



Leading The Market Through Innovation

Last year was a milestone for Dragages Hong Kong. The company received three landmark projects, representing a total value of some HK\$10 billion. Our E&M arm, BYME, has also experienced excellent growth as its businesses benefit from Hong Kong's commitment to infrastructure development. I'm pleased to report that AsiaWorld-Expo and Hong Kong SkyCity Marriott Hotel have likewise bounced back from the global economic crisis and are both enjoying rapid growth.

I believe the key to this success is innovation, which has always been a core value of Dragages Hong Kong. In all of our projects, we're proud to bring new ideas to the table – including many technical firsts for Hong Kong – that support the city in its ambitious programme of infrastructure development. This commitment to innovation can be seen in our current projects.

In this edition of our newsletter, you can read more about the technological innovation we're bringing to our many landmark projects, including Kai Tak Cruise Terminal Building and the New Civil Aviation Department Headquarters.

Our Civil Works projects are also testament to our relentless pursuit of excellence. For the MTR West Island Line, Contract No. 703, we successfully completed shaft excavation using water ballast and electronic detonators, both of which were technical firsts in Hong Kong. We've likewise chosen to use a Tunnel Dismantling Machine (TDM) for the demolition of an existing overrun tunnel, which is also a technical first in Hong Kong and the world.

The Hong Kong West Drainage Tunnel is another extraordinary example of our pioneering work, with both Tunnel Boring Machines (TBMs) being the largest hard rock double shield TBMs ever used in Hong Kong.

Indeed, this commitment to innovation can be seen in every aspect of our operations. For instance, to promote safety, we've recently established a pioneering Safety Training Centre. We've also enhanced our in-house health and wellness plan to provide benefits that are significantly better than the industry average. In corporate citizenship too, we continue to expand our role in charitable and community initiatives. In recognition of our environmental commitment, another of our projects has also won the prestigious ECOSITE label.

The future of the local construction industry is looking bright. With our track record of innovation and market leadership, I have every confidence that Dragages Hong Kong will continue to prosper hand in hand with this remarkable and dynamic city.

Nicolas Borit
Managing Director
March 2011



PROJECT SPOTLIGHT

Kai Tak Cruise Terminal Building

From August 2010 to February 2011, construction was completed on 170 bored piles with a diameter of 2.5m to 2.8m, as well as 205 driven H piles.

To remain at the cutting edge of innovation, a pioneering and flexible construction method is being implemented to overcome various challenges. For instance, the three-storey main building is 609m long by 70m wide with a visionary design that includes the optimisation of spatial relationships. To create this wide span structure, a construction methodology similar to that of a large span bridge is being adopted.

The main building structure consists of 13 hollow primary beams per level, with each beam measuring 65m long by 16m wide by 3m high, supported by four columns. The post-tensioning of each beam will be performed after curing of the concrete, allowing the immediate dismantling and removal of shoring. The post-tensioned structure is also designed to experience minimal deflection and cracking, while at the same time achieving longer clear spans, thinner slabs and fewer beams. This will enable the creation of a dramatic and slender structure.

Precast secondary beams will be installed between the main beams. Measuring 32m in length, 2.6m high and weighing 105 tons, each of these secondary beams will involve heavy lifting. These units will be put into position by a 300-ton crawler crane on the corbels of the primary beams. Installation of these gigantic beams will be done in the second half of this year, a process that will also require a meticulous installation plan.

Since this is a fast track project, precast concrete elements will be widely used in order to meet the construction timeline. This prefabrication not only accelerates construction progress, but also ensures a better finish of the concrete and minimises the risk of working at height. Formation of the on-site precast yard was completed in February 2011 and prefabrication commenced in March 2011.



MTR Express Rail Link - Shek Yam to Mei Lai Road Tunnels

The first permanent work activity took place in October 2010 with slope stabilisation of the adit tunnel portal. By end of January 2011, 15m of adit tunnel had been excavated and shotcreted. A drilling jumbo fitted with a hydraulic splitter was employed to facilitate the mechanical excavation.

In mid-February 2011, the first blast of the adit tunnel took place. Seven months will be needed to complete the adit excavation, with one blast per day. To minimise the impact on road traffic and the environment, the disposal of spoil is taking place via a barging facility. The facility is at the same location of contract 820.

To pave the way for the excavation of the main tunnel, two by-pass galleries will be created near the end of the adit. This arrangement will eliminate the potential complexity and uncertainty involved in 'large' cavern construction at the adit and main tunnel junction.





MTR Express Rail Link - Mei Lai Road to Hoi Ting Road Tunnels

Traffic and utility diversions on public roads were extensively implemented in preparation for pile removal, ground investigation and grouting activities. The relocation of various underground services was also vital prior to the commencement of obstruction removal. This significantly added to the complex coordination demanded by the project.

The first pile removal was completed at the abandoned FMO pier in October 2010. By the end of February 2011, 11 abandoned piles out of a total of 141 had been removed. Close monitoring of pile removal inside existing culverts is crucial as removal can only be done during dry seasons.

The diaphragm wall for the first Tunnel Boring Machine (TBM) shaft was completed in February 2011, at which time work commenced on pumping tests and capping beam construction. The construction of the access ramps for handling spoil disposal using marine barges have also been completed.

Two 9.3m-diameter slurry type TBMs are currently being fabricated in China and Germany by Herrenknecht. The first TBM is scheduled to arrive Hong Kong in July 2011. In parallel with this, the design of the tunnel segment moulds is now finalised and manufacturing of the moulds is taking place in China. Regarding tunnel convergence and buildings protection, a detailed study on grouting requirements in the respective zones is also underway. A detailed design of sump pit re-provision, including ground treatment is likewise in progress.



MTR West Island Line - Sheung Wan to Sai Ying Pun Tunnels

The first blast at the King George V Memorial Park was successfully completed in August 2010, with follow-up blasts taking place early in the morning two or three times per week to create a vertical access shaft for the construction of an adit.

Traditionally, sand bags or old tyres are used to absorb the pressure from blasting, but these generate a lot of dust. To eliminate this problem, while still keeping noise and vibration to a minimum, a number of new technologies were adopted for this project. These not only represent technical firsts in Hong Kong, but are also exemplary of a sustainable approach to construction. For instance, water was used as blast ballast to absorb the pressure and reduce dust from the detonations, and the entire blasting process took place inside a large noise enclosure to contain noise. This project was also the first in Hong Kong to use electronic detonators and works were completed three months ahead of schedule.

By adopting these measures, the project was the first shaft in an urban area of Hong Kong to be excavated by blasting, and the first time that blasting was able to take place in the early hours of the morning. Throughout the blasting programme, local residents experienced no interruptions to their normal lives. People were even observed relaxing in the park unaware that blasting works were taking place in the vicinity.

Excavation works of both main and adit tunnels are progressing, with an average of 4 blasts per day. Fabrications of Tunnel Boring Machine and Tunnel Dismantling Machine are on schedule and expected deliveries are June 2011 and the 4th quarter of this year respectively.





PROJECT SPOTLIGHT

New Civil Aviation Department Headquarters

In November 2010, a link-bridge was installed across Tung Fai Road connecting the Facilities Building and the Office and Training Building. This 29m-long, 5.5m-wide bridge consists of an open top deck with planter and an enclosed air-conditioned bottom deck.

In addition to serving as a connection for future employees of the Civil Aviation Department, the bridge will also house vital building services such as main chilled water pipes under a raised floor, and bus ducts inside a false ceiling void.

To achieve a balance between maximising the transparency of the entire structure and provisioning sufficient room for an E&M zone within the limited space, the bridge boasts a number of special design features, including a three-dimensional ceiling and completely removable internal decking system. The bridge's steel structure weighs around 60 tons and the overall weight, including all building services and finishing works, will be about 180 tons.

The whole structure was prefabricated and shipped by barge to Hong Kong. Due to constraints in the transportation of the prefabricated structure, the bridge was delivered in two bays and then assembled on site using a temporary support to allow for the welding of the two sections.

Progress of works is well ahead of schedule. Structural works of all four buildings have been completed, trades and installation of building services are ongoing. Renovation of the Airport Backup Control Tower will soon commence in the first half of this year.



Hong Kong West Drainage Tunnel

The 11-km long main tunnel broke through on schedule on 17 January 2011. Project team members experienced many critical challenges since tunnelling commenced in 2009, including poor ground conditions in the Sandy Bay Fault area and a significant amount of water ingress. Despite these challenges, our "Oshin" TBM drove through the tunnel for a continuous 21-month period and completed its 6.5km drive on time. This remarkable achievement was made possible with the round-the-clock efforts of the tunnelling team.

A celebratory event was held on 17 February 2011. Officiating guests included the Secretary for Development, the Director and Deputy Director of Drainage Services, Chairpersons of the three District Councils, representatives of ARUP, Nishimatsu and Dragages Hong Kong, together with approximately 300 other guests and press members.

This project is a milestone for several technical firsts in Hong Kong. The two TBMs used in this project were the largest hard rock double-shield TBMs ever used in Hong Kong, featuring a diameter of 7.2m and 8.3m diameters respectively. These massive TBMs were equipped with computerised guiding systems as well as a satellite-enabled system to monitor the effects of excavation on adjacent structures. Upon completion of the project, a total of 34 intakes will be in place to intercept rainwater. The majority of these underground shafts are being excavated with Raise Boring Machines, an innovation which greatly minimises the environmental impact at the surface.

In the months ahead, we will construct almost 8km of 3m-diameter adits connecting to the main tunnel. Using a traditional drill and blast technique, this is currently the largest tunnelling operation in Hong Kong with over 10 fronts under excavation simultaneously. It is expected that the entire project will soon be 75% complete with all 31 adits and 32 intakes actively under excavation.



Supporting the Elderly

Dragages-Nishimatsu joined hands with its client, the Drainage Services Department, to visit the Heung Hoi Ching Kok Lin Association Buddhist Li Ka Shing Care and Attention Home for the Elderly in January 2011. During this heart-warming visit, some 260 elderly residents received Chinese New Year gifts from our colleagues.



Inspiring the Engineers of Tomorrow

The Hong Kong West Drainage Tunnel has attracted many local and overseas visitors since the beginning of the project. Students from Swiss Federal Institute of Technology and Hong Kong University of Science and Technology visited the Western Portal at Cyberport in September 2010 and October 2010 respectively.



Promoting Environmental Protection in Schools

Dragages-Nishimatsu proudly sponsored the annual Fun Fair at Marymount Secondary School and Marymount Primary School to promote environmental protection in July 2010. A total of HK\$20,000 was donated to Friends of the Earth, a leading green group in Hong Kong. The company also donated environmentally friendly bags to both schools. Each bag was wrapped in another small bag resembling a Tunnel Boring Machine (TBM). A card was placed inside promoting TBMs as an environmentally friendly tunnelling solution that can reduce noise, dust and traffic disruption.



Teaching the Next Generation

Together with MTR Corporation, Dragages Hong Kong celebrated the Christmas season by visiting three kindergartens in the King George V area, namely the Thomas Tam Day Nursery, the ELCHK Amazing Grace Nursery School and the YCH Kwok Chi Leung Kindergarten. In total, some 350 children were visited. Games were designed to teach the children about the benefits of building new MTR lines.



Creating New Job Opportunities

Hong Kong is embarking on a new era of major infrastructure development, including five new railway projects. These railway projects alone will generate some 17,000 construction job opportunities over the next five years.

To attract workers to the industry, the MTR Corporation held a Job Fair for the Construction Industry on 26 and 27 February 2011 at the CICTA Kowloon Bay Training Centre. A total of 23 leading contractors participated in the Fair, offering 2,000 jobs in more than 30 categories. The Fair was well received by job seekers, attracting 1,300 visitors in a single day. Dragages Hong Kong received some 200 applications and a number of candidates have been selected for follow-up interviews.



Out and About with the Dragon

The Dragon Guild is designed to recognise employees who personify the values and culture of Dragages Hong Kong and our parent company, Bouygues Construction. To encourage everyone to aspire to this prestigious membership, Guild members were invited on an annual trip in November 2010.

Accompanied by our HR colleagues, Guild members flew to Ho Chi Minh City, Vietnam, to visit the M&C Tower, a project managed by our associated company, Dragages Singapore. The M&C Tower is a high-profile addition to the city's skyline. When complete, this 46-storey building will comprise offices and serviced apartments as well as retail elements such as restaurants, shops and a cinema.

In addition to the site visit, the project team in Vietnam met with Guild members to share their experiences. Much more than a reward for our hard-working Guild members, this fascinating trip proved to be a valuable time of sharing and relationship-building.



Learning to Build Green

The key to embracing sustainable practices is to encourage on-site initiatives and provide proper training to enhance awareness of international standards. As part of its commitment to education, Dragages Hong Kong held a three-day training programme in November 2010 entitled "Build Green".

By bringing together 20 managers representing engineers, design, and business development from around the world, this important event provided a platform for the exchange of opinions on sustainability and hands-on experience of sustainable construction techniques. The event also featured focus group discussions and case studies examining how sustainable construction can be adapted to suit the needs of different clients. Participants came from Hong Kong, UAE-Abu Dhabi, Singapore, Vietnam, Cuba, Czech Republic, UK, Thailand and France.



United We Stand



Dragages Hong Kong held its annual Staff Information Meeting in November 2010 at AsiaWorld-Expo. More than 600 Hong Kong staff attended the event, together with colleagues from Australia, France, Singapore and Thailand.

Intended as an opportunity for the company to share its latest updates and future strategies with all staff members, the event featured the inspirational theme “A Journey in Asia’s World City”. The audience learnt about the progress of six ongoing projects in Hong Kong, as well as the business outlook of BYME, Dragages Hong Kong’s M&E arm; AsiaWorld-Expo and Hong Kong SkyCity Marriott Hotel, both of which are financed, designed, built and operated by Dragages Hong Kong.

The company has experienced rapid business growth in the last two years, which has created new challenges in terms of technical, HR, and risk management. The Staff Information Meeting provided the perfect opportunity to discuss the company’s successful management of these challenges, and reaffirm its commitment to selective business development by focusing on high-value and sophisticated projects.

Yves Gabriel, Chairman and CEO of Bouygues Construction, also confirmed that Asia is a key area of operations for Bouygues Construction in the years to come. Maintaining a wise balance between building and civil works has proven to be an effective strategy for weathering economic cycles and has enabled the company to achieve remarkable growth.





The 5th Anniversary of AsiaWorld-Expo climaxed at the end of 2010 with the high-profile public exhibition of one of China's foremost national treasures, River of Wisdom – Animated Version of the Riverside Scene at Qing Ming Festival. This landmark exhibition, which welcomed close to one million visitors – equivalent to one-seventh of Hong Kong's total population – was closely followed by the spectacular theatrical event, Walking with Dinosaurs. The overwhelming success of these events has firmly established AsiaWorld-Expo as a venue of unparalleled capacity and flexibility for inspirational public shows and entertainment.

In the first quarter of 2011 alone, AsiaWorld-Expo has already welcomed world-renowned performers such as Eric Clapton, Taylor Swift and the long-awaited return of pop diva Faye Wong. In the months ahead, Avril Lavigne, Justin Bieber and Maroon 5 will all perform live in May. The venue will also be hosting a range of other events including child-oriented public exhibitions, fascinating lifestyle events, and industry-leading trade shows throughout the year.



AsiaWorld-Expo Event Calendar March – July 2011

Date	Event	Nature
3-6 March	Asia's Fashion Jewellery & Accessories Fair – March	Exhibition (Trade)
4-6 & 10-11 March	Faye Wong 2011 Tour – Hong Kong	Concert
8-10 March	Asian Aerospace International Expo and Congress 2011	Exhibition (Trade) + Conference
8-10 March	Asian Business Aviation 2011	Exhibition (Trade)
8-10 March	Air Freight Asia 2011	Exhibition (Trade) + Conference
8-10 March	Asia Pacific Airline Training Symposium (APATS 2011)	Exhibition (Trade) + Conference
15-19 March	USANA Asia Pacific Convention 2011	Conference
29-31 March	CARTES in Asia 2011	Exhibition (Trade)
12-15 April	China Sourcing Fair – Electronics & Components	Exhibition (Trade)
12-15 April	China Sourcing Fair – Security Products	Exhibition (Trade)
12-15 April	China Sourcing Fair – Solar & Energy Saving Products	Exhibition (Trade)
12-15 April	Korea Sourcing Fair – Electronics & Components	Exhibition (Trade)
20-23 April	China Sourcing Fair – Baby & Children's Products	Exhibition (Trade)
20-23 April	China Sourcing Fair – Gifts & Premiums	Exhibition (Trade)

All information is subject to change without prior notice.



The end of 2010 and early-2011 saw the large-scale M&E activities reach a peak at the New Civil Aviation Department Headquarters. As one of the world's most advanced air traffic control facilities, it's vital that the building enjoys a stable supply of electricity. To address this critical need, BYME has drawn on its extensive experience to design and install backup generators tailored to the Civil Aviation Department's exacting needs.

After meticulous design considerations, the New Civil Aviation Department Headquarters will be equipped with five 1600kVA and two 1250kVA generators which will serve the backup power requirements for air traffic control and associated equipment. A further two 350kVA and one 640kVA generator will back up the fire services equipment. The total installed capacity will be 11.8 MVA and the total diesel fuel capacity supplying these generators will be over 160,000 litres. This is a new record for a BYME project.

In December 2010, the last batch of generators was delivered on schedule. The smooth-running of this project since its commencement has been made possible by the collaborative efforts of all parties involved, namely our client, the Architectural Services Department, as well as third-party consultants and Dragages Hong Kong.

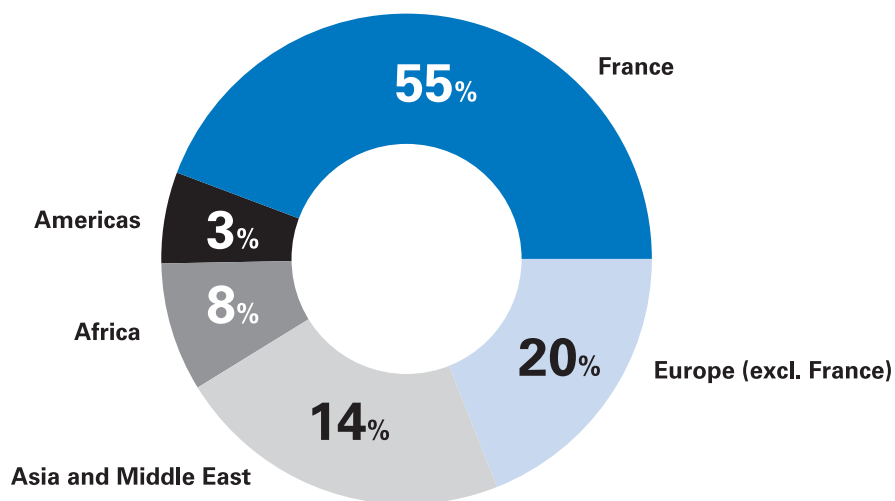
Date	Event	Nature
20-23 April	China Sourcing Fair – Home Products	Exhibition (Trade)
20-23 April	China Sourcing Fair – Medical Products & Supplies	Exhibition (Trade)
20-23 April	India Sourcing Fair – Home Products	Exhibition (Trade)
27-30 April	China Sourcing Fair – Fashion Accessories	Exhibition (Trade)
27-30 April	China Sourcing Fair – Garments & Textiles	Exhibition (Trade)
27-30 April	China Sourcing Fair – Underwear & Swimwear	Exhibition (Trade)
27-30 April	India Sourcing Fair – Garments & Accessories	Exhibition (Trade)
27-30 April	Hong Kong International Printing and Packaging Fair	Exhibition (Trade)
7 May	Avril Lavigne Live in Hong Kong 2011 The Black Star Tour	Concert
13 May	Justin Bieber My World Tour	Concert
21 May	Maroon 5 Live in Hong Kong 2011	Concert
28-30 May	International Antiques & Arts Expo 2011 – Hong Kong	Exhibition (Trade and Public)
8-17 July	Super Inflatable Game Carnival 2011	Special Event
22-24 July	Better Living Expo – for Beauty & Well-Being, Hobbies & Learning, Back-to-School and Value Shopping	Exhibition (Trade and Public)



FINANCIAL HIGHLIGHTS 2010

Bouygues Construction - parent company of Dragages Hong Kong

At end-December 2010

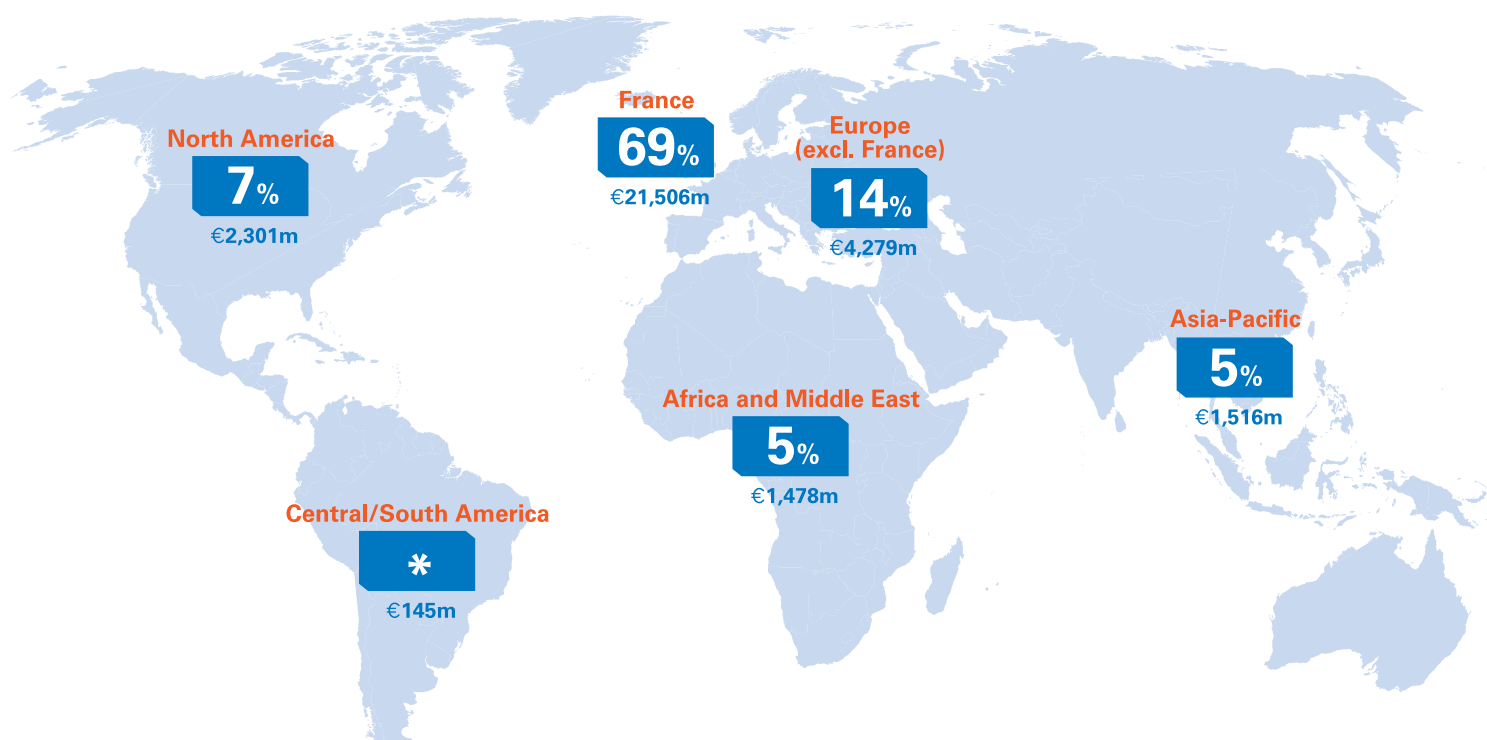


9,235
million euros sales

54,100
employees
(France and international)

www.bouygues-construction.com

Bouygues - parent company of Bouygues Construction



31,225
million euros sales

133,500
employees

* insignificant

www.bouygues.com

The Safe Way is the Only Way

The establishment of Dragages Hong Kong's Safety Training Centre was one of the company's key objectives for 2011. This important initiative aligns with the company's principle of 'Actitudes' – namely, to "Lead our business sectors in terms of occupational health and safety". Through this pioneering new facility, Dragages Hong Kong seeks to provide training and site simulations to help eradicate the unsafe acts that are still widespread in the industry.

This custom-designed building officially opened on 23 February 2011, officiated by Nicolas Borit, Managing Director of Dragages Hong Kong, together with Mrs. Marigold Lau, Director of Architectural Services, Mr. Tsui Wai, Deputy Director of Drainage Services, and Mr. TC Chew, Projects Director of MTR. More than 150 guests, including clients, working partners and colleagues, were also in attendance to witness the opening of the new centre.

Covering 1,000sqm, this spacious training facility features three state-of-the-art classrooms capable of training up to 70 people per day, as well as a comprehensive safety library and showroom, and a unique site safety simulation workshop. This fully-equipped workshop also contains the first ever full-sized tunnel safety training simulator measuring some four metres in diameter.

To promote the highest standards of safety, all Dragages and subcontractor employees will be required to attend a mandatory one-day intensive basic safety training course at the centre. The facility will also provide specific training on major safety topics such as working in confined spaces, lifting, and working at height.



The Gift of Mobility

Dragages Hong Kong has received a grant from the Terre Plurielle Foundation of our parent company, Bouygues Construction, to support one of our regular partner charities, Families of Spinal Muscular Atrophy.

The grant of €16,000 (approximately HK\$170,000) will be used to buy a portable ventilator for patients suffering from Spinal Muscular Atrophy, a severely disabling degenerative nervous system condition that normally requires round-the-clock hospital care. The portable ventilator will enable patients to make outside visits.

In addition to the Terre Plurielle grant, a further €17,000 (approximately HK\$180,000) has been raised by Dragages Hong Kong, BYME Engineering and AsiaWorld-Expo for the purchase of even more equipment.

Since its launch in 2009, the Terre Plurielle Foundation has donated to about 60 projects worldwide.



Charity in Action

Oxfam is well known for the valuable role it plays in supporting the needy. The annual Oxfam Trailwalker event challenges teams of four people to raise funds by completing the 100km Maclehoose trail in not more than 48 hours. Dragages Hong Kong's team started training in June 2010 and maintained a rigorous training schedule of one to two training sessions every week until the race itself. The team started at 9am and kept going throughout the day and night, crossing the finishing line at 6:21am the next morning. They ranked 86th out of the 1029 teams and their extraordinary efforts raised almost HK\$85,000.



ECOSITE Certification

In December 2010, the MTR West Island Line (Contract No. 703) became the second project in Hong Kong to receive the Bouygues Construction ECOSITE label. This prestigious recognition was awarded after an extensive three-day assessment by an environmental representative of Bouygues Construction.

The ECOSITE label assures that the environmental impact of our work is kept to an absolute minimum. Some 65 elements in 11 main categories must meet specific requirements in order to achieve compliance, and a score of at least 2.0 in each of the 65 elements is required to attain the ECOSITE label. This is far in excess of the requirements mandated by national regulations and even by the international environmental management system standard ISO 14001.

Our MTR West Island Line project received a total score of 3.22 out of a maximum-possible 3.57 points, demonstrating the project's tireless commitment to environmental protection.



An Award-Winning Commitment to Safety

Dragages Hong Kong is proud to be an industry leader in promoting safe working practices. We're pleased to report that our commitment to safety has been recognised with a number of new awards.



Project	Award	Organiser
MTR – West Island Line – Sheung Wan to Sai Ying Pun Tunnels	Quality, Safety and Environmental Award - Environmental Category – Gold Award	MTR Corporation
MTR – West Island Line – Sheung Wan to Sai Ying Pun Tunnels	Quality, Safety and Environmental Award - Best Site Condition Award	MTR Corporation
MTR Express Rail Link – Mei Lai Road to Hoi Ting Road Tunnels	Quality, Safety and Environmental Award - Highest DNV Audit Scores Award	MTR Corporation
Hong Kong West Drainage Tunnel	Construction Industry Safety Award Scheme 2010/2011 - Civil Engineering Sites Category – Gold Award	Labour Department
Kai Tak Cruise Terminal Building	Construction Industry Safety Award Scheme 2010/2011 - Building Sites (Public Sector) – Merit Award	Labour Department
Kai Tak Cruise Terminal Building	Construction Industry Safety Award Scheme 2010/2011 – Safety Team – Merit Award	Labour Department