conference, Green Mark Scheme, Universal Design and BCA Accessibility Masterplan, National Productivity and Quality Specifications (NPQS), and the Buildability Score. Over the years, SIA and BCA have worked hand-in-hand in these areas as well as many other common interests, and we look forward to a continuing working relationship.”

MR THEODORE CHAN, PRESIDENT OF THE SINGAPORE INSTITUTE OF ARCHITECTS

ONLINE SYSTEMS PROVIDE GREATER CONVENIENCE TO USERS

ON 1 JULY 2012, BCA INTRODUCED TWO NEW ONLINE APPLICATION SYSTEMS FOR THE MULTI-SKILLING SCHEME AND WORKFORCE TRAINING AND UPGRADING (WTU) INCENTIVE SCHEME. THE CONQUAS AND QUALITY MARK (CQM) ON-LINE SYSTEM WAS ALSO INTRODUCED IN AUGUST LAST YEAR.

Multi-Skill Online Registration Portal

With effect from 1 July 2012, experienced construction workers with multiple skills can register under the new Multi-Skilling Scheme via the Multi-Skill Online Registration Portal. Firms can also tap on the Workforce Training and Upgrading (WTU) incentive scheme under the Construction Productivity and Capability Fund (CPCF), which co-funds up to 80% of the costs for the second Skills Evaluation Certificate (Knowledge) qualifying them for the Multi-Skilling Scheme.

Workforce Training and Upgrading Online System

To bring greater convenience to companies who tap on the WTU incentive scheme, BCA has streamlined the WTU application process through the WTU Online System.

The WTU Online System reduces time needed during application as the last application data could be auto-populated. Claims are also processed automatically at the end of the course, removing the need for companies to manually submit claim forms.

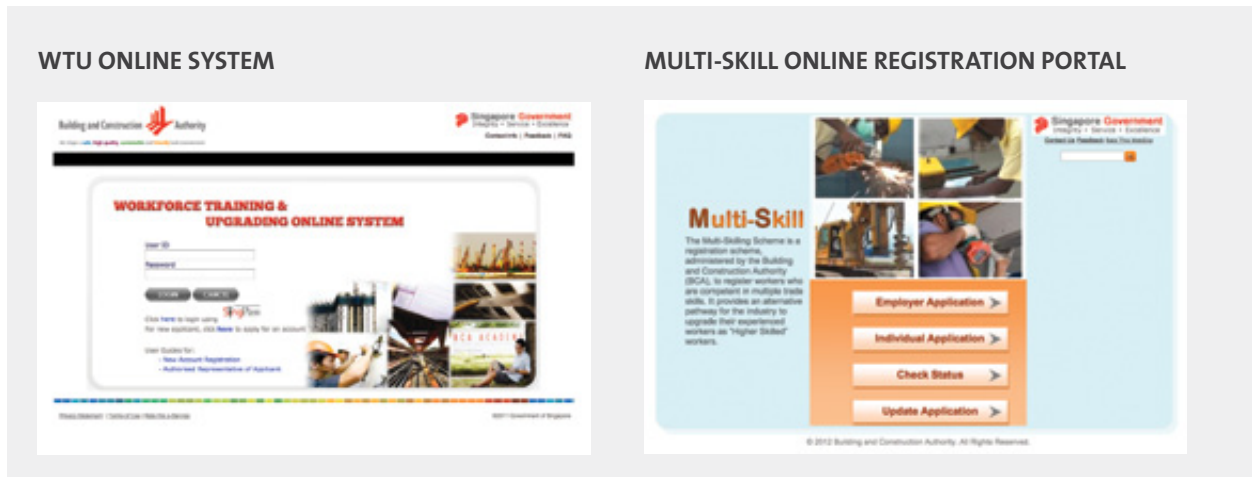
ABOUT THE MULTI-SKILLING SCHEME

BCA introduced the Multi-Skilling Scheme to provide an alternative pathway for the industry to upgrade their experienced workers. While the existing CoreTrade Scheme recognises workers specialising in key construction trades, the Multi-Skilling Scheme registers workers competent in multiple trade skills. Workers who are competent in multiple construction trades offer greater flexibility in deployment on site and help to enhance productivity by reducing construction downtime.

Requirements to qualify for the Multi-Skilling Scheme include:

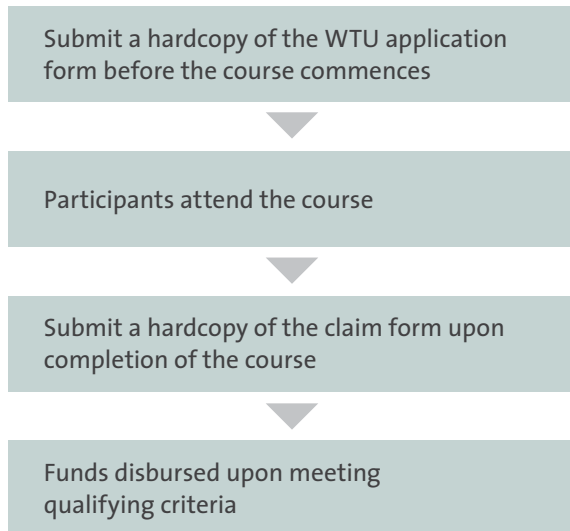
- (i) Four years of construction experience in Singapore.
- (ii) Two acceptable certifications:
 - a) First certification:
 - Any Skills Evaluation Certificate (SEC) or Skills Evaluation Certificate (Knowledge) SEC(K) certifications; or
 - Sijil Pelajaran Malaysia (SPM) certification for Malaysian work permit holders.
 - b) Second certification:
 - Acceptable SEC(K) trade certification in a different trade from the first certification.

Workers under the Multi-Skilling Scheme are required to renew their registration every two years and would be subjected to Continuing Education & Training (CET) requirements.

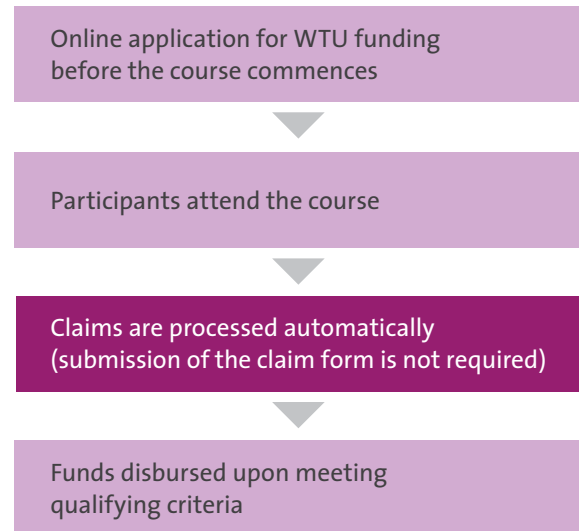


PROCESS OF WTU APPLICATION

Current Process



Enhanced Process (from 1 July 2012)



MULTI-SKILLING SCHEME

Hotline: 6730 4500

Email: bca_multiskill@bca.gov.sg

Website: http://www.bca.gov.sg/MultiSkilling/MultiSkill_Main.html

Multi-skill Online Registration Portal:
<http://www.bca.gov.sg/multiskill>

WTU FUNDING SCHEME

Hotline: 6325 2096

Email: bca_wtu@bca.gov.sg

Website: <http://www.bca.gov.sg/Workforce/wtu.html>

WTU Online System:
<https://www.bca.gov.sg/wtus/>





CONQUAS and Quality Mark On-Line System

In August 2011, BCA launched the CQM On-Line system to enhance the level of service to our customers. Builders can now request for assessment sessions for their CONQUAS and Quality Mark (QM) projects online, anytime and anywhere. All they need is a password to access the online system.

Builders can now make their assessment bookings, review their bookings and track the assessments of their projects online, where all records of their requests and assessments can be saved for future reference and analysis. They can also obtain regular updates on any changes to BCA's CONQUAS and QM schemes through the CQM On-Line system. Previously, builders had to submit their requests for assessments as well as any changes via fax or telephone.

BCA has received positive feedback from users on the online system, and will continue to further innovate and improve our customer service. **P**

Users can access the CQM On-Line system at:
www.bca.gov.sg/cqmonline



“This new customer friendly system has enabled us to complete our CONQUAS/QM assessments and achieve TOP for our projects on time. This has in turn helped to enhance the firm’s image.”

MR GOH PENG SOON, QA/QC MANAGER FROM CHINA CONSTRUCTION (SOUTH PACIFIC) CO DEVELOPMENT PTE LTD

EVENT LINE UP

2-Day BIM Planning Course
(Building Developers and
Facility Managers)

03 & 04 SEP

Good Industry Practices
(Waterproofing for
External Wall)

04 SEP

Supervision of Piling
Works for Engineers and
Supervisory Personnel

04, 06, 11 & 13 SEP

2-day Workshop on Structural
Fire Engineering to Eurocodes
3 & 4: Part 1.2

06 & 07 SEP

Good Industry Practices
(Marble/Granite
Ceramic Tiling)

11 SEP



Certificate in
Concrete Technology

11, 13, 19, 20 & 25 SEP

CORENET e-Submission
System Training

13 SEP

GMP-CORE –
Energy Management & Audit

13, 14, 17 & 18 SEP

Good Industry Practices
(Timber Flooring)

18 SEP

Certification Course in Design
of Precast Concrete Structures
for Engineers

18 SEP–6 NOV

Understanding the Green Mark
Criteria for Existing Building
and Office Interior

26 SEP

1-Day Workshop on
Programme Risk Management
– Technical Use of Programmes
to Control, Manage and
Optimise the Project

27 SEP

Workshop on Managing
Project Teams Effectively

27 & 28 SEP

BMSMA for Building
Management Personnel

01 & 02 OCT

Good Industry Practices
(Waterproofing for Internal
Wet Areas)

02 OCT

Geotechnical Instrumentation
for Engineers

03, 05, 10 & 12 OCT

GMP-ELECTIVE –
Computational Fluid Dynamic
(CFD) on Airflow Modeling for
Green Buildings

05, 08 & 09 OCT

Good Industry Practices
(Painting)

09 OCT

Site Investigation for Engineers

10, 11, 17 & 18 OCT

Behavioural Safety for the
Construction Industry

11 & 12 OCT

Certification Course for Site
Investigation Supervisors

15, 16, 22 & 23 OCT

Good Industry Practices
(Aluminium Window)

16 OCT

2-day Workshop on Design
of Concrete Structures –
Eurocodes versus
British Standards

17 & 18 OCT

GMP-CORE – Solar Modeling

17, 18 & 22 OCT

Certification Course for Green
Mark Facilities Manager

17 OCT–5 DEC

Contract Drafting – The
Technicalities and Legalities

18 OCT

BizSAFE Workshop
for Company CEO/
Top Management

23 OCT

Workplace Safety and
Health Management System
(BizSAFE Level 4)

29, 30 OCT, 05 & 06 NOV

Internal Audit (QEHS) Course
based on Quality ISO 9001,
Environmental 14001 & Health
& Safety OHSAS 18001

30 OCT, 01, 06,

08, 15 & 20 NOV

Workshop on
Material Recycling for
Sustainable Construction

30 & 31 OCT

CONTACT:

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DEVELOPMENT UNIT**

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Proudly Presented by



International Green Building Conference 2012

Singapore

10-12 Oct 2012

Sands Expo & Convention Centre
Marina Bay Sands, Singapore
www.sgbw.com.sg

Part of Singapore Green Building Week

Green Community. Green Action.



CONFERENCE HIGHLIGHTS

Singapore Green Building Council (SGBC) is proud to present International Green Building Conference 2012, the premier green building conference that offers crucial insights on the green economy and the sustainable built environment.

What to expect from IGBC 2012:

- Scintillating Speakers on Green Action and Sustainable Business Innovation
- Effective Innovations and Solutions for Greater Energy Efficiency
- New Business Case for Community-centric Green Mark Schemes

DISTINGUISHED CONFERENCE SPEAKERS:



Rod Leaver, Chief Executive Officer, Asia, Lend Lease



Andy Ridley, Executive Director and Co-founder, Earth Hour



Kwek Leng Joo, Managing Director of City Developments Limited (CDL)



Kenneth Er, Chief Operating Officer, Gardens by the Bay

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