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CONSTRUCTION

MARCH - APRIL 2014



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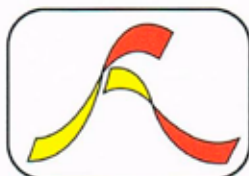
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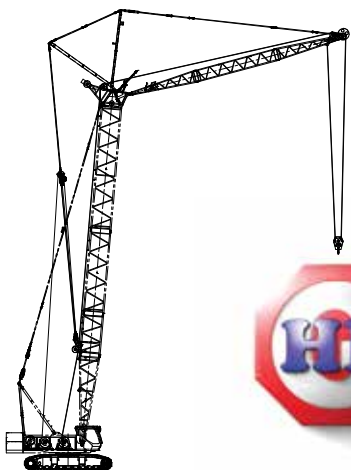
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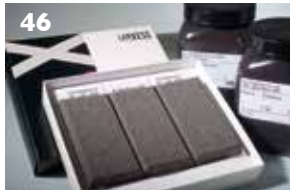
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Construction demand in Singapore to remain strong

According to the Building and Construction Authority (BCA), contracts for the built environment industry could reach between S\$31 and S\$38 billion this year, driven by strong public housing demand and anticipated higher construction demand for institutional developments and major infrastructure projects. This comes on the heels of the sector's strong performance in 2013, where total construction demand reached a historical high of S\$35.8 billion, exceeding the upper-bound projection of S\$34 billion in 2013 by about 5 percent.

BCA said public sector projects are expected to contribute to the bulk of the industry's total demand at close to 60 percent, or between S\$19 and S\$22 billion. The expansion will be fuelled by an anticipated higher volume of contracts to be awarded for institutional and civil engineering construction works.

Meanwhile, private sector demand is expected to moderate to S\$12-16 billion in 2014, compared to S\$21 billion last year. The less favourable outlook is in view of the current market volatility amid the government's multi-pronged approach to stabilise the property market, the substantial supply of completed housing units coming on-stream over the next few years, as well as the scaling back of new government land sales for the first half of 2014.

For 2015 and 2016, average construction demand is projected to be sustained at between S\$25 and S\$34 billion per annum. Sixty percent of the total demand is forecast to come from building projects while the remaining 40 percent is expected to come from civil engineering projects.

Total construction output, or payment for work done, was estimated to be about S\$33 billion for 2013, supported by stronger on-site activities from the construction of the Marina Coastal Expressway (MCE), Downtown MRT Line Stages 2 & 3, and both public and private residential developments. Outlook for on-site construction activities in the following years remains bright at between S\$34 and S\$36 billion for 2014, and S\$29 and S\$37 billion annually for 2015 and 2016, given the high level of contracts awarded since 2011.

"Going forward, productivity will still remain a key priority, in view of the tighter manpower supply," said John Keung, CEO of BCA. "Safety and quality are also at the top of our minds – we will ensure safety while constructing denser and taller buildings, and meet the needs quality-wise of an increasingly affluent and demanding public. Additionally, the push to green existing buildings will continue, while we step up efforts to make existing buildings and infrastructure barrier-free."



BCA released the Singapore Construction Prospects 2014 at the annual BCA-REDAS Built Environment and Property Prospects seminar.



Lee Yi Shyan, Senior Minister of State for National Development and Trade and Industry, was the guest of honour at the event.

"The next few years would be a critical period of transformation for the built environment sector. The tight labour market and higher costs will remain a key challenge but also a key impetus for firms as the sector restructures," said Lee Yi Shyan, Senior Minister of State for National Development and Trade and Industry. "The upstream design and planning will need to become more sophisticated, as we design more environmentally sustainable infrastructure, explore new infrastructural space such as underground developments, and attain higher productivity and technology adoption."

BCA has also launched its 'Quality Mark Homes' mobile application to allow homeowners to search for residential developments that are certified under the BCA Quality Mark scheme, a voluntary scheme launched in 2002 to set the standard for workmanship quality in homes. Under the scheme, every unit of a residential development is assessed to meet a high standard of construction workmanship before the developers hand over the units to the homeowners. More than 64,000 homes in 283 private residential developments have been assessed or committed for assessment since the launch of the scheme. In 2012, sixty percent of the private residential units launched that year were committed for the Quality Mark certification. ■



Mr Lee was also invited to officially launch BCA's 'Quality Mark Homes' mobile application, which allows homeowners to search for residential developments that are certified under the BCA Quality Mark scheme.

See page 60 for details on Singapore Construction Prospects 2014

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LiuGong and Dressta merge Singapore offices

LiuGong Machinery's Asia Pacific subsidiary will house the Asia Pacific arm of Dressta Co Ltd at its Singapore headquarters located at Tuas Loop. LiuGong acquired Polish company HSW's (Huta Stalowa Wola) civil engineering machinery division and its distribution arm, Dressta Co Ltd (henceforth known as LiuGong Dressta Machinery) in January 2012.



"The successful integration of both businesses marks a tremendous opportunity for LiuGong to achieve further growth in this region. We see Dressta colleagues as our extended family members. Thus not a single staff member was laid off during the integration of LiuGong and Dressta," said Joseph Wong (left), who has been appointed as general manager of Dressta Asia Pacific.

Mr Wong will retain his current position as customer service director of LiuGong Machinery Asia Pacific.

LiuGong Dressta Machinery manufactures high-quality crawler dozers at its plant in the Podkarpackie province in southwestern



LiuGong's Singapore office.

Poland. The company also produces wheel loaders, loggers, pipe layers, conveyor belt shifters, motor graders and machines customised for landfill applications. ■

Skyjack strengthens commitment to Singapore market

Skyjack has signed an agreement to supply more than 250 aerial work platforms to Modern (Singapore) Access & Equipment Pte Ltd. Comprised mainly of electric scissors, the agreement represents a significant investment designed to improve the size and capability of the company's rental fleet.

"The main deciding factor was Skyjack's reputation for low maintenance ownership and operating costs," said Klein Phua, Modern's assistant general manager. "Our customers need a product that is easy to use and we like to ensure that if any problems arrive they are simple to diagnosis and repair, and the machines are back in operation quickly at minimum cost. The ability of Skyjack to meet these needs was easily demonstrated and certainly their popularity in the region, particularly in Korea, backs the product's good standing. The addition of Skyjack to our rental fleet will greatly complement our current rental fleet, which consists of various aerial brands."

Simon Cracknell, Skyjacks' newly appointed business development director for the region noted that the agreement comes at an important time for Skyjack as the company seeks to grow in this increasingly important market. "Today we are looking to establish sustainable partnerships with dealers and rental companies and I am mindful that



Skyjack will supply more than 250 aerial work platforms to Modern (Singapore) Access & Equipment Pte Ltd.

Modern's positive reputation is a shining example of how we wish to grow in the region."

Modern is one of the subsidiary companies of Modern (International) P&M Holdings Ltd. Its operation in Singapore commenced in 2008. Modern's business includes manufacturing of mast climbing work platforms, scaffolding (steel and aluminium) and custom made platforms with a team of designers and installers dedicated for permanent fall protection. ■

Another Eagle wet concrete plant for CM Pancho

IPE-Eagle's dealer in the Philippines, Ascrete Supplier Inc, has secured another Eagle wet concrete batching plant order from its client CM Pancho Construction. This is said to be CM Pancho's third Eagle wet concrete plant placed within two years.

The Eagle SMT110-W/4B is a portable skid-mounted wet concrete plant with a plant rated output of 100-110 cu m per hour from a 2.5 cu m Sicoma twin shaft mixer. The plant is easy and quick to install and needs only a simple foundation. The auxiliary feeding conveyor to the mixer uses a ribbed belt, so the plant is compact requiring only a small plant area. The excellent control system uses ECS computer. Two 100 t capacity cement silos were also supplied. ■



Ascrete Supplier has received another order for an Eagle wet concrete batching plant from CM Pancho.



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NTU and Tekla partner to boost talent in construction industry

The Nanyang Technological University (NTU) Centre for Infrastructure Systems (CIS) and TeklaSEA Pte Ltd have signed a Memorandum of Agreement (MoA) to collaborate in research and development activities towards the goal of increasing the number of local graduates equipped with Building Information Modelling (BIM) skills, as well as boost the adoption of BIM technology in the building and construction industry.

Through the agreement, Tekla will support the training of NTU staff and students, and industry professionals, towards the development of their capability in the field of BIM solutions for building and construction designs. The MoA will also provide a platform for mutual sharing of best practices in the application of BIM solutions on buildable design and constructability in the construction industry, and ultimately to proliferate the adoption of BIM technology in the construction industry.

The BCA (Building and Construction Authority) will mandate electronic submissions in BIM format for architectural, structural and M&E plans for building works for regulatory approval by 2015.

As the industry increasingly aims for higher productivity and minimised errors,

more organisations are adopting BIM in the design and construction process, creating a large demand for BIM professionals in the industry. Further, looking towards the future, the adoption of new technologies such as BIM is expected to contribute towards the Singapore government's goal of raising construction productivity.

Tekla Campus

Tekla has also launched Tekla Campus, an online academy for students to learn and acquire BIM skills through Tekla's BIM tools.

Through Tekla Campus (campus.tekla.com), students around the world will be able to download Tekla Structures Learning edition, a free license of the BIM software. Students can use the fully functional software for self-learning, school projects and course work. In addition to the software, Tekla Campus offers learning material, video tutorials, and a discussion forum for peer support and sharing thoughts.

In conjunction with the launch of Tekla Campus, two ITE students from the Higher Nitec in Civil & Structural Engineering Design course were awarded scholarships sponsored by Tekla. The scholarship programme is said to be the first-of-its-kind



NTU and Tekla have formed a partnership.



Two ITE students have been awarded scholarships sponsored by Tekla.

in Singapore that is offered in the field of BIM software training, and is specifically tailored to provide the students with training and knowledge in BIM software, a skill that is currently in high demand in the building and construction industry. ■

Sika acquires LCS Optiroc in Singapore and Malaysia

Sika has acquired LCS Optiroc Pte Ltd in Singapore and LCS Optiroc Sdn Bhd in Malaysia, a manufacturer of cementitious powder products. The business generated annual sales of CHF24 million in the last financial year. With the acquisitions of AkzoNobel's Building Adhesives and Everbuild Building Products in 2013 as well as Technokolla in 2011, this take-over strengthens Sika's offerings in powder products and in the interior finishing sector.

Founded by Kim Hong Lim and Choong Fee Chong, LCS Optiroc has achieved a leading position in the Singapore cementitious powder products market. The company has a strong product offering which includes grouts, mortars, floor screeds, tile adhesives and renders for interior and exterior finishing in the refurbishment and flooring target markets. Mr Chong will stay with the company and continue to drive the success of the existing business as well as support the development of the cementitious powder business both locally and regionally.

Sika also acquires two established factories in Singapore and in Malaysia, which will reinforce the regional supply chain. The acquisition will enable Sika to take a big step forward in the Singapore construction market, significantly increasing sales volume and gaining a local manufacturing base. With the new site in Malaysia, Sika will strengthen its presence in the southern part of the country. In addition to further strengthening Sika's market position in Malaysia and Singapore, the acquisition will also provide a base for expansion into the cementitious powder products market in the Asia Pacific region. ■

New 'paradise' in Iskandar Malaysia



© Zhuoyuan Iskandar Sdn Bhd

An artist's impression of Paradiso Nuova.

Zhuoyuan Iskandar has broken ground on its new residential development, Paradiso Nuova, which is located in Medini, Nusajaya, Iskandar Malaysia. Scheduled for completion in 2017, the 35-storey towers stand at 122 m in height and will feature 382 apartments. Zhuoyuan Iskandar is a joint venture company backed by China's Zhuoda Group and Malaysia's Iskandar Investment Berhad (IIB). ■

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New iconic building for Vietnam

Atkins has completed the design of the Lavenue Crown Hotel, a new iconic building in Ho Chi Minh City, Vietnam. Located at one of the most important junctions on Le Duan Boulevard, close to the city's cathedral and the historic City Post Office, the 36-storey development will be home to a luxury five-star Langham hotel, a boutique retail mall, serviced apartments and a sky bar upon completion.

The tower is approximately 160 m high with a total gross floor area of 66,000 sq m and takes full advantage of the excellent views in almost all directions. It features four petal-like facades that extend down to provide a series of canopies and up to shelter the roof terraces of the sky bar.

According to Atkins, the challenge was to design a tower with a grand entrance on a tightly constrained site. Atkins' service consists of concept design, schematic design, design development, tender documentation, review of local architects' design documentation and site review. ■



An artist's impression of Lavenue Crown Hotel.

John Holland to work on Yeppen South project

John Holland Group has been appointed as the construction contractor for stage two of the flood mitigation highway works to be known as the Yeppen South project, in Rockhampton, Queensland, Australia. This phase involves extending the flood-resilient corridor by constructing a new raised carriageway on the Bruce Highway as far as the Burnett Highway, 2 km south of Rockhampton. The 2.8 km highway duplication will include a 1.6 km long bridge. ■

TÜV SÜD PSB acquires ALT

TÜV SÜD PSB has acquired Singapore's AL Technologies (ALT), broadening its current spectrum of civil engineering, product testing, inspection and certification services in real estate sector. ALT is a multi-disciplinary specialist known for its material, building and geo technology expertise. Its optimistic projected growth is expected to drive TÜV SÜD PSB's business in the real estate sector.

"This is a very important milestone for us. ALT and TÜV SÜD PSB have been working together for some time. Now, finally we came to the mutual decision that a merger will benefit both our businesses, customers and employees. ALT has one of the biggest, most well-equipped material testing laboratories and technical personnel in Singapore. It also has excellent reputation among its customers and competitors," said Richard Hong, CEO of TÜV SÜD PSB.

"Now that we are combining resources and skills, our customers will benefit from a more integrated, one-stop real estate testing and certification services."

"Joining TÜV SÜD makes logical sense for us," added Tan Lay Lian, executive director and founder of AL Technologies. "It is a win-win decision as we will scale greater heights together. ALT brings complementary expertise and customer base while TÜV SÜD contributes network and infrastructure. We believe our customers will benefit from our combined strengths." ■

Six Australian projects to compete for ACAA

The Australian Constructors Association together with Engineers Australia has announced six project finalists to compete for the Australian Construction Achievement Award (ACAA). One overall project winner will be selected at a gala dinner to take place on 8 May 2014 at the Brisbane Convention and Exhibition Centre, Queensland, Australia. The six finalists include:

- The Royal North Shore Hospital (RNHS) by Thiess is a A\$1.127 billion redevelopment. The project converted a health precinct with a 126-year history into a modern day purpose-built facility.
- 700 Burke Street, entered by Brookfield Multiplex, is the new National Australia Bank headquarters for Melbourne.
- The Hunter Expressway (Stage 2) was delivered by the Hunter Expressway Alliance including Roads and Maritime Services (RMS), Thiess, Parsons Brinckerhoff and Hyder Consulting (the Alliance). The A\$1.7 billion Hunter Expressway involved the construction of a new four-lane freeway link between the M1 Pacific Motorway near Seahampton and the New England Highway, west of Branxton.
- The Cape Lambert Marine Works by John Holland involved construction of a new port facility adjacent to the existing Cape Lambert Port, 40 km east of Karratha.
- The M80 ring road upgrade - Calder

Freeway to Sydney Road was delivered by the Tulla Sydney Alliance (the Alliance) – a partnership between VicRoads, Thiess, Parsons Brinckerhoff and Hyder. The M80 ring road links Melbourne's northern and western suburbs, providing critical access to Melbourne International Airport, as well as the ports of Melbourne and Geelong, and rail freight terminals.

- The Gold Coast University Hospital entered by Lend Lease is a A\$1.76 billion development and one of the largest health infrastructure projects completed in Australia.

"This year the ACAA judges were particularly impressed by the complexity of each of the projects and their exceptional construction work, which often took place in difficult or highly sensitive environments. Each of the projects involved multifaceted construction techniques, which were delivered to the highest standards.

"A huge number of engineering professionals are employed in Australia's construction industry due to their proven expertise in leading such projects. The aim of ACAA is to showcase the people and the projects within the construction industry that are succeeding in setting brand new benchmarks around the world," said Lindsay Le Compte, executive director, Australian Constructors Association. ■

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LiuGong's new management team

Wang Xiaohua will retire as chairman of LiuGong Machinery. He has served the company for 43 years, of which 15 years as chairman. Mr Wang will remain as chairman of Guangxi LiuGong Group, the parent company of LiuGong Machinery.

Zeng Guang'an will succeed Mr Wang as chairman of LiuGong Machinery, and Yu Chuanfen will take over from Mr Zeng as vice chairman and president of LiuGong Machinery. In November 2013 Mr Zeng was also promoted to president of LiuGong Group.

Prior to these appointments, Mr Zeng had served as vice chairman and president of LiuGong Machinery since 1999, while Mr Yu had served as vice president of LiuGong Machinery since 2010. Both Mr Zeng and Mr Yu will serve in the new top management team of LiuGong Machinery, along with Wang Xiangmin, Huang Haibo, Huangmin, David W. Beatenbough, Yu Yajun, Huang Jianbing, Wang Taiping and Luo Guobing. ■

Bauer expands China plant

Bauer Tianjin Technologies Co Ltd has relocated to its new, larger plant in the Xiqing district, Tianjin, China. The entire area covers an area of 65,814 sq m, while production facilities with the offices occupy 30,717 sq m. At present, just over 220 employees work there with the capacity to produce up to 90 machines a year. ■



Bauer has moved to its new, larger facility in the Xiqing district in Tianjin. ■

AECOM wins TKO-LT Tunnel project in Hong Kong

AECOM has been awarded an approximately US\$13-million consultancy contract for the design and an estimated US\$103-million contract for the construction supervision of the Tseung Kwan O – Lam Tin (TKO-LT) Tunnel project in Hong Kong.

The TKO-LT Tunnel will include a 2.6-mile, two-lane highway connecting Tseung Kwan O (TKO) at Po Shun Road in the east with the proposed Trunk Road T2 in Kai Tak Development in the west. The tunnel, along with the Central Kowloon Route and Trunk Road T2, will form part of the city's Route 6 — becoming an east-west express link between the West Kowloon and TKO areas. The completion of Route 6 is anticipated to reduce the travel time between West Kowloon and TKO from 30 minutes to 12 minutes. ■

Chi Deh gets Kato SL-700R

Taiwan-based crane hire and rental company Chi Deh Crane Engineering Co Ltd has taken delivery of a Kato SL-700R rough terrain crane from Guang Hong, Kato's local distributor.

Chi Deh specialises in heavy lifting works using large size cranes up to 1,600 t. According to Hu Han Yen, chairman of Chi Deh, the Kato SL-700R is useful for assembly and disassembly jobs, rigging and maintenance for all Chi Deh's large size cranes at the job sites as well as at the company's yard.

The SL-700R is designed to be flexible and manoeuvrable, featuring a right-hand-side steering, 8x6x8 drive and steer, maximum lifting capacity of 70 t, six-section fully powered 44.5 m main boom, three-section 17.5 m fly jib fully hydraulic powered for both extension/retraction and luffing. ■



Chi Deh Crane Engineering has taken delivery of a Kato SL-700R rough terrain crane. ■

Zhongtian teams up with RTKL

Global architecture and design firm RTKL has signed new contracts with the Zhongtian Group for nine projects totalling more than US\$25 million. RTKL will provide design consulting services for the projects, which are located in Guiyang, Guizhou province, China. The contracts will run for one to two years.

The multiple, intricate building programmes include a culture centre, a mixed-use theatre, a three-parcel financial centre and a four-parcel tourism magnet dubbed the Guiyang Future Ark. This Future Ark alone features more than 7 mil sq m and has been designated as one of the first of eight ecological districts in China. ■



RTKL will provide design consulting services for new developments in Guiyang. ■

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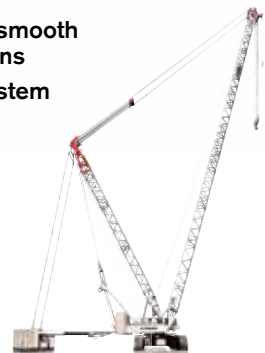
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Mott MacDonald wins major projects in India and Bangladesh

Mott MacDonald is providing architectural, structural and building engineering design services on IndoSpace Luhari, an approximately 150,000 sq m industrial and logistics park at Luhari, near Gurgaon in India. Construction of the second phase of the project, which is being developed by Indospace Venture Limited, has commenced. IndoSpace Luhari is one in a series of modern industrial and logistics parks being developed by IndoSpace across India.

IndoSpace is one of the largest developers of modern industrial real estate in India, with 11 projects in five cities and a total target built-up area of 1.4 mil sq m. Across the country, the industrial parks will comprise modern warehouses and light manufacturing facilities designed to meet the logistics and supply chain needs of global companies.

The Luhari site is within close proximity to several large industrial clusters, including IMT Manesar, Daruhera, Bhiwadi and Bawal. Good regional connectivity makes the site an ideal location for third party logistics services, consumer goods companies and retailers to establish their distribution centres to service Gurgaon, Delhi and northern India.

Mott MacDonald is providing all design, masterplanning and infrastructure engineering for the built areas of IndoSpace Luhari. The development will include continuous loading docks and dock levellers, state-of-the-art racking and seamless traffic management. Mott MacDonald will also deliver project management and construction supervision services for the entire area of the park.

Bangladesh sustainable water project

Mott MacDonald has also been appointed by the Asian Development Bank (ADB) to provide technical engineering and procurement assistance on the Environmentally Sustainable Water Supply Project in Dhaka, Bangladesh. The ADB is providing a US\$250 million loan for the scheme, which is being developed by Dhaka Water Supply and Sewerage Authority (DWASA) and seeks to provide 24-hour water supply to all connected households in six service zones of the DWASA.

Dhaka has an estimated population of over 15 million and is forecast to grow to around 29 million by 2035. Groundwater sources currently form 100 percent of water supply to households in most services zones, which has resulted in the water table falling annually by 2 to 3 m. This has led to 40 and 60 deep tube wells becoming inoperable each year. In addition, the Sitalakhya River – believed to be the city's main source of surface water – is becoming increasingly polluted.

In order to reduce the dependence on groundwater to 40 percent of total water by 2021, a new raw water intake will be developed at the Meghna River, about 30 km east of the city. This will include a pumping station with a capacity to provide 2 bil l of water per day. Raw and treated water pipelines and an access road will be constructed to connect the intake to a new water treatment plant at Gandharbpur. The new plant will be capable of handling 500 mil l per day and will serve the population of around 3 million people in Badda, Gulshan, Mirpur and Uttara.

Mott MacDonald will assist DWASA to prepare tender documents for the design, build and operate contracts and review the proposals received from international contractors. The project is estimated to cost nearly US\$675 million and expected to be completed by the end of 2019. ■

First Terex crane for Chaudhary Transport

Chaudhary Transport Company based in New Delhi, India, has taken delivery of its first Terex crane, a Toplift 55 truck crane with a capacity of 55 t and a maximum boom length of 42 m. Delivering a 55 t lift capacity at a 3 m radius, and a maximum 32 m fully extended working radius, the Terex Toplift 55 is designed to handle a wide range of lifts. A wide wheelbase, 40 percent gradeability, two drive axles and two steering axles provide sure-footed on-site manoeuvrability and performance. ■



Chaudhary Transport Company has taken delivery of its first ever Terex crane, a Toplift 55 truck crane.

Jaipur's first metro line to undergo expansion

The Asian Development Bank (ADB) will lend US\$176 million to extend the first metro train line in Jaipur, India, and draw up plans to build a second line, reducing congestion and pollution in the city.

Under the Jaipur Development Authority's public transport plan, first developed in 2009, the local government is constructing a 9.7-km-long, elevated Line 1 metro train line from Mansarovar, in the western part of the city, to Chandpole, on the western edge of the central business district, which was due to start operating in late 2013. ADB's loan will help finance an additional 2.3-km underground stretch from Chandpole to Badi Chopar a little further east, along with two stations, which should be ready to provide access to the central business district by March 2018.

By providing connections to the entire central business district, ADB's extension is expected to carry 126,000 passengers every day during its first year of operation, and generate around 61 percent of all the trips on Line 1. The stations along the full Line 1 will connect with existing and planned bus routes to help people get to other parts of the city much faster.

The construction of the Line 1 extension – to cost a total US\$259 million – will be built to ensure that there is minimal risk from urban flash floods and other climate-related events. Station facilities will be built with modern conveniences and technology, and careful structural design will ensure there is no impact on the heritage structures that stand above the underground section. ■

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Tognum now operates as Rolls-Royce Power Systems

Tognum AG is now operating under the name of Rolls-Royce Power Systems AG. In March 2013 Tognum became a wholly owned subsidiary of Rolls-Royce plc and Daimler AG, each of which has a 50 percent shareholding in the company via a joint venture.

The group of companies with MTU Friedrichshafen GmbH as the core company has been consolidated in the Rolls-Royce Group's results since the beginning of 2013. The regional companies will also operate under a new name: Tognum America Inc, which is based in Novi, Michigan, USA, will now operate as MTU America Inc and Tognum Asia Pte Ltd, which is based in Singapore, will operate under its new name of MTU Asia Pte Ltd.

The product portfolio includes MTU brand high-speed engines and propulsion systems for ships, for heavy land, rail and defence vehicles, and for the oil and gas industry. Under the MTU Onsite Energy brand, the company markets diesel gensets for emergency, base load and peak load applications, in addition to cogeneration plants for the generation of combined heat and power based on gas engines or gas turbines. The Norwegian subsidiary Bergen Engines manufactures medium-speed engines for marine and power generation applications. L'Orange rounds off the portfolio with fuel injection systems for large engines. ■



Members of the executive board unveiling the new logo. From left: Jörg Schwißalla, executive board member responsible for operations, personnel and integrity; Dr Ulrich Dohle, executive board chairman and CEO; Dieter Royal, chief financial officer; and Dr Michael Haidinger, chief sales officer.

HLG wins Al Habtoor City residential towers project in Dubai

Habtoor Leighton Group (HLG) has secured a contract with the Al Habtoor Group worth AED1.45 billion for the construction of the residential towers project as part of the landmark AED11 billion Al Habtoor City development in Dubai.

The Al Habtoor residential towers project is a mixed use development located immediately adjacent to the proposed Business Bay creek extension (Dubai Water Canal). It includes two 75-storey residential towers, a 52-storey residential tower, and a seven-storey podium including basement, ground floor and five floors of retail and parking. On an adjacent site HLG is currently constructing the AED1.9 billion Al Habtoor City hotel development, which is set to be the Middle East's largest integrated resort when it is completed in 2016.

HLG's associated business, HSSG, is currently undertaking the enabling works for the project. The total value of construction, including consultant costs and piling but excluding interior fit-out and furniture, is estimated to be AED1.62 billion. Construction will commence as soon as enabling works are completed and the main project will be completed 32 months later. ■

New president & CEO for Manitou



Michel Denis (left) has been named president and CEO of Manitou. Mr Denis began his career as a strategy consultant, and joined Dalkia in 1994 to develop cogeneration. He subsequently managed the French businesses of MC International, which later became Johnson Controls, a specialist in industrial and commercial refrigeration. In 2003 Mr Denis joined the Fraikin Group, one of the European leaders in truck rentals, for which he was CEO until August 2013. ■

Skanska to build Södra Marieholmsbron bridge

Skanska, in a joint venture with Danish MT Højgaard AS, has been commissioned to construct the Södra Marieholmsbron bridge over Göta Älv and Sävveån in Gothenburg, Sweden. The project includes a 1.5 km long rail bridge, ranging from Kville rail yard in the north to Olskroken in the south. Parallel to, and directly adjacent to the new railway bridge, a new pedestrian and cycle bridge will be built.

The new bridge, which is part of the Marieholm connection, will result in the expansion of an additional track on an openable rail bridge parallel to the existing line. Skanska also built the first part of the Marieholm connection, which opened in December 2011.

Construction start is scheduled for the first quarter of 2014 and Södra Marieholmsbron is expected to be completed by the second quarter of 2017. ■

Black & Veatch supports Scotland's hydropower project

Black & Veatch will support Scottish Water's ambitious hydropower generation programme. This will see two of Scotland's vast resources, water and the potential for renewable energy, come together to benefit both the environment and Scottish Water's customers.

Scottish Water assets are being developed through the addition of hydro turbines at several raw water and treated potable water locations. As design and build contractor, Black & Veatch will undertake the retrofit of hydro turbines at a number of sites. Some of the principal challenges the hydro projects present include installing new equipment in existing water infrastructure without interrupting service, ensuring efficient performance, and delivering reliability with minimal maintenance.

The considerable flow in large water supply pipes will be used to produce renewable energy, thereby reducing the amount of electricity Scottish Water needs to buy from the National Grid. The work will reduce the power costs for water treatment, playing a key part of keeping Scottish Water's operating expenditure down. ■

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Canada 'will be one of the best performing developed markets'

Business Monitor has just released its latest findings on Canada's expanding infrastructure sector in its newly published Canada Infrastructure Report.

Business Monitor has revised down its outlook for the overall construction industry in Canada for 2013 to 2.2 percent. This is being driven by a sharper than expected contraction in industry value creation from the residential and non-residential building segment. Despite this, it anticipates that a slight pick-up in the second half of the year will ensure that subsector maintains positive growth. On the other hand, infrastructure will post another year of solid performance, with Business Monitor's outlook for robust growth in the subsector unchanged.

Below trend construction industry data has prompted Business Monitor to downgrade its 2013 forecast for industry growth, however, it is maintaining its view that Canada will be one of the best performing developed markets over the near term. Growth will be supported by high-value infrastructure projects across the transport and energy sectors, as well as social infrastructure, industrial projects, and a housing market that whilst slowing, should remain positive.

The greatest risks to Business Monitor's outlook comes from a sharper-than-expected decline in the housing sector, as well as slowing demand and falling prices in the commodity sector, forcing developers to stall new capital investment, thereby impacting supporting infrastructure and industrial projects. It also notes the growing detrimental impact of the regulatory environment on natural resource-related infrastructure. The rejection of the C\$5.5 billion Northern Gateway pipeline sets a poor precedent for other similar projects; whilst the objections to plans to expand coal export capacity is a concern for investment taking place into expanding coal production.

Infrastructure Foundation For Growth Infrastructure remains a fundamental element of Canada's construction industry growth, with a project pipeline in excess of US\$120 billion. Infrastructure growth should remain stable and solid, at around 4 percent over the medium term. There remains upside potential from major pipeline projects.

One of the strongest sub-sectors over Business Monitor's 10-year forecast period to 2022 will be railways, where a project pipeline worth US\$36 billion will drive annual average industry value real growth of 4.4 percent between 2013 and 2022. This growth will be driven primarily by urban rail projects, including the C\$8.2 billion Eglinton Crosstown Light Rail Transit project, the US\$2.6 billion

Toronto Subway Spadina line expansion, the US\$2.1 billion Ottawa Light Rail project and the US\$1.8 billion Edmonton Light Rail project.

There is further upside potential to Business Monitor's forecast from freight rail projects, however, with the C\$5 billion Côte Nord rail project in Quebec temporarily suspended in February 2013 due to weak demand, it has seen verification for their decision to withhold these projects from its forecast. In November 2012, a C\$8.6 billion railway project to transport crude from Alberta's oil sands to Alaska moved forward.

The other booming sector is electricity, where it sees US\$36 billion worth of projects underway or in the planning stages. Huge generating stations are under construction, including the US\$6.2 billion Lower Churchill Hydropower Project, the US\$2.6 billion Lower Mattagami Hydropower Project, the 918 MW Eastmain-1-A/ Sarcelle/Rupert Project, as well as extensive transmission line projects, including the 1,380 km US\$3.3 billion Bipole III transmission line and the US\$1.6 billion Eastern Alberta and US\$1.4 billion Western Alberta transmission lines. Wind power projects are also being developed across the country, although regulatory uncertainty weighed on 2012 projects, 2013 is expected to be a record year for new installations, which presents upside to its 2013 forecast for the sector. Overall, it is forecasting 4.5 percent average real growth per year between 2013 and 2022 for the power plants and transmission grids sub-sector.

The report also sees strong upside for the overall energy and utilities sector from oil and gas pipelines. It has registered over US\$40 billion worth of pipelines in the planning phase, which would provide a significant boost to industry value creation if they all progress. ■

Hubbard Construction wins Northwest Corridor project

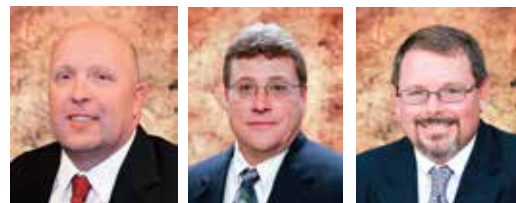
Hubbard Construction has been awarded the design-build contract for the Northwest Corridor project in Atlanta, Georgia, in the US. This project, valued at US\$600 million, will be implemented by a consortium led by Archer Western Contractors (Walsh Group). Entry into service is scheduled for 2018.

The project calls for the addition of 48 km of a new reversible express lanes system, which includes 39 bridges along the I-75 and I-575. The lanes are to be built with minimal interruption to traffic. The project features innovative design with lanes partly built on reinforced soil walls supplied by Reinforced Earth to limit infrastructure ground coverage. ■

Gomaco strengthens with new appointments

US manufacturer Gomaco has hired Julian Dann to serve as its managing director for the Asia Pacific region. Mr Dann gained extensive sales experience and construction knowledge working within Trimble Navigation and Spectra Precision in the UK and the Asia Pacific region. He held the positions of technical sales engineer and sales director for the companies.

In addition, DeWayne Krayenhagen has been appointed the new manager of Gomaco's Service and Warranty Department. He will be responsible for supervising the department, administering warranty credits, and coordinating service needs for customers and distributors. Mr Krayenhagen joined the company in 1983 and worked in the Paint Department. He moved to Hydraulics and Testing before transferring to the Service Department in 1988. Since 1999, he has worked as the assistant service manager.



From left: Julian Dann, Travis Brockman and DeWayne Krayenhagen.

Furthermore, Travis Brockman has been named district sales manager for the northeast US and eastern Canada. His territory in the US will include Maryland, Delaware, Pennsylvania, New Jersey, New York, and the New England states. Provinces in Canada include Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland. ■

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17 to 20 Apr 2014	Megabuild Indonesia 2014 Jakarta Convention Centre Jakarta Indonesia	Reed Panorama Exhibitions Tel: +62 21 2556 5024, Fax: +62 21 2556 5040 Email: silviana.muliawan@reedpanorama.com Website: www.megabuild.co.id
7 to 9 May 2014	OS+H Asia 2014 Suntec Singapore Singapore	Messe Düsseldorf Asia Pte Ltd Tel: +65 6332 9620, Fax: +65 6337 4633 Email: osha@mda.com.sg Website: www.osha-singapore.com
7 to 9 May 2014	Build4Asia 2014 Hong Kong Convention & Exhibition Centre Hong Kong	Hong Kong Exhibition Services Ltd Tel: +852 2804 1500, Fax: +852 2528 3103 Email: exhibit@hkesallworld.com Website: www.build4asia.com
21 to 23 May 2014	BuildTech Yangon 2014 Myanmar Convention Centre Yangon Myanmar	Sphere Exhibits Pte Ltd Tel: +65 6319 4021, Fax: +65 6319 6140 Email: sphere@sph.com.sg Website: www.btyangon.com
2 to 4 Jun 2014	Trenchless Asia 2014 Marina Bay Sands Convention Centre Singapore	Westrade Group Ltd Tel: +44 845 094 8066, Fax: +44 870 429 9275 Email: trenchless@westrade.co.uk Website: www.trenchlessasia.com
25 to 28 Jun 2014	Archidex 2014 Kuala Lumpur Convention Centre Kuala Lumpur Malaysia	CIS Network Sdn Bhd Tel: +603 7982 4668, Fax: +603 7982 1648 Email: info@archidex.com.my Website: www.archidex.com.my
16 to 19 Jul 2014	OneBuild 2014 Putra World Trade Centre Kuala Lumpur Malaysia	One International Exhibition Sdn Bhd Tel: +603 8943 7488, Fax: +603 8943 7599 Email: info@oneinternational.com.my Website: www.oneinternational.com.my
28 to 30 Aug 2014	Indo Icon/Indo Bimex 2014 Jakarta International Expo Jakarta Indonesia	Peraga Expo Tel: +62 21 6493717, Fax: +62 21 6265986 Email: info@peragaexpo.com Website: www.icon-bimex.org
11 to 14 Sept 2014	OneBuild@JB 2014 Danga City Mall, Johor Bahru Johor Malaysia	One International Exhibition Sdn Bhd Tel: +603 8943 7488, Fax: +603 8943 7599 Email: info@oneinternational.com.my Website: www.oneinternational.com.my
8 to 11 Oct 2014	Buildtech Malaysia 2014 Putra World Trade Centre Kuala Lumpur Malaysia	Trade Link ITE Sdn Bhd Tel: +603 7842 9863, Fax: +603 7842 7863 Email: info@tradelink.com.my Website: tradelink.com.my/buildtech
15 to 17 Oct 2014	BuildTechAsia 2014 Singapore Expo Singapore	Sphere Exhibits Pte Ltd Tel: +65 6319 4021, Fax: +65 6319 6140 Email: buildtechasia@sph.com.sg Website: www.buildtechasia.com
25 to 28 Nov 2014	bauma China 2014 Shanghai New International Expo Centre Shanghai China	Messe München International Tel: +49 89 949 20251, Fax: +49 89 949 20259 Email: info@bauma-china.com Website: www.bauma-china.com
15 to 18 Dec 2014	bC India 2014 India Expo Centre Greater Noida, Delhi India	Messe München International Tel: +49 89 949 20255, Fax: +49 89 949 20259 Website: www.bcindia.com

Date	Events outside Asia	Organiser & Contact
4 to 8 Mar 2014	ConExpo-Con/Agg 2014 Las Vegas Convention Centre Las Vegas, Nevada USA	Association of Equipment Manufacturers Tel: +1 414 298 4167, Fax: +1 414 272 2672 Email: international@conexpoconagg.com Website: www.conexpoconagg.com
1 to 5 Apr 2014	Smopyc 2014 Zaragoza Exhibition Centre Zaragoza Spain	Feria de Zaragoza Tel: +34 976 764 700, Fax: +34 976 330 649 Email: comunicacion@feriazaragoza.es Website: www.smopyc.com
3 Apr 2014	IPAF Summit and IAPA Awards 2014 Beaumont Estate Hotel, Windsor England The UK	International Powered Access Federation Tel: +44 15395 66700 Email: info@ipaf.org Website: www.iapa-summit.info
8 to 11 May 2014	Samoter 2014 Verona Exhibition Centre Verona Italy	Veronafiore Tel: +39 045 8298111, Fax: +39 045 8298288 Email: info@veronafiore.it Website: www.samoter.com
24 to 26 Jun 2014	APEX 2014 Amsterdam RAI Convention Centre Amsterdam The Netherlands	BV Industrial Promotions International Tel: +31 547 271566, Fax: +31 547 261238 Email: marleen@ipi-bv.nl Website: www.apexshow.com
17 to 20 Nov 2014	PMV Live at The Big 5 2014 Dubai World Trade Centre Dubai UAE	DMG Events Tel: +9714 438 0355, Fax: +9714 438 0356 Email: pmv@dmgeventsme.com Website: www.pmvlive.com

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bC India getting ready for 2014 edition in Greater Noida

The third edition of bC India will take place from 15 to 18 December 2014 at the India Expo Centre in Greater Noida near Delhi. The last show in February 2013 in Mumbai attracted a total of 710 companies from 33 countries and more than 28,000 trade visitors.

Growth in the Indian construction industry has slowed down in recent months, but prospects in the long term are still good. One of the main drivers is the need to invest in improving the infrastructure. If economic growth is to be boosted across the subcontinent, then the transport system has to be expanded, the energy and water supply system improved, and capacity extended at ports and airports. According to the Planning Commission of India, the country is investing one trillion US dollars in its infrastructure as part of the current 12-year plan (2012 to 2017).

In building construction, the impetus is likely to continue to come from the demand for affordable housing. As the Planning Commission reported, in 2012 the shortfall in affordable apartments was around 27 million. According to Germany Trade & Invest (GTAI), Germany's economic development agency, the building trades in India are still at a rather low level in terms of quality. The reason for this is generally a lack of expertise in construction planning and execution. In addition, the level of mechanisation is still very low. Consequently it can be assumed that in the coming years the number of construction machines sold in India will continue to rise. While in 2013, between 50,000 and 60,000 units were sold, experts from the British management consultant Off-Highway Research estimate that sales figures for 2016 will be around 80,000 units.



The last bC India in February 2013 in Mumbai attracted a total of 710 companies from 33 countries and more than 28,000 trade visitors.

In terms of types of machinery sold most, top of the list in India for many years now have been backhoe loaders, bulldozers and mobile cranes. However, analysts from Off-Highway Research expect that sales in backhoe loaders, which accounted for over 50 percent of all construction machinery sold in 2012, will lose ground in the coming years to crawler excavators, which will increase their market share. Each of these two types of machine is expected to account for a good third of the Indian construction machinery market in 2016. ■

Website: www.bCindia.com

First International Construction Economic Forum hailed a success

The inaugural International Construction Economic Forum (ICEF) was held from 20 to 22 November 2013 in Amsterdam, the Netherlands. The event welcomed speakers and delegates from Europe, Asia and North America, and included some of the leading executives in the construction sector.

The keynote address at ICEF was given by former Spanish Prime Minister José María Aznar. In his speech, he underlined that "the health of the European construction industry is the health of the European economy".

He explained, "Construction is the biggest industrial employer in Europe, with more than 20 million direct employees and affecting some 44 million workers Europe.

"Europe faces challenges in maintaining extensive power, transport and other infrastructure networks. Globally, it is estimated that some US\$57 trillion is required between now and 2030 simply to keep up prior GDP growth.

"Lots must change in Europe to achieve this goal - factors currently influencing the future competitiveness of the construction industry include the shortage of public investment due to the fiscal positions of most member states. In addition, there



The first International Construction Economic Forum was held in Amsterdam.

is a shortage of skilled workers. The EU cannot afford to fail to win the battle for competitiveness."

Among some 20 other speakers at ICEF was Miguel Jurado Fernández, CEO of Spanish contractor FCC Construcción; Zeng Guang'an, president of Chinese construction equipment manufacturer LiuGong; and Xavier Therin, vice president of land, mineral resources and mining at materials producer Lafarge Aggregates and Concrete.

ICEF also saw the first ICEF prizes awarded for innovation in the global construction industry. The JW Marriott



The former Spanish Prime Minister José María Aznar.

Marquis Hotel in Dubai, UAE, won the International Construction Project of the Year Award. The scheme was entered by main contractor Brookfield Multiplex.

Meanwhile, the winner of the ICEF Construction Equipment Innovation Award was Caterpillar, for its 336E H hybrid excavator and Liebherr won the ICEF Construction Equipment Design Innovation Award for its PowerBoom technology for crawler cranes.

The next ICEF will be held from 29 to 31 October 2014 at the Gloucester Hotel in London, the UK. ■

Website: www.icef.biz



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bauma China to return in November

bauma China will return to the Shanghai New International Expo Centre from 25 to 28 November 2014. The show is expected to take up the entire space, approximately 300,000 sq m.

Although currently challenging, the market in China still offers significant potential, not least because the state is investing heavily in infrastructure. In the first six months of 2013 the equivalent of €160 billion (RMB 1,346 billion) was invested in China in civil engineering and infrastructure projects. According to the National Bureau of Statistics of China this was an increase of over 21 percent as compared to the same period in the previous year.

The biggest part of this money went into road building. Bernd Schaaf of Germany Trade & Invest (GTAI), Germany's economic development agency, reported that "the activities here are increasingly concentrating in the west of the country". That is precisely in line with the Chinese government's long-term planning: the aim is to promote economic growth in the hinterland, too, away from the already booming coastal region in the east, in order to reduce the wide disparities between the urban and rural communities. "Huge investment in transport and infrastructure is needed if this is to be achieved," pointed out Mr Schaaf.

According to the current Five Year Plan (2011 to 2015) up to 65,000 km of new roads are to be built in China by the year 2015. Added to this, in the same period, are 30,000 km of new railway tracks around the country with an accumulated investment volume of RMB 2.8 trillion. Building new airports is also on the agenda: GTAI's current economic report (dated October 2013) reveals that investment here in the first six months of 2013 has risen in comparison to the same period in 2012 by almost 27 percent, to RMB 53 billion.

Despite all these major construction projects, the Chinese construction machinery market is not an easy one, as Sebastian Popp, responsible for the construction equipment and building material machinery section at the VDMA, Germany's engineering federation, explained, "Up until 2011 the country was experiencing a building



bauma China 2012.

boom, as the construction sector of the economy was overheating." Almost all Chinese construction machinery manufacturers reacted to this with a significant expansion of their capacities. Mr Popp said, "As a result of central government's measures to cool down the building sector, demand for construction machinery fell sharply in 2012. Now the situation is one of significant overcapacities and enormous fleets of recently produced machinery in the market."

For the international manufacturers that are producing in China, overcapacity, according to the VDMA expert, is generally not such a problem. The bigger challenge is believed to lie in resisting over-engineering: "In an ever more competitive market, it's all the more important to deliver machinery and plant that is attuned to Chinese demand." Opportunities in this market can be found particularly in high-spec infrastructure projects, said Mr Schaaf. "For example, in the shape of tunnel-driving machines for above-ground and underground railway construction and special machinery for mining, building construction and civil engineering." ■

Website: www.bauma-china.com

Australia wins Volvo Trucks Asia Pacific Fuelwatch Championship 2013

Australia's Grant Morice has been named winner of the Volvo Trucks Asia Pacific Fuelwatch Championship 2013 for the on-road category. Held from 22 to 23 October 2013 at the Mount Cotton Training Centre near Brisbane, Australia, the competition saw 13 drivers from the around region compete to be the most fuel-efficient truck driver on- and off-road. Youngki Park from Korea triumphed in the affiliated off-road competition.

The Volvo Trucks Asia Pacific Fuelwatch Championship 2013 attracted contestants from Australia, China, Korea, Indonesia, Malaysia, Singapore, Thailand and Taiwan, as well as first time contestants Sri Lanka and New Zealand; Korea, Indonesia and Singapore also sent another driver each to participate in the off-road segment. These contestants had qualified for the regional



Grant Morice won the Volvo Trucks Asia Pacific Fuelwatch Championship 2013 for the on-road category.



The off-road competition.

finals having won their respective national Fuelwatch competitions.

Mr Morice delivered the most fuel-efficient rounds on the 5.8 km on-road course, driving with the new Volvo FH16 6x4 – he achieved an impressive 34 percent less in fuel consumption as compared to the last-placed driver. On the off-road site, Mr Park saved the most fuel on the 4.2 km circuit of rough terrain, operating the Volvo FMX 8x4.

As fuel efficiency is important to customers' businesses, Fuelwatch aims to help customers understand the vital role drivers play in maximising performance at minimal costs. With proper training that maximises both efficiency and safety, drivers can adopt the right driving habits to lower fuel consumption of a truck by up to 30 percent and help save costs. ■



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Better accident reporting boosts data

The industry is reporting more accidents through IPAF's voluntary programme. This reveals that there were 53 fatalities worldwide in 2013 involving mobile elevating work platforms (MEWPs), according to preliminary results from IPAF's accident database. The main causes of these fatalities were: overturn (16), fall from height (13), entrapment (10), electrocution (7), impact with MEWP (4) and falling object (2). In one case, the cause of the fatality was not known.

Almost half of the number of reported fatalities (26 or 49 percent) involved mobile booms. Fourteen fatalities (26 percent) involved mobile verticals and 11 (21 percent) involved static booms. In two cases (4 percent), the type of machine involved was not known.

Thirty (57 percent) of the fatalities occurred in the US, home of 54 percent of the world's rental fleet. Three fatalities each were reported in Germany, Spain and the UK, two fatalities each in Belgium, Canada, France and the Netherlands, and one each in Armenia, Australia, Ireland, Malaysia, Norway and in the Middle East.

IPAF's accident reporting project was launched in January 2012 and has filled a gap where there was previously no single mechanism for reporting and analysing serious accidents involving MEWPs/AWPs and no definitive data on the number and main causes of fatal accidents. In the first year of the project, 32 fatalities worldwide involving MEWPs/AWPs were reported.

IPAF technical officer Chris Wraith stressed that the accident project is still in an early stage and cautioned against direct comparisons in its second year. "It will be at least 2016-2017 before any realistic year-on-year comparison on the frequency of accidents can be of value," he said. "The comparative figures presented are for information only and do not in any way suggest an increase in the number of MEWP-related fatalities from 2012 to 2013. They are more an indication that the awareness and success of the project is growing. Powered access is probably the safest way of performing temporary work at height." ■

IPAF training centres close gap on half a million valid PAL Cards

A total of 127,365 people were trained by IPAF-approved training centres in 2013. This is an increase of 12.8 percent over the 112,887 people trained in 2012. Training available from IPAF-approved centres includes operator courses for which a PAL Card (Powered Access Licence) is issued, and harness and management courses for which a certificate is issued.

IPAF issued a record 121,744 PAL Cards worldwide through its approved training centres in 2013, an increase of 12.7 percent



over the 108,065 PAL Cards issued in 2012.

A valid PAL Card is proof that the cardholder has been trained to operate powered access equipment safely and effectively. PAL Cards can be issued in standard or Smart PAL Card (machine-readable) versions. They are valid for five years and can be verified online at www.ipaf.org. IPAF's PAL Card

operator training programme is certified by TÜV as conforming to ISO 18878. At the end of 2013, IPAF had 1,037 members and 615 training centres worldwide.

"We anticipate that we will hit the mark of half a million valid PAL Cards sometime this year," said IPAF CEO Tim Whiteman. "Projects recently launched, such as the global rollout of management courses, the introduction of PAL+ advanced operator training and the eLearning module, promise exciting times for IPAF and the industry." ■

Lift Safety Zone at ConExpo-Con/Agg 2014

IPAF will feature a dynamic display at the Lift Safety Zone in the Gold Lot #1817 at the ConExpo-Con/Agg show from 4 to 8 March 2014 in Las Vegas, Nevada, USA.

The live demo will promote the safe and effective use of aerial work platforms (AWPs) when carrying out temporary work at height near to power lines. This draws on data from IPAF's accident reporting project, which indicates that electrocutions are the single largest cause of fatalities to AWP operators in the US.

IPAF is sharing the 8,000 sq ft Lift Safety Zone with the National Commission for the Certification of Crane Operators (NCCCO). Experts from both organisations will be present to provide advice on the safe use of AWPs and cranes, with the help of live machine demonstrations.

IPAF staff will be on hand to answer questions about the operator eLearning module and the AWPs for Managers training course, and to provide a full range of technical guidance, videos, stickers, posters and educational tools.

IPAF is also holding a series of meetings during the show, including the IPAF Manufacturers' Technical Committee Meeting on 7 March 2014 at 10 am. ■

MEWP safety at BICES

IPAF highlighted the safe and productive use of MEWPs at the BICES exhibition in Beijing, China in the last quarter of 2013. The Federation ran 'show and tell' demonstrations of how MEWPs can make work at height safe and productive, and featured its Chinese language videos on various aspects of MEWP safety.

"We all enjoyed the demo given by Raymond Wat (regional manager, IPAF South East Asia) and his team, which we think is one of the highlights at BICES 2013," said Su Zimeng, secretary-general of the China Construction Machinery Association (CCMA) and general manager of BAICE (organiser of BICES). ■



Mr Su, secretary-general of the CCMA (left) congratulates IPAF CEO Tim Whiteman on the educational demos given at the IPAF stand.

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Skyjack now offers two secondary guarding systems

Skyjack is believed to be the first manufacturer that offers two distinct options in secondary guarding (additional protective measures taken following a job-specific risk assessment, to reduce the potential for sustained inadvertent operation in the event of collision with an external object). The company has introduced the SG-M and SG-E secondary guarding mechanisms. This allows the equipment user to select, following a job specific risk assessment, the most appropriate solution for any particular need.

According to Skyjack, industry groups have recently suggested the possibility of certain circumstances, conditions and operations that might result in inadvertent contact with obstructions and a consequent unintended operation of the controls. A form of 'secondary guarding' is, therefore, now specified by some equipment users.

Skyjack's SG-M and SG-E systems have been driven by market demand and the company worked particularly closely with one of the UK's largest equipment providers (and a major Skyjack customer) Select Plant Hire.

The Skyjack SG-M system features a low-weight protective steel structure that is designed to reduce the possibility of the operator being held against the controls in the event of unintended contact with an obstruction.

The Skyjack SG-E system features a sensor bar that, when pushed, instantly stops all functions and initiates an audible siren and high intensity flashing beacon. If the bar is released within one second, the siren and beacon will cease, and the selected function will return. If pressure is applied for more than one second, the siren and beacon will continue to activate and the engine will stop, halting



Skyjack now offers the SG-M and SG-E secondary guarding mechanisms.

all functions until reset. The applicable emergency controls can still be operated to bring the platform down to ground safely. If the system is accidentally activated by the operator, it can be easily reset using the illuminated push button on the control box.

Both the SG-E and SG-M can be fitted on new Skyjack booms or retrofitted to models manufactured in 2006 and after. They can be factory fitted or alternatively supplied as a kit. Once fitted, neither system impairs operator visibility, mobility on the platform or access to the work area. Both require minimum maintenance. ■

Atlas Copco introduces new 1 MW generator

The new QAC flx from Atlas Copco is a containerised generator with large power nodes and a standard cooling system. The new generator comes in three model variants. The QAC 1000 flx and QAC 1250 flx have been developed for the international market (excluding Japan). The QAC 1000 flx is driven by a Cummins QST30G5 engine to meet the European Stage 2 emission standards.

The third variant, the 60Hz QAC 1200 flx, which made its debut at Power-Gen International 2013 in Orlando (USA) has been custom-designed to US and Canadian specifications. This includes compliance with the EPA Tier 2 emission standards.

The new models have been engineered for 500-hour service intervals, thus requiring less maintenance. A spill-proof frame offers complete compliance with environmental regulations, and the low noise level (85 dBA at 1 m) is ideal for sound-sensitive applications. Furthermore, the three model variants are containerised (20 ft) for ease of transport.

One option available is the Qc4002 controller. This controller enables a user to create a Power Management System (PMS). This simple method to parallel two or more generator sets provides flexible power solutions for loads that exceed the output capability of a single generator set. It can also be used to provide continuous power, allowing individual generator sets to be shut down for scheduled maintenance or repair without complete plant shutdown.

Additional options include earth leakage relay, battery charger, coolant heater, alternator heater, external fuel supply three-way valves with quick connections, automatic fuel transfer system, engine lube oil make up system, cold weather package and air shutdown valve.



The new QAC flx generator from Atlas Copco, available in three model variants, can be customised to suit a wide variety of situations such as high altitudes or extreme weather conditions.

The QAC 1000 flx, QAC 1200 flx and QAC 1250 flx are designed to deliver predictable power and a low total cost of ownership (TCO) through reliable performance and risk-free operation. Their flexibility and reliability make them ideal for either prime power or critical standby power in the rental, mining, oil and gas, industrial and construction industries. ■

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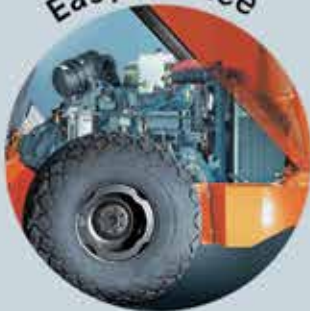
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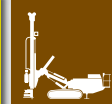






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As well as minimising downtime associated with failure of less durable compact designs, the WCR4000 series enhances efficiency and minimises fatigue and delay by easily and safely accessing tight spaces, including particularly API flanges commonly used in surface drilling and production pipelines and plant.

Available with a wide range of ring type spanners, the WCR enhances safety by incorporating a Safe Fail Link design incorporating a 'mechanical fuse' inside the cassette, which safeguards against spanner fragmentation and associated injury hazards occurring outside the cassette with other designs. Enerpac said this is a safety feature not found in other roller cassettes.

Increased simplicity is achieved by the WCR4000 being powered by Enerpac's standard W4000 drive unit, which allows the many customers who already use Enerpac low-profile tools to also use their existing W4000 drives on the new WCR4000. The drive unit for the WCR4000 range is compatible with widely used Enerpac standard W series hexagonal cassettes. The WCR4000 range joins Enerpac's wide range of non-impact professional bolting and joint technologies, including the W low profile hexagonal wrenches, S square drive wrenches, Z series torque wrench pumps and complementary technology such as the new ATM series flange alignment tools that rectify twists and rotational flange misalignment quickly and safely.

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Enerpac's new slim WCR4000 torque wrenches offer excellent power, durability, accessibility and safety.



The Safe Fail Link spanner design includes a mechanical fuse inside the cassette (left) providing safer bolting for operators and nearby workers. Its slim ring style profile (right) provides the ultimate mixture of versatility and durability, with AF sizes from 36 to 80 mm.



The slim spanner design resolves bolt-to-pipe restrictions and reduces bolt height restrictions, providing functionality on nearly any API flange.

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Sandvik introduces VSI 200 series to Indian market

Sandvik Construction recently launched its VSI 200 series to the Indian market. The VSI series is a range of vertical shaft impact crushers that has a direct application in the manufacture of artificial sand. According to Sandvik, with several countries introducing restrictions and total bans on the extraction of natural sand, the demand for artificial sand manufacturing holds huge potential.

Sandvik Construction has also introduced its 24X7 initiative, a programme designed to deliver real benefits and tangible results as part of the company's continued aftermarket development. This is geared towards enhancing customer productivity through providing the aftermarket care customers really need based on the cornerstones of availability, dependability, affordability and flexibility. ■

Enquiry: satu.ramo@sandvik.com



The Sandvik VSI 200 series.

Sandvik's new S type gyratory cone crushers

Sandvik's new S type gyratory cone crusher range was recently launched in Northern Ireland. The two models that marked the launch of the new mobile range comprise the larger 56 t QS441 unit, which features the CS440 cone, and the smaller, more compact 36 t QS331, which incorporates the CS430 cone crusher.

The Sandvik S type gyratory cone crusher has proven itself in stationary applications for over 30 years, becoming one of the most reliable, versatile and productive cone crushers on the market today. This proven piece of technology has now been incorporated into self-contained, diesel driven, track-mounted plant, offering customers excellent performance and high product quality in a fully mobile version.

The launch event of the new mobile S type gyratory cone crusher range was attended by customers, members of the press and Sandvik stakeholders from around the world. Both the QS441 and QS331 were also demonstrated at a local quarry. ■

Enquiry: satu.ramo@sandvik.com



Above right and right: Sandvik's new S type gyratory cone crushers, the QS441 and QS331, were recently launched in Northern Ireland. The machines were also demonstrated at a local quarry.

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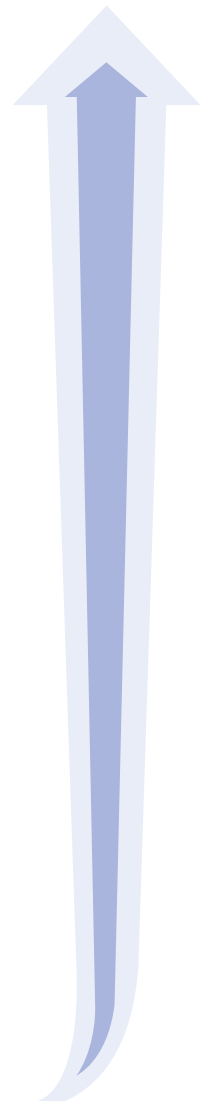


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Terex TL120 wheel loader gets smarter

Terex's TL120 wheel loader comes with far more than just a more powerful EU Stage IIIB engine; it has a new Terex Smart Control operating system, a quieter cab offering a better view for the operator and a new intuitive cooling system.

At 74.4 kW the cleaner EU Stage IIIB engine provides the 7.1 t operating weight TL120 with approximately 16 percent more power than its predecessor. Exhaust emissions from the Deutz engine are up to 90 percent lower than the Stage IIIA machine.

Further efficiency gains come from the new operating concept, which makes it much easier for the operator to configure the machine precisely to the application. By mimicking the menu guides seen on smart phones, operating the Terex Smart Control is very intuitive.

Within the cab a new dashboard display provides a better at-a-glance of machine operation information, while the multi-function joystick comes with an electro-proportional control circuit and a slow/fast key for precise handling. The keypad has extra-large keys for easy operation and all the fuses and relays are now mounted inside the cab for additional protection.

Noise levels in the two-door cab have been cut from an already creditable 76 dB(A) to a whisper quiet 71 dB(A). The lock switch for the Quick-Attach system is mounted by the steering column and the TL120 provides the operator with an excellent view of the attachment coupling process.

A new engine cooling system uses a hydraulically operated and temperature-controlled fan, which starts automatically when required to help reduce fuel consumption. A reverse function is available for machines working in dusty environments. The combination of the new cooling package and the revised rear hood cuts exterior noise levels from 102 dB(A) to 99 dB(A) – effectively reducing noise pollution.

Other changes include a three-part counterweight, which provides easier service access to the engine, the battery isolator is now adjacent to the cab, and beneath the redesigned engine hood are new jump start terminals. A revised steering system reduces the effort needed to turn the wheel while retaining the 4,640 mm turning radius.

Other features carried over from the previous model are the 1.2 to 1.8 cu m bucket capacity, parallel kinematics, self-locking differentials and an oscillating rear axle. ■

Enquiry: construction@terex.com



Top and above: Terex's TL120 wheel loader comes with far more than just a more powerful EU Stage IIIB engine; it has a new Terex Smart Control operating system, a quieter cab offering a better view for the operator and a new intuitive cooling system.



Far left: The steering wheel.

Left: The multi-function joystick comes with an electro-proportional control circuit and a slow/fast key for precise handling.



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Rammax 1575 CI articulated trench roller

The Rammax 1575 CI articulated trench roller from Ammann has set new standards in terms of safety, technology and emissions. The machine is powered by a Yanmar water-cooled diesel engine that features low noise generation and low fuel consumption, and is fully compliant with the latest emission standards. The pendulum function of the articulated joint enables the machine to adapt to the substrate and ensures outstanding compaction results in various applications, including trench and pipeline construction; backfilling for bridges and other structures; trench filling; development areas; embankment and landfill construction; base construction for roads and rail tracks; and confined work spaces.

Four powerful hydraulic engines are behind the excellent traction and compaction results achieved by the Rammax 1575 CI. Two hydraulic steering cylinders guarantee dynamic handling and great manoeuvrability, even in the most confined spaces.

The fully automatic engine control reduces the engine speed automatically when the machine is at standstill. The engine speed is increased to working speed within a fraction of a second as soon as a control is operated. This feature significantly helps to reduce the fuel consumption of the Yanmar water-cooled diesel engine.

The maintenance-free articulated pendulum joint is unique in this class: it ensures that all four drums remain in permanent contact with the substrate for ideal traction and compaction; in conjunction with the low centre of gravity, it also increases stability against tipping. The articulated steering of the 1575 CI is equipped with

sliding Teflon bearings – it is not necessary to lubricate the bearings with a grease gun at any time during the machine's working life, thus reducing maintenance costs and downtimes for servicing. Daily maintenance points are readily accessible whilst a spacious engine room opening provides easy access to the hydraulic and electrical systems and other service points.

The infrared technology results in a high degree of safety for both the user and the machine. In contrast to radio-controlled systems, visual contact with the machine is required at all times. This method completely averts the otherwise significant risk of injury and accidental damage. Solar cells integrated in the remote control ensure the machine is always ready for operation. Twilight is sufficient for charging; even working in complete darkness is possible, thanks to an accumulator integrated as standard that is also charged by the solar cells. Troublesome battery charging is a thing of the past. ■

Enquiry: info.aid@ammann-group.com



The Rammax 1575 CI trench roller enables sensitive steering by remote control, even alongside kerbstones.



Rammax 1575 CI with articulated pendulum steering for excellent traction and powerful compaction.



Infrared and cable remote control are standard features on the Rammax 1575 CI.

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Lanxess' premium black pigments for colouration of concrete

Specialty chemicals company Lanxess, one of the leading manufacturers of synthetic iron oxide pigments, has expanded its portfolio of black pigments for the colouration of concrete. The new powder grade Bayferrox TP LXS 5253 and Bayferrox TP LXS 5255 granules bridge the gap between the standard black grades from Lanxess and the premium pigments Bayferrox 360 and Bayferrox 365 GP. They are of particular interest wherever long-lasting black with an intense blue undertone is desired.

When Lanxess introduced the powder pigment Bayferrox 360 in 2007, it enabled the construction materials industry for the first time ever to produce a concrete with a deep black colouration featuring long-lasting weather stability. This was followed in 2008 by the market launch of Bayferrox 365 GP premium granules, which enable even more brilliant blacks.

As with the Bayferrox black pigments available previously, the new Bayferrox TP LXS 5253 powder pigment can be used in all construction material colouration applications. Because it has a higher tinting strength and a significantly stronger blue undertone, it produces a distinctive shade that sets it apart from standard iron oxides. Besides the elegant shade and high tinting strength, it also offers all the concrete-related benefits of the Bayferrox line. The pigment is certified to meet all requirements of the European standard DIN EN 12878. The low content of water-soluble salts makes the product ideally suited for use in reinforced concrete.

The Bayferrox TP LXS 5255 is a free-flowing, low-dusting iron oxide black. Supplied as granules, it offers customers optimal



All images © Lanxess AG

Lanxess has expanded its portfolio of black pigments for the colouration of concrete. The new powder grade Bayferrox TP LXS 5253 and Bayferrox TP LXS 5255 granules are of particular interest wherever long-lasting black with an intense blue undertone is desired.



Saturation series for black iron oxide pigments iron oxide 1, iron oxide 2 and Bayferrox TP LXS 5253 (from bottom to top) with 1-percent graduation from left (1 percent) to right (10 percent). The blocks were made with white cement.



Saturation series for granular black iron oxide pigments (from bottom to top) iron oxide 3, iron oxide 4, Bayferrox TP LXS 5255 in 1-percent graduation from left (1 percent) to right (10 percent). The blocks were made with white cement.



Concrete pavers coloured with Bayferrox iron oxides show their true colours for a very long time. The choice of the pigment is of crucial importance for the quality of final product. Years of observing coloured concrete products exposed to different climatic conditions in various locations have shown that weather-resistant inorganic oxide pigments from Lanxess offer excellent fastness properties.

processing properties. The product's properties have been specially tailored for the colouration of construction materials, making it suitable for use in many construction materials colouration applications. Bayferrox TP LXS 5255 is also characterised by its special shade. It has a much higher tinting strength and a significantly stronger blue undertone than conventional iron oxide black granules.

Bayferrox iron oxide pigments from Lanxess are well known throughout the world. The majority of the inorganic colour pigments produced worldwide are used for the fabrication of concrete goods such as paving stones, roofing tiles and sidewalk slabs. But even the manufacturers of precast concrete and ready-mix concrete are increasingly using inorganic pigments to colour the versatile and economical construction material. The ecologically safe products are extremely weather-stable, extremely well fixed in the construction material, cement-resistant and economical. They are also available in a wide range of colours and supply forms. ■



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FAV 30-400 hydraulic vibro hammer

The FAV 30-400 hydraulic vibro hammer from Foundation Associates Engineering Pte Ltd (FAE) has an improved eccentric moment of 30 kgm with a greater centrifugal force of 1,069 kN. It has a frequency of 1,800 vpm, amplitude (free hanging) of 19 mm and maximum line pull for extracting is 400 kN. It features a height (without clamp) of 2,010 mm, length (including hose cote) of 2,550 mm and width of 330 mm. Total weight (no clamps and hoses) is 4,300 kg.

FAE's hydraulic vibratory hammers are coupled with FAV hydraulic powerpacks that have also been designed with many improvements. They are fitted with Rexroth hydraulic pumps and solenoids as standard. Concealed exhaust silencer and container blocks at eight corners enable stacking of powerpacks; container blocks also double up as lifting eyes.

The powerpacks feature stainless less steel latches and hinges for durability and weather resistance. There is a digital pressure reading at remote control pendant for easy observation during operation, as well as a 'self-cool' button. The oversized collars are to cater for hot climates and difficult working conditions. The noise reduction structural frames and panels are intended for sound proofing effects.

The powerpacks also have segregated internal sediment tank for filtering of foreign particles in the hydraulic tank. External inspections allocations are incorporated at fuel and hydraulic tank for ease of maintenance. What's more, all parts including hydraulic pumps and motors are easily available in the market. ■

Enquiry: fnapl@singnet.com.sg

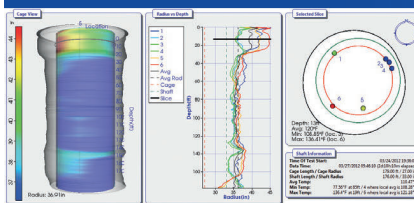


Above and below: The FAV 30-400 hydraulic vibro hammer from Foundation Associates Engineering has an improved eccentric moment of 30 kgm with a greater centrifugal force of 1,069 kN.



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Husqvarna's DM 650 electric low weight drill motor

Husqvarna's DM 650 drill motor features a new kind of electric high frequency motor. Together with the corresponding Husqvarna PP 65 power pack, the DM 650 is powerful and easy to operate. Thanks to the significantly low weight and easy setup, it is suitable for most drilling applications.

The powerful electric drill motor, equipped with a new generation of high frequency technology, has a high output and can be operated using both three-phase and one-phase power. It delivers 6 kW on the spindle using three-phase and 3 kW using one-phase power and weighs only 16 kg, which gives it an excellent power-to-weight-ratio. With the torque boost, speed can be reduced in order to increase drilling torque when encountering steel reinforced substrates.

The DM 650 is ideal for all core drilling, from 100 to 600 mm diameters. The 18-step adjustable rpm range ensures optimal speed for all drill bit dimensions. The drill motor, recommended to be used with the corresponding Husqvarna DS 450 stand, performs effectively when operating on reinforced concrete, brick and other building materials. It is well suited for heavy-duty applications like water evacuation, ventilation and plumbing channels and gas supply pipes.

In addition, the DM 650 has advanced electronic overload protection, Elgard. The system makes drilling at maximum pressure possible, without risk of overloading the machine. The DM 650 also features LED load indicators, which guide the operator to attain optimal performance. The DM 650 runs with the separate PP 65 power pack, which is also compatible with the electric K 6500 power cutter. It is a versatile and air-cooled electric power unit, suitable for surroundings where minimum water usage is required. The digital menu and display makes it easy for the operator to keep control of usage and to plan for service and maintenance. Keeping the power pack detached from the drill motor keeps it less exposed to dirt and vibrations, ultimately resulting in longer product life. ■

Enquiry: sales.asia@husqvarna.cn

Right: The DM 650 drill motor is well suited for heavy-duty applications such as water evacuation, ventilation and plumbing channels and gas supply pipes.



Above: The powerful DM 650 drill motor delivers 6 kW on the spindle using three-phase and 3 kW using one-phase power.



The DM 650 is ideal for all core drilling, from 100 to 600 mm diameters.









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Doosan Portable Power offers various diesel generator models for rental, construction and specialty applications. They include G90WCU-1E-T1, with a prime power rating at 90 kVA; G125WCU-1E-T2, with a prime power rating at 125 kVA; G200WCU-1E-T1, with a prime power rating at 200 kVA; and G315WCU-1E-T2, with a prime power rating at 315 kVA.

The generators are targeted to meet the diverse market needs within the Asia Pacific, Middle East and Africa regions where rapid growth in mining, oil and gas exploration, and construction is driving the need for rugged and reliable portable power solutions. They have been designed with several important features including noise reduction, safety, ease of operation and easy access to frequent maintenance points.

The generators feature Tier 1 and Tier 2 Cummins turbocharged engines and Leroy-Somer alternators. The rugged enclosure design suppresses generator noise, making these generators ideal for special events, urban construction and other applications that require low noise levels. These noise



The model G315.

attenuation features reduce sound levels significantly to ensure quiet operation, while the innovative air-intake design helps repel debris; keeping dirt from entering the generator in extreme environments and ensuring performance even in high ambient temperatures.

In addition, all of the generators feature an external emergency stop button, allowing the operator to cease generator operation instantly if necessary. They are also equipped with fuel tanks designed for at least 12-hour runtime, ensuring full shift operation before refuelling. ■

Hitachi ZX1000K



Hitachi Construction Machinery Malaysia in Singapore has recently delivered the first unit of its new, highest demolition machine in Southeast Asia and Oceania, the ZX1000K-3 (114 t). The machine (above) incorporates many safety features and has a maximum reach of 40 m. ■

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Volvo helps speed up demolition project in India

The old Pakuria Bridge in Jharkhand, India, ran over a dry riverbed and railway line situated 20 km from Kolkata. Now obsolete, the bridge has been brought to the ground in 60 days using Volvo construction equipment.

West Bengal in eastern India is the nation's fourth most populous region. The state is bordered by Nepal, Bhutan, Bangladesh, and five other states of India with more than 91 million inhabitants spread over 34,267 sq m. So many inhabitants has inevitably resulted in heavy traffic surrounding the state capital, Kolkata – so much so that the Indian government is trying to demolish old structures and invest in modern infrastructure to ease congestion.

The Dhankuni-Kharagpur highway is about 23 km from Kolkata, and runs for 80 miles – terminating at the fast-growing industrial town, Dhankuni. Since demolition work began on the 1 km stretch of bridge, 30 out of the 32 sections – each spanning 26 m – have been demolished and disposed of. It took just two months to take down and clear away the remnants. Mumbai-based Matte & Associates – a construction and demolition company – and Volvo Construction Equipment (Volvo CE) is responsible for the bridge's quick demise.

Matte & Associates's demolition squad includes four heavy-duty Volvo CE excavators - an EC210 B-Series, EC210 B-Prime, EC290 B-Series and EC290B-Prime. They have been hard at work for nearly five years, demolishing bridges, multi-storied buildings, roads and other structures across the country.

Volvo CE's EC210 and EC290 C-Series excavators are set to thrive in India's popular 21 and 30 t excavator market. The C-series offers more powerful Tier III compliant Volvo engines, delivering exemplary fuel efficiency. These machines produce high power (110 kW in the EC210C, 153 kW in the EC290C), and the engines work in harmony with intelligent, advanced hydraulics and a more rugged undercarriage and superstructure. Also, the operator's environment, already class-leading with the B-series, has been substantially upgraded with a new cab, giving operators more comfort, more space, better climate, better visibility and improved controls that are easier to use.

According to Matte & Associates, the company has placed an order for another Volvo EC290 B-Series excavator. Matte & Associates has a maintenance plan with Volvo CE dealer Svenska Technologies Pvt Ltd, which takes care of its servicing issues. ■



Above and bottom: The Volvo EC290B excavator demolishes the concrete.



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HOBAS CC-GRP jacking pipes make debut in Dubai

The Nad Al Sheba 4 Sewage & Drainage project was initiated to provide Nad Al Sheba 4 across the Emirates Road to Dubai Academic City and parts of the Dubai Silicon Oasis area with an upstream GRP drainage trunk, large enough to accommodate the current and anticipated flow until 2030. In order to avoid traffic disruptions on the heavily frequented 6 to 16-lane Emirates Road and adjacent service roads, it was decided to opt for trenchless installation. One of these microtunnelled sections was realised with HOBAS CC-GRP pipes.

Along with massive infrastructural developments on the Arabian Peninsula, particularly the United Arab Emirates (UAE), Qatar, and Saudi Arabia see a strong tendency to employing non-disruptive trenchless techniques such as pipe jacking when planned pipe routes intersect with busy highways or streets.

The installation of HOBAS CC-GRP jacking pipes was believed to be a first for Dubai. The small outside to inside diameter ratio of the pipe (60 mm wall thickness in this project) allowed the use of an AVN1200 (D_e 1,505 mm) instead of AVN1400 (D_e 1,740 mm) microtunnelling machine and besides reduced the excavation material by 26 percent in this project. Due to the easy handling of the CC-GRP jacking pipes and their push-to-fit jointing system, the microtunnelling experts only needed a couple of pipes to become familiar with the HOBAS system.

The drive depth of the 3-m-long pipes D_e 1,499 mm in diameter and a stiffness of SN 64000 lay around 8.6 m through hard rock and 3.9 m water table. Thanks to the products' smooth almost non-absorbing exterior, light weight, and uniform diameter, microtunnelling specialist Al Naboodah jacked the complete CC-GRP jacking section at an average installation speed of 40-50 mm per minute.

The subcontractor was also pleased with the extremely low necessary drive forces of approximately 490 kN equalling about 50 t for the pipes, which were designed for a maximal allowable jacking force of 4,822 kN. Even after a five-day break the so-called cold start did not necessitate an increase in force. ■

Enquiry: hobas.uae@hobas.com



Top and above: The HOBAS CC-GRP jacking pipes have played an important role in the The Nad Al Sheba 4 Sewage & Drainage project.

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XCMG helps to complete projects around the world

The 2014 Summer Youth Olympic Games (YOG), a major international sports and cultural festival, will take place in August in Nanjing City, China. Construction of the YOG Village is currently in full swing.

The YOG Village is being built with the help of XCMG wheeled cranes. According to XCMG, the machines have faced of a great number of challenges like enormous construction volume, constant high-temperature days and high technical difficulty. When completed, the YOG Village will have a floor space of 154,500 sq m and consists of living zone, square zone and operating zone.

In addition, XCMG has been involved in the excavation and earthmoving work on the Siwera Sewage Treatment Plant Project, about 40 km southeast of Baghdad, Iraq. It is believed to be CGGC's first engineering project in the country. While in Brazil, XCMG's BR70E truck crane has successfully completed a lifting project. The BR70E is specifically developed for the Brazilian market.

Furthermore, XCMG's TT900 beam lifting machines, TJ900 erecting machines and TY900 girder vehicle have successfully helped to lay the first box girder for the inter-city railway between Qingdao city and Rongcheng city in China. The Qing-Rong inter-city railway is a high-speed railway under construction on the Shandong Peninsula connecting Qingdao city and Rongcheng. It is one of the railways in Shandong's four cross rail system. ■

Enquiry: export@xcmg.com

Top right: XCMG cranes being used to build the Summer Youth Olympic Games Village in Nanjing.

Right: XCMG's BR70E truck crane has successfully completed a lifting work in Brazil.



An XCMG wheel loader working on the Siwera Sewage Treatment Plant Project in Iraq.



XCMG equipment helping to lay the first box girder for the inter-city railway between Qingdao city and Rongcheng city.

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Singapore construction prospects 2014

By Lo Yen Lee
 Director, Economics Research Department
 Building and Construction Authority

REVIEW OF LOCAL CONSTRUCTION DEMAND IN 2013

Total construction demand² in 2013 rebounded by about 17 percent to a preliminary estimate of \$35.8 billion, exceeding the upper bound of BCA's demand forecast of \$28-\$34 billion by S\$1.8 billion (Chart 1). The overall public sector construction demand at \$14.8 billion was within the range of BCA's projected \$13-\$15.5 billion, supported by strong public housing projects as well as the Thomson MRT Line construction. On the other hand, the private sector construction demand continued to stay firm for the fourth consecutive year and reached \$21 billion in 2013, exceeding BCA's upper bound demand forecast of \$18.5 billion for the private sector. Demand for private construction works continued to be fuelled by the robust residential construction demand as well as various large-scale mixed developments in town area.

Public Sector

Total public sector construction demand increased from \$9.5 billion in 2012 to \$14.8 billion in 2013, underpinned by the ramp-up of public housing developments and a significant increase in civil engineering construction demand backed by the award of various major Thomson MRT Line contracts.

Fuelled by the government's measure to ramp-up public housing supply, the total value of public residential contracts awarded in 2013 rebounded to \$6.6 billion. Given that the construction contracts for a number of major healthcare facilities are scheduled for award in 2014, institutional building construction demand moderated from the preceding year's record high of \$3.7 to \$2.5 billion in 2013. Notable institutional developments awarded for construction in 2013 included the Interpol Global Complex and piling works for the Sengkang General and Community Hospital.

Following a slowdown in 2012 to \$2.1 billion while preparations took place for the next roll-out of major rail and road construction contracts, total civil engineering construction demand rebounded and reached \$5.3 billion in 2013. The strong growth was largely driven by the award of Thomson MRT Line contracts during the second half of 2013 and also projects to continue to enhance and expand Singapore's road network.

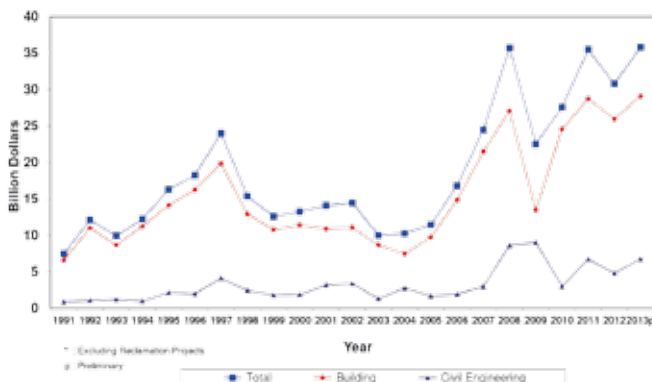


Chart 1: Construction demand (contracts awarded), 1991-2013

Private Sector

Construction demand from the private sector remained exceptionally strong and reached \$21 billion in 2013, fuelled by the robust property market in recent years. Total private residential building construction demand rose 17 percent year-on-year to a record high of about \$10 billion, as construction works commenced for many of the residential projects that were launched before market sentiments starting to soften since the second half of 2013.

Commercial building construction demand rose about 35 percent year-on-year to \$3.9 billion, as investors continued their asset enhancement initiatives or new office developments amid positive prospects of improving capital values and occupancy rates. Although the industrial building construction demand shrank by about 24 percent year-on-year to \$4.6 billion in 2013, it was still a significantly strong level with support stemming from a few sizeable engineering, procurement and construction (EPC) projects for petrochemical plants. Civil engineering construction demand in 2013 fell from the high base in 2012 but was still higher than historical values, supported by construction of major utilities and berth facilities.

CONSTRUCTION DEMAND OUTLOOK IN 2014

Based on BCA's latest Development Plans Survey conducted in Oct/Nov 2013 and factoring in the likely tender price movement coupled with recent market developments, BCA forecasts that total construction demand³ in 2014 is likely to be between \$31 and \$38 billion. The mid-point of 2014 construction demand forecast (at \$34.5 billion) still reflects a continued strong and sustained level of workload (Chart 2).

The public sector demand is expected to register further expansion to between \$19 and \$22 billion, contributing close to 60 percent of the industry demand. The boost to the overall demand is likely to come from the stronger institutional and civil engineering construction works.

By contrast, construction demand from the private sector is projected to soften to between \$12 and \$16 billion in 2014, weighed down by anticipated reduction in residential construction demand amid the subdued property market sentiments since the second half of 2013 as a result of various market cooling measures implemented by the government.

Residential Construction Demand

Public Housing

Following a strong rebound to \$6.6 billion in 2013, total public housing construction demand is projected to moderate to between \$5.2 and \$5.5 billion as HDB's housing market is showing signs of restoring its demand and supply balance. About 75 percent of the public housing construction is likely to continue to be contributed by building of new HDB flats to meet the residents' housing demand.

Continued on page 62...



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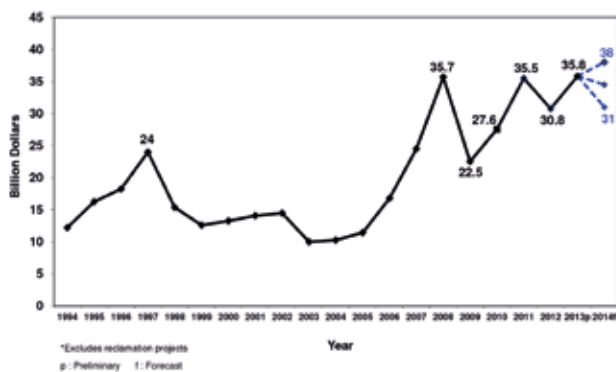


Chart 2: Construction demand (contracts awarded), 1994-2014

Besides, construction contracts from Home Improvement Programme as well as Neighbourhood Renewal Programme (NRP) are anticipated to collectively contribute about \$900 million to improve and rejuvenate the living environment at various HDB precincts.

Private Housing

The exceptional strong private residential construction demand at about \$9 billion per year over the past four years is projected to soften to between \$3.7 and \$5.2 billion in 2014. The less favourable outlook is in view of the current market volatility amid the government’s multi-pronged approaches to stabilise the market, the substantial supply of completed housing units coming on-stream over the next few years as well as the scaling back of new government land sales for the first half of 2014. Some of the major upcoming projects include City Development’s The Biltmore at Orchard Boulevard, Wheelock Properties’ The Panorama at Ang Mo Kio Avenue 2 and Tripartite Developers’ condominium development at Flora Drive.

Commercial Construction Demand

Given the significant increase in completed commercial space and hotel rooms as well as substantial pipeline supply from on-going projects, total commercial construction demand is projected to reduce from \$4 billion in 2013 to between \$2.5 and \$3.2 billion in 2014. Nevertheless, a number of notable projects have been earmarked for construction, including the Changi Airport Group and CapitaMalls Asia’s Project Jewel at Changi Airport, Sim Lian’s office tower at Jurong East, Oxley Holdings’ redevelopment of The Pines Club into a hotel and commercial development at Stevens Road and Laguna Hotel Holdings’ resort hotel development at Laguna Golf Green.

Industrial Construction Demand

In view of the growing optimism about the economic recovery in the developed markets, total industrial construction demand is projected to continue to hold up in 2014 to between \$4.3 and \$6.2 billion. The level of public sector industrial construction demand is projected to be higher compared to the preceding year, led by the addition of the fourth liquefied natural gas (LNG) storage tank, the building of the very large floating structures (VLFS) for oil storage and construction of the Food Hub at Senoko. Solid support is also expected to continue to come from the private sector. Similar to recent few years, developments with sophisticated specifications at various business parks and industrial developments at Jurong Island are expected to remain as the mainstay in the private sector industrial landscape. Some of the key projects likely to commence construction in 2014 include BS Capital’s industrial development at

Kranji Road and phase II development of Mapletree Business City located at Pasir Panjang Road and a multi-use industrial facility at Paya Lebar iPark by Mapletree Investments.

Institutional & Other Building Construction Demand

Total institutional and other building construction demand is projected to surge from \$3.6 billion in 2013 to between \$6.4 and \$7.6 billion in 2014, with slightly more than 70 percent of these to be contributed by the public sector. The public sector institutional and other building construction demand in 2014 is likely to be dominated by various sizeable healthcare developments such as the Sengkang General and Community Hospital and National Centre for Infectious Disease, recreational facilities like Tampines Town Hub, campus expansion of various Institutes of Higher Learning (IHLs) and MOE’s school development and upgrading programme. Similarly, the private sector institutional and other building construction demand is expected to increase in 2014, bolstered by Changi Airport Group’s plan to develop Changi Airport Terminal 4 to cater to the continued growth of air traffic and further strengthen Singapore’s air hub status.

Civil Engineering Construction Demand

Total civil engineering construction demand is anticipated to continue to gain momentum and go up to between \$8.9 and \$10.3 billion in 2014. Fuelling the strong demand for civil engineering works will continue to be major public sector projects, notably, the remaining construction contracts for Thomson MRT Line, and other major infrastructure works for roads and sewerage and drainage such as expansion of KPE/TPE Interchange, reconstruction of Newton Flyover, construction of Stamford Diversion Canal and earthworks at Gali Batu. Private civil engineering construction demand is anticipated to stabilise and sustain at historical annual level, supported by various port/berth facilities and utilities works.

PUBLIC SECTOR CONSTRUCTION CONSULTANCY AND CONSTRUCTION TENDERS IN 2014

Based on the preliminary data provided by the public sector agencies, a total of 282 construction consultancy tenders and 333 construction tenders are expected to be called in 2014.

Construction Consultancy Tenders

Of the 282 public sector construction consultancy tenders expected to be called in 2014, about 90 percent are likely to come from building projects. The bulk of the building consultancy tenders will comprise new HDB flat construction, community centre upgrading, campus upgrading for IHLs and retrofitting works for various public facilities. On the other hand, a majority of the civil engineering consultancy tenders are expected to be called for the construction of small and medium size projects with value up to \$85 million, which include road widening, construction of parks and drainage improvements.

Construction Tenders

An estimated total of 333 public sector construction tenders are expected to be called in 2014, with about 56 percent and 44 percent contributed by building and civil engineering projects respectively. In terms of construction cost category, about 63 percent of the construction tenders will be scheduled for smaller projects with value up to \$13 million, while about 17 percent and 20 percent will be for projects with cost categories of \$13 to \$40 million and above \$40 million respectively.

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CONSTRUCTION OUTLOOK FOR 2015-2016

Based on BCA Construction Demand Forecast Model, which takes into consideration the projected GDP growth by the Ministry of Trade and Industry (MTI) and prevailing market sentiments, the average construction demand is projected to be between \$25 and \$34 billion⁴ per annum in 2015 and 2016. Barring any unforeseen circumstances, this projection seems plausible in view of the rich pipeline of housing and mega public infrastructure construction projects planned by the government to meet the needs of a larger and ageing population.

BCA's estimation based on public agencies' returns indicates that the public sector construction demand is likely to reach between \$14 and \$18 billion a year in 2015 to 2016, with about 60 percent of the total demand coming from building projects while the remaining 40 percent from civil engineering projects. The expected sustained workload for civil engineering construction will be backed by new major infrastructure projects in the pipeline such as the Thomson MRT Line (remaining contracts), Eastern Region MRT Line, North-South Expressway and KJE/PIE improvement works. Other sizeable projects coming on stream include a new incineration plant at Tuas, the New Subordinate Courts Complex at Havelock Square and Phase 2 expansion of Changi water reclamation plant.

IMPACT ON CONSTRUCTION OUTPUT AND GDP

Total construction output (progress payments made for work done) was estimated to be about \$33 billion in 2013, about 5 percent higher than the volume in 2012. The high level of contracts awarded since 2011 are expected to continue to translate into firm on-site construction activity at least over the next one to two years. Based on the latest forecast, total construction output is projected to increase to between \$34 and \$36 billion in 2014, and sustain at between \$29 and \$37 billion per year in 2015-2016.

On the back of an increased workload, the construction sector's GDP continued one of its longest run of expansion although at a moderated pace of about 5.5 percent in 2013. Correspondingly, the construction sector's share of economic GDP sustained at about 4 percent in 2013 amid improved performance in other major economic sectors. Coming off from a high statistical base, the year-on-year construction GDP growth in 2014 is likely to continue to moderate although the level of on-site construction activity will sustain at a strong level.

CONSTRUCTION RESOURCES

In tandem with the unprecedented level of on-site construction activity, the demands for ready-mixed concrete and steel rebars reached record highs in 2013. Nonetheless, aided by generally lower raw materials costs, the prices of ready-mixed concrete and rebars eased further as compared to 2012. However, due to higher labour costs, construction costs have been on a rise as a whole as reflected in the 2013's uptrend in construction Tender Price Index (TPI).

Manpower requirements

Construction employment has continued to grow on account of the higher level of on-site construction activity. According to the latest employment statistics released by the Ministry of Manpower (MOM), construction employment rose by 27,600 in the first three quarters of 2013, and this brought total construction employment level to 469,500 persons in September 2013, an 8.3 percent increase compared to a year ago.⁵

The increased construction activity in 2013 is expected to continue into 2014 and contribute to job creation in the construction sector. The anticipated strong construction manpower demand at all levels, coupled with the continued tightness in labour market, will likely lead to more intense pressure in the sourcing of manpower, in particular professional and supervisory staff such as those in project/site management and engineering professions.

Going forward, given the tight manpower supply, there is an urgent need for all firms in the entire construction value chain to commit the necessary resources to raise their productivity through measures including stepping up the pace of adoption of new technologies and raise skills among construction professionals and workers. To help firms to defray the higher costs of such measures, the government has been providing funding support through the \$250 million Construction Productivity and Capability Fund (CPCF).

Construction Materials

Ready-Mixed Concrete

Supported by the higher level of construction activities, demand for ready-mixed concrete rose to 15 mil cu m for 2013. As the level of construction works is anticipated to remain substantial, the estimated demand for ready-mixed concrete is projected to range from 14 to 16 mil cu m in 2014.

Aided by competitive prices of raw materials, the preliminary average market price of Grade 40 pump ready-mixed concrete⁶ was estimated at about \$104 per cu m in December 2013, a drop of 5.8 percent compared to a year ago.

Precast Concrete

With the high volume of construction output, the preliminary precast concrete consumed by the construction sector in 2013 was about 1.3 mil cu m. Based on the projected construction output for various development types over the next few years, BCA estimates that the demand for precast concrete is likely to be 1.3 to 1.6 mil cu m in 2014. With the push for higher productivity, the demand for precast concrete is expected to grow to 1.4 to 1.7 mil cu m per year in 2015 and 2016.

Reinforcement Bars (Rebars)

Similar to other key construction materials, the demand for steel rebars reached a record high in 2013. The net imports plus local production (without considering stock levels) was about 1.6 mil t in 2013, a 23 percent increase as compared to the volume a year ago. It was observed that the significant increase in total import volume in 2013 could be partly due to some suppliers accelerating their stocking up amid the depressed global steel prices. In terms of import sources, China stayed as the top source for the second consecutive year, accounting for 87 percent of the total rebar imports. While for the remaining 13 percent, the import sources included South Korea, Malaysia and Spain.

For 2014, the net imports plus local production (without factoring in stock levels) for rebars are estimated to stay at a strong level at between 1.4 and 1.7 mil t, in tandem with the anticipated sustained level of on-site construction activity.

Exacerbated by over-production of global crude steel and rising market inventories in China, the average market price of rebar⁷ continued its downtrend and dropped to below \$750 per tonne by July 2013. Despite a reversal of price downtrend to \$754 per tonne in August 2013 in anticipation of an increase in steel demand supported by the traditional peak season in global construction activities in September, the slight price recovery was short-lived. The average monthly rebar price had been trending down again and was estimated to reach a low of \$721 per tonne by end 2013 amid persistent high steel output and keen competition among China's domestic steel mills.

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The global outlook for steel in the year ahead remains mixed. Some market analysts envisage a continued recovery in steel demand on account of a projected increase in the US's steel usage supported by activities in the automotive, energy and residential construction sectors as well as potential economic improvement in other developed economies. On the other hand, others foresee steel demand to be under pressure in view of economic uncertainty in the developing countries due to unresolved economic structural problems, political instability and volatile financial markets as well as the expected slow steel consumption in China amid the government's efforts in holding back investment activities to rebalance the economy.⁸

Other Construction Materials

Prices of base metals, which have a direct cost impact on building mechanical and electrical services, remained volatile over the past year. Base metal prices rallied at the start of 2013 when global economies showed early signs of recovery, driving average copper and aluminium prices to hit the year's peak of US\$8,070 per tonne and US\$2,053 per tonne respectively in February 2013.⁹ However, the gains subsided and prices continued to ease from end February and slid to a three-year low in July due to the Cypriot bailout, lacklustre growth in China, a series of disappointing data in the US and supply surplus situation. Underpinned by positive manufacturing data from major economies, copper and aluminium prices rebounded in August 2013 but failed to gain traction due to political uncertainties and market volatilities. By December 2013, the average copper price at US\$7,202 per tonne and aluminium price at US\$1,738 per tonne¹⁰ had eased 11 percent and 15 percent respectively from the year's peak in February 2013.

Looking ahead, while some analysts foresee a slightly oversupplied market in 2014 and a strong trade-weighted US dollar could cap gains on the dollar-based commodity prices¹¹, others are positive as signs of economies stabilising and a rebound in global manufacturing could accelerate demand growth, which would help sustain base metals prices¹² in 2014.

Global Freight Charges

The Baltic Dry Index (BDI), a measure for seaborne transportation of major raw materials such as iron ore and coal (which have an impact on construction material prices) continued to hover below 1,000 points since the beginning of 2013. By end of June 2013, the BDI staged a significant rebound supported by increased demand for spot iron ore from Australia and higher Brazilian exports as Chinese steel mills started to rebuild stockpiles for steelmaking commodity.¹³ The BDI gradually picked up and maintained at the average level of 1,500 points from July to November 2013. The BDI eventually rose to a yearly high of 2,337 points in December 2013. This was mainly attributed to seasonal demand stemming from transportation of iron ore to China as well as higher activity for US Gulf routes due to the start of the grain season.¹⁴

Some market analysts anticipate the dry bulk shipping market to have bottomed out and enter an up-cycle in 2014, driven by a projected higher growth in demand for dry bulk shipping relative to fleet supply.¹⁵ However, others foresee a continued challenging year ahead for dry bulk rates in view of various global economic downside risks including a slower China's economic growth.

Plant & Equipment

Construction plant and equipment continued to be in high demand in tandem with the increase in public and private sector projects in 2013. However, as supply of cranes increased with the arrival of new orders, rental rates (excluding operator) eased by 10 to 20 percent over the year amid a competitive market. For 2014, local suppliers generally anticipate a steady demand for plant and equipment but expect rental rates would either remain the same or ease due to continual keen competition and slightly oversupplied market.

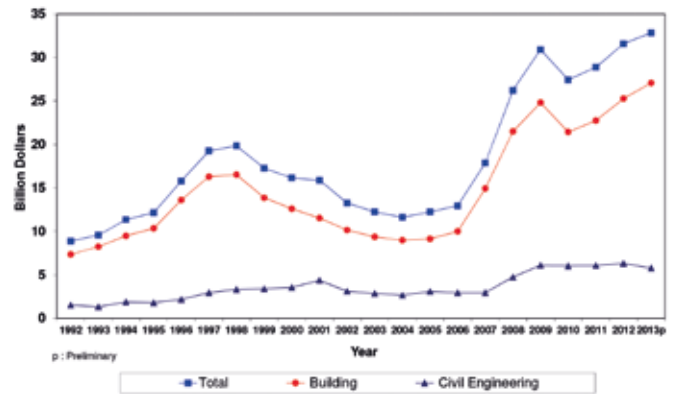


Chart 3: Construction output (certified progress payments), 1992-2013

CONSTRUCTION COSTS

On account of higher labour and preliminaries overhead costs stemming from the tightening of manpower policies and general cost inflationary pressures, construction tender prices have been trending up gradually since the fourth quarter of 2012. The average yearly BCA Building Works Tender Price Index¹¹ (TPI) is estimated to increase by about 4.5 percent year-on-year in 2013 (Chart 4).

In the year ahead, construction tender prices are likely to continue the uptrend as a result of rising cost pressures that firms are facing from progressive tightening of manpower policies and hikes in other operating costs. Nonetheless, the easing price pressures of some of the key construction materials as well as competitive tendering amid softening of private sector construction demand may help to restrain any significant upward pressure on overall construction tender prices. ■

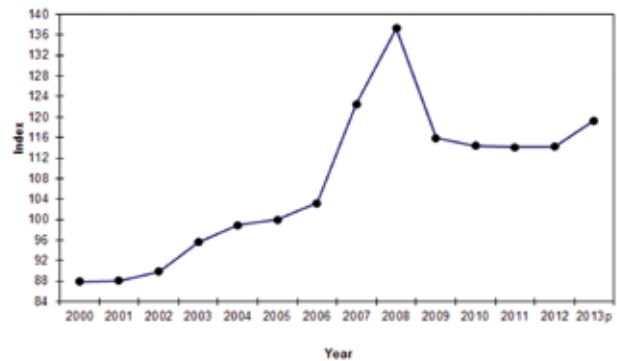
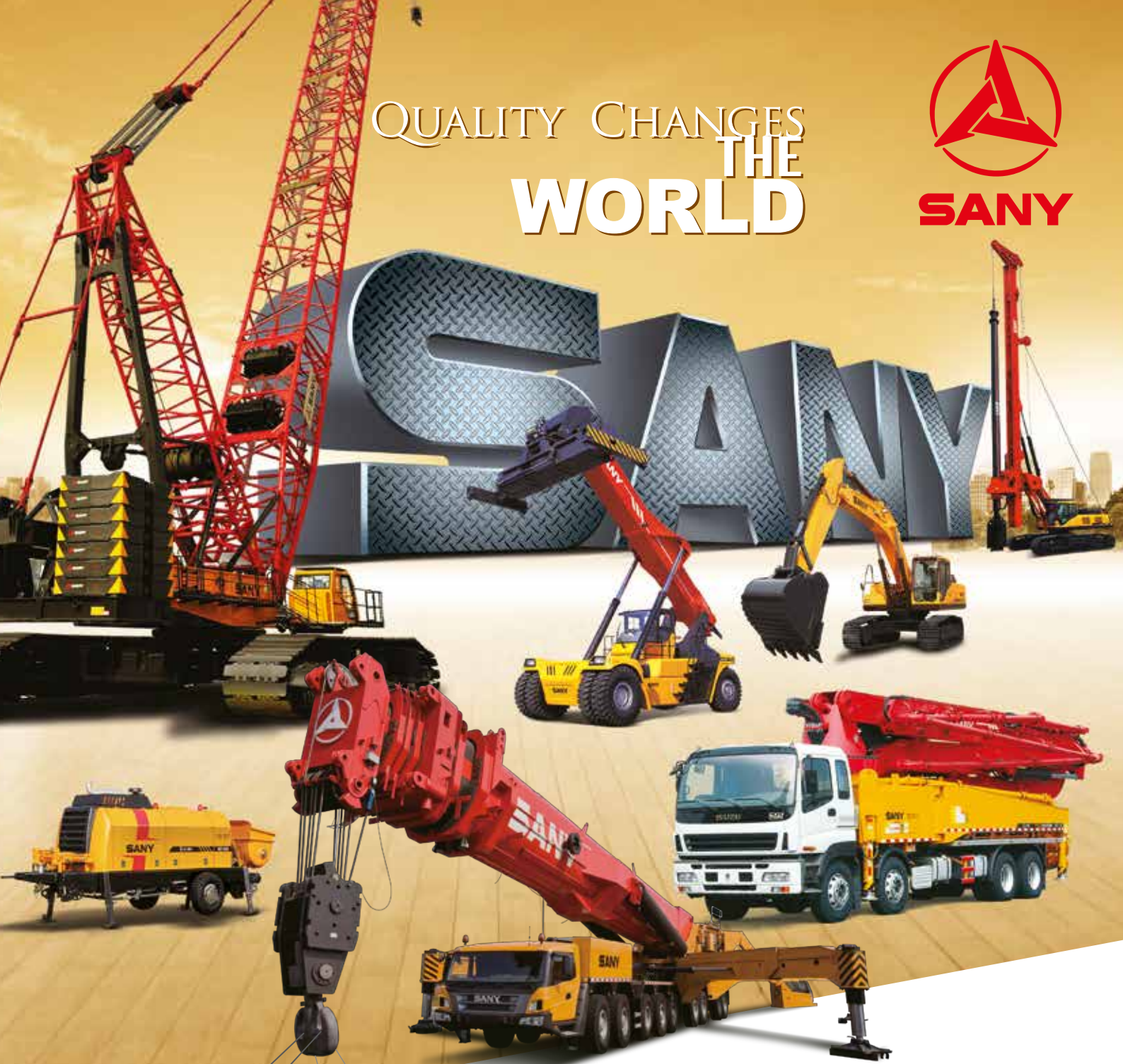


Chart 4: Annual BCA tender price index for building works, 2005 = 100

1. All currencies stated in this paper are in nominal Singapore dollars unless otherwise stated.
2. Construction demand is measured by total value of construction contracts awarded. All construction demand figures in this paper exclude reclamation projects.
3. Excluding reclamation works.
4. Demand forecast beyond the immediate one year will be done on a rolling basis to take into account subsequent changes in economic outlook and other pertinent factors.
5. Ministry of Manpower, Labour Market 3rd Quarter 2013.
6. The market prices are based on contracts with non-fixed price, fixed price and market retail price.
7. The prices refer to 16 to 32 mm high tensile rebar and are based fixed price supply contracts with contract period six months or less.
8. World Steel Association, October 2013.
9. Based on London Metal Exchange Average Cash Buyer price as at 28 February 2013.
10. Based on London Metal Exchange Average Cash Buyer price as at 16 December 2013.
11. Bloomberg, 10 December 2013.
12. Barclays, 15 December 2013.
13. Bloomberg, 24 June 2013 & 28 June 2013.
14. Hellenic Shipping News Worldwide, 28 November 2013.
15. The Nation, 12 December 2013.

[1]. BCA TPI excludes piling works, sub-structure works and mechanical & electrical works as these cost items are either project specific or not feasible to compile due to lack of data.

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Mr. Liang Wengen, the chairman of Sany Heavy Industry Co., Ltd. is the main founder of Sany Group who was also selected as the "Chinese Annual Economic Figure" by CCTV-2 as well as "The Best Boss of Chinese Listed Companies" by Forbes.

