Doka **Xpress**

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IB Tower standing tall with other surrounding buildings

China

Sinopec Guangxi Beihai LNG Terminal Project

Malaysia

Petronas Twin Towers are not alone in Kuala Lumpur City. There are several other tall buildings built in the city which easily exceeded 200 m and IB tower will be one of them.

Singapore

Exceptionally fast, safe and reliable system – Huge Mixed Development project in Singapore.

Editorial

Dear esteem customers and readers;

Asia's robust economy set for greater heights. In Asia, we are seeing unprecedented groundbreaking projects. The construction market has been identified as one of the busiest sectors in Asia. The demands towards efficient construction methods and technologies have pushed many companies to be innovative and cost-effective. Doka has always been the pioneer of innovative formwork solutions. Our motto "Pathbreaking. Beyond Solutions." consistently keeps us one step ahead. Doka has never compromised in quality and product safety standards.

We have seen several innovative products by Doka at the bauma 13 fair. For residential, we have Doka OneGo, Frami eco. In Highrise, we have Xbright, SKE100 plus, Platform SCP, Xclimb, Table Lifting System/ Dokamatic Table. In Transport, we have introduced DokaCC (CC stands for "Cut & Cover) and DokaShore. Using DokaCC, traffic tunnels such as railway and road tunnels are constructed swiftly, efficiently and safely. We have also seen Dam Formwork D35 and Staxo 100 eco being introduced for Energy sector. All these have shown that Doka is committed to be innovative and inspired. We look forward to supporting you in 2014.

Doka. The Formwork Experts.

Yours sincerely,
Gerold Heinrich
Regional Director
East Asia & Pacific

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Doka News

Powerful premiere for D35 ▸

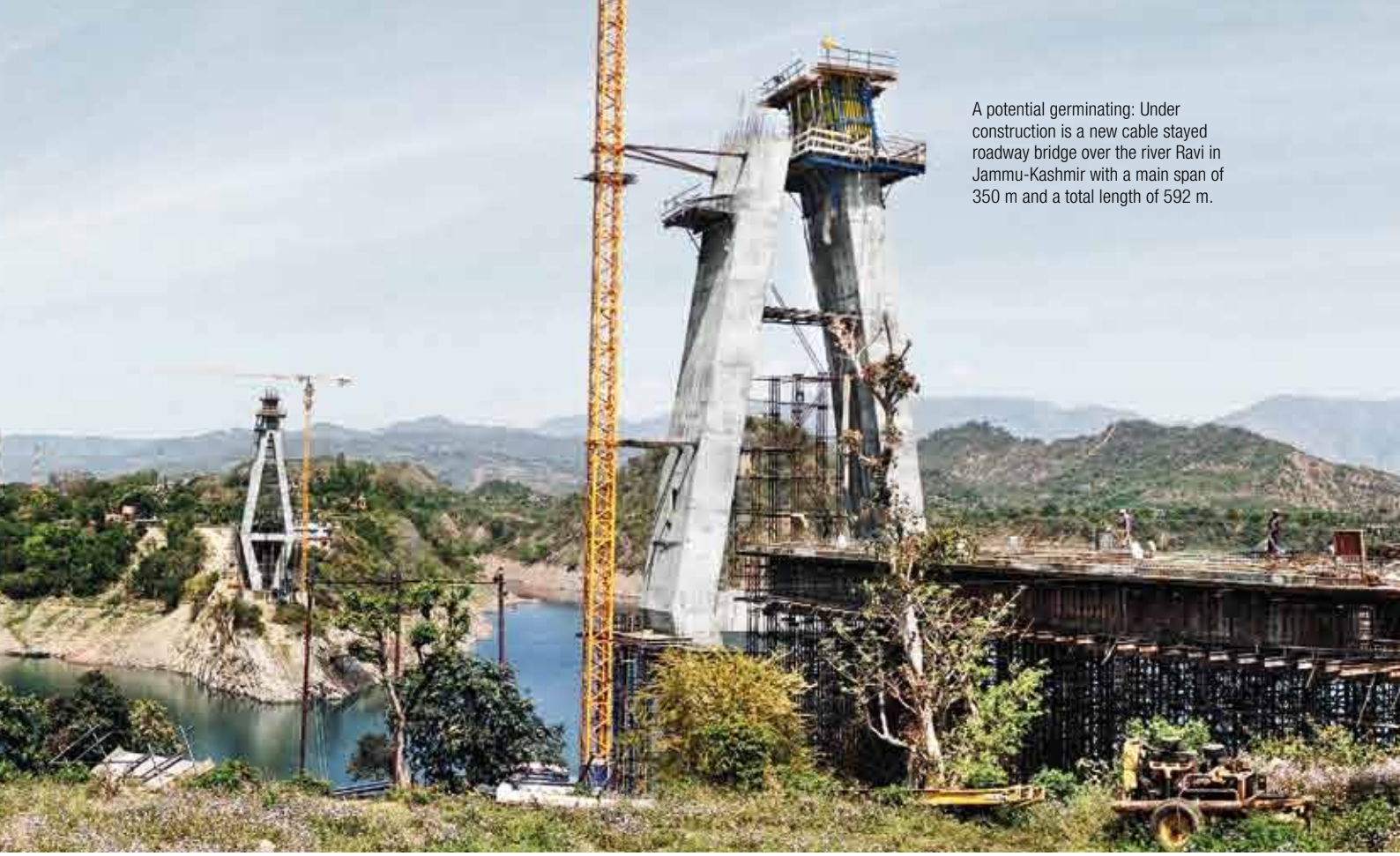
Norway is continuously investing into the expansion of hydro power. In April 2014 the new "Dam Sarvsfossen" at the Otra River will go operational. For its construction Doka's Dam formwork D35 is used for the first time. The standard system manages pouring sections of 5 m height and celebrates success on site with an integrated safety and logistics concept.

◂ New landmark for Turin

World-famous Italian star architect Renzo Piano is the name behind another new urban landmark in Turin, this time a sophisticated highrise project in the city's San Paolo district. With a height of 166 m it will have an outstanding position in the skyline. Doka is contributing to a high quality and economical realisation of the Torre Intesa Sanpaolo with an automatic climbing solution.

Linkage for Budapest and South Dalmatia ▸

Top paces of its kind are measured at the project "Corridor Vc" in the Bosnian municipality of Čapljina. A total of ten Cantilever forming travellers are in high gear for the Studenčica and Trebižat bridges. Both are part of the European route 73. High-performing Cantilever forming travellers allow for pouring of 5 m segments in a weekly cycle.



A potential germinating: Under construction is a new cable stayed roadway bridge over the river Ravi in Jammu-Kashmir with a main span of 350 m and a total length of 592 m.

Bridging the gap

In an effort to better road connectivity between Punjab and J&K, S. P. Singla construction is constructing a cable stayed roadway bridge in Basoli. For this project, Doka has delivered a formwork solution with Large-area formwork Top 50 with Climbing formwork MF240 and the Automatic climbing formwork Xclimb 60.

Basoli, situated on the right bank of River Ravi at an altitude of 571,8 m, is in the northern most state of Jammu-Kashmir, India. The connectivity options available from Punjab and Basoli were mainly roads via Basoli – Lakhanpur – Kathua through which River Ravi passes and a manual ropeway near Basoli.

The upcoming bridge will have a main span of 350 m, side span of 121 m, and a total length of 592 m. It overlooks a deep valley with a channel width of 250 m, which at high flow further widens to nearly 300 m.

The site plan also includes constructing a 106 m high pylon. The span layout is symmetric (121-350-121 m), with pylons positioned at the top of the river banks, out of each from the water below.

The pylon has a modified diamond configuration extending up to a height of 52.7 m and a straight vertical portion of 53.3 m height making a total height of 106 m. Climbing formwork MF240 has been provided for each leg of the lower diamond shape base of the pylon, which will move on to the second pylon once the first pylon is cast up to the cross beam bottom.

Afterwards, for the upper part of the diamond – shaped pylon, Automatic Climbing formwork Xclimb 60 has been provided for each leg of the pylon and the same set will move on to the second pylon, once the first pylon is cast up to the transition area. This has ensured safety of the site crew, smooth and efficiency of operation on the site despite the erratic weather conditions.

Drawing on past experiences, Doka has supplied the Basoli project with a customised solution, certain to meet all the requirements. Identical to any project, Doka had resorted to an approach that was simple, flexible, technically sound, and viable. //

The facts

Jobsite: Pylon for Cable stayed bridge

Location: Basoli, J&K

Contractors: S. P. Singla Construction Pvt.Ltd.

Start of construction: September 2010

Completion scheduled: September 2014

Height: 108 m each pylon

System fielded: Automatic climbing formwork Xclimb 60, Crane lifted climbing formwork MF240, Large-area formwork Top 50

▲ A group picture with top management and Doka China colleagues

Exclusive interview with MD of Doka China

Can you generally tell us something about yourself, your family?

I am a Hong Kong citizen but I was actually born in Laos. My parents met and settled there after they fled from China in 1949. However, when the 1975 civil war broke out in Vietnam and Laos, my parents moved again. I still remember us hiding underneath mattresses in a freight container and heading for Hong Kong.

It was a painful and unforgettable experience. We had to start life anew with nothing. My father passed away a year after we arrived. Yet, despite the hardship, my mother single-handedly raised 9 children and eventually, all of us graduated from universities, either in Hong Kong, the UK or the US.

How have your experiences in life impacted you?

I am who I am today because my parents wanted a better life, regardless the cost for a better environment. Life is never a bed of roses. It is about adaptability.

Adaptability is the key to survival. It is only when you are able to change according to the times that will determine how well you can survive. Look at how China has changed with the times. Even though they have ideological roots in communism, she has opened up tremendously over the decades. I believe it is also important to be able to let go of the past and forgive. History is to be remembered, its lessons learned and placed aside. It is pointless to hold on to something in the past and let that stop you from reaching your future.

Could you summarize reforms in recent China, to enable our far-away colleagues to understand?

I think one of the best ways to understand recent reforms in China is through it´s first 30 years of failure, followed by the next 30 years of success.

Up to 1979, the Chinese economy was a planned economy as they were under communist rule. However, what they did not realise was that the outside world was changing and moving in a very different way. Other political campaigns such as 'The Great Leap Forward', the Cultural Revolution and the 'Chinese Famine' hindered China's developments while others were progressing.

When Deng Xiaoping came into power, he brought along unprecedented economic reforms. Many may have not agreed with his ideology but we cannot refute the fact that he opened the doors of China and ushered in 30 years of economic growth. The sleeping giant was awakening and the world was feeling its presence.

What kind of policies and strategies China as a country used so effectively? What can the company Doka China learn from that?

I think the Chinese used two guiding principles to steer the nation. The first is 'To cross the river by feeling its stones'; the second is 'Be a black or a white cat – a cat that is able to catch mice is a good cat'. The results are obvious, as well documented by Henry Mintzberg.

I think the Chinese realised that a planned economy is not feasible, especially when the world becomes more complex and uncertain. Planning is counter-productive – it results in quicker failures than successes. It is wiser to take small but sure steps, and the Chinese does this by feeling the sentiments from the external environment (hidden current under the river). This would allow them the space to test out possible solutions at an acceptable level of risk.

Are there any differences that you find in terms of Chinese culture and people behaviour?

A distinct difference between Western and Eastern management philosophies is the fundamental assumption about human behaviour. Western management books often talk about the importance of open communication in discussing organisational strategies, goals and targets. In theory, it is logical because we want everyone in the company to be on the same track.

However, in a Chinese or Asian context, does this always work? Would a Chinese employee be motivated just because there was an open communication? There are a lot of unspoken thoughts and issues when it comes to an Asian environment. Even the Chinese themselves have difficulty in drawing out these underlying currents.

Yet, to be able to achieve your final results, this step of understanding the cultural and social dynamics is necessary. People may appear to agree with what you are asking but they may not produce the results eventually. On the surface it may seem like people are irresponsible but in actual fact, it is the lack of trust that is hindering them. You can only know this when you take time to understand the social fabric of the community.

Once you have understood how the various aspects of human relationships work, you will be surprised at how quickly the results can come.

Facing fierce, irrational competitions with local formwork suppliers with specific local construction practices, and with Chinese people characteristics, how would your approach be for your team?

We believe in people. We believe that talented people can create a difference and are instrumental in making progress. With the right people in place, any problem or issue can be solved. The biggest challenge in management for me is to find, motivate, retain and groom the right people – people who see the potential of the company and want to be a part of our business. Only with the right people we can have the right strategies, vision and targets. I cannot do this alone. We are fortunate because right at our doorstep in China, lies a large pool of talented people.

How do you then manage people, especially talent people should be more challenging?

Being a Chinese gives me great advantage. It makes it easier for me to understand local practices and cultures. Personally, I feel that talented people have strong character, opinions and convictions. However, like any of us, they also have specific needs and motivations. We need to understand what makes them tick and find their motivations. I think as a company, we can help them find their purpose at work, and let them see the impact of their contributions. Hopefully, we can light up their passion and release their potential in the company.

Can you help to summarize the Chinese formwork market, especially for the self-climbing system?

China has the largest construction market in the world. By 2016, China will have 800 highrise buildings (those above 200 m), which is 4 times more than those in the U.S. Currently, 15 of them are under construction, out of which 11 are located in secondary cities like Wuhan, Tianjin and Chongqing.

Our core business in China is providing climbing systems for LNG/NPP, Dams and highrise buildings. Other business types like shoring, slab, and column formworks will require more time to develop and mature. Our biggest substitute is traditional wooden formworks with scaffolding tubes and cup-locks.

Right now, we are the only international player in climbing formwork. However, some of the challenges we face are irrational price competitions from local suppliers, changing customer expectation, illegal copyright infringements and low labour costs - daily issues. In the midst of these challenges, we also have to think very hard about capitalising on the construction boom in China and expanding our market reach. This keeps me awake every night.

Through this personal interview with our Managing Director of China, we have a deeper understanding of Chinese history, its people and the challenges ahead within this industry. It is difficult to say if Mr Kent Ng is more Eastern or Western influenced, but as he rightly pointed out, it does not matter what colour the cat is as long it is able to catch the mice.

// by Cindy Chen, Doka China

▲ We believe in people. We believe that talented people can create a difference and are instrumental in making progress. With the right people in place, any problem or issue can be solved.

▲ Construction site of Guangxi Beihai LNG project

Fast and Economic Formwork System

Sinopec Guangxi Beihai LNG Terminal Project (LNG) is a national key project invested and constructed dominantly by Sinopec, which is located in Nangangchi Petrochemical Operation Area in Tieshan Port in the east of Beihai City, Guangxi. The terminal includes terminal works (including cold energy utilization), pier and land formation works and gas pipeline works.

The professional

"Doka provides us with perfect after-sales services and quality formwork products, and helps us to complete our tank construction with high quality on time."

Jin Ding, Manager of Project Technical Departement, Sinopec Tenth Construction Company/Shandong Jinding Construction

The project will be constructed in two phases. Phase I involves a total investment of RMB 17.78 billion. The project will be completed in 2015 to supply quality natural gas to 14 cities in Guangxi and 2 places in western Guangdong, which is of great significance for optimizing Guangxi's energy structure, improving the ecological environment, promoting industrial restructuring, improving people's quality of life and increasing local tax revenue.

The project includes 1 berth for 270,000 m^3 LNG carriers, 1 working boat pier, corresponding facilities and 1 reserved birth for 270,000 m^3 LNG carriers, involving a land formation area of 40.32 ha; the storage tanks should be prestressed concrete full containment tanks. The design reception capability for Phase I project is 3 million tons/year and four 160,000 m^3 LNG storage tanks will be newly built; the design reception capability for Phase II project is up to 6 million tons/year and two 160,000 m^3 LNG storage tanks will be increased. With the North Sea Terminal as the starting point, 2125.46 km of new LNG pipeline will be built with design pressure of 10Mpa and design throughput of 8 billion m^3/year.

▲ Construction speed is very fast and each process is intense and orderly conducted.

The professional

"All of our LNG storage tank projects use Doka formwork system. Our confidence originates from Doka's advanced design philosophy, excellent product quality and nearly perfect after-sales services."

Ni Qianxue, Deputy General Manager, International Division, China Nuclear Industry Huaxing Construction Company Limited

The facts

Construction contractors of Beihai LNG project are: China Nuclear Industry Huaxing Construction Company Limited, Sinopec Tenth Construction Company/ Shandong Jinding Construction and Zhongyuan Oilfield Company of Sinopec.

LNG tank design parameters: inner diameter 82 m, wall thickness 800 mm; inner and outer walls are vertical; height from the tank wall to the top ring beam is 40.06 m, including 4 supporting pilasters. In this project, four 160,000 m^3 LNG storage tanks will be built simultaneously at Phase I – all of these use Doka climbing formwork system 150F, including 768 150F climbing scaffolds and 8,200 m^2 of Top 50 formwork. After years of design optimization, now the design personnel of Doka China are able to control the total working weight of the standard climbing unit below 3.75 tons and help customers to compress their original 3-crane construction scheme to 2 cranes to complete the construction of each tank, thereby effectively saving the construction machinery cost. At present, customers' construction proceeds at a high speed of completing one standard layer in every 7 days.

What is worth celebrating is that these 4 storage tanks will be capped by the end of 2013, which marks that Doka China has successfully completed the construction of its 36th 160,000 m^3 storage tank formwork in the Chinese mainland market. Since its introduction into the LNG tank construction market in 2004, 150F system has been featuring safety, lightweight, efficiency and durability, and won a good reputation in the field of LNG construction. Its durable product design can meet customer's long-term turnover and use requirements. The Doka 150F system was bought by China Nuclear Industry Huaxing for the construction of the first large-scale terminal Shenzhen Dapeng LNG in 2004 currently still keeps good working conditions. At present, this batch of materials has been transported back to Shenzhen Dapeng LNG for continued use in its Phase II project. Doka China has won the bidding for 4 LNG terminal storage tank projects from Sinopec Tianjin LNG, Yuedong LNG, Shenzhou LNG and Guangdong Dapeng LNG, and in 2014, the construction of totally twelve 160,000 m^3 tanks will be initiated. // by Cindy Chen, Nina Zhang and Vincent Zhou, Doka China

▲ All suspension plattforms are protected by safety net.

▲ First step of inside formwork are support by Scissor-action spindle and special starter. Inside the job site is clean and tidy.

The artistic shape of the pylons also presents the Formwork Experts with some special challenges. The bridge pylons are each being formed with 40 units of Automatic climbing formwork SKE100 and around 220 elements of the Large-area formwork Top 50 system.

Exquisitely ‘formed’ with a flexible formwork solution

The Bouregreg Bridge is definitely one of the most spectacular bridge projects at the present time. The 952 m long cable-stayed bridge near the Moroccan capital Rabat symbolises the modernisation of the country’s infrastructure. Architecturally, it stands out for its two pylons – one 197 m, the other 185 m tall. Their artistic shape also presents the Formwork Experts with some special challenges. The solution Doka developed for them is based on the Automatic climbing formwork SKE100 system.

The facts

Location: Rabat, Morocco

Contractors: MBEC-COVEC

Start of construction: 2011

Completion scheduled for: Autumn 2014

Types of structure: Pylons and piers

Systems in use: Products: Automatic climbing formwork SKE100, Large-area formwork Top 50, Climbing formwork MF240

Services: Formwork planning, Formwork Instructors

The cable-stayed bridge is the centrepiece of an important new motorway bypass around Rabat. The name of the structure derives from the ‘Bou-Regreg’ river and valley that it crosses. Hervé Vadon, of the French architecture firm Strates, drew his inspiration for the design of the 952 m long bridge and its pylons from the characteristic pointed arches of Islamic art. The span between the two oval main

piers, through which the deck of the bridge will pass, is 376 m long. In winning the ambitious Bouregreg Bridge project, Doka Maroc SARL-AU won one of North Africa's most prestigious showcase projects: "Doka's many years' experience with pylons all over the world, and the great co-operation we have experienced from them on other projects, were what swung the decision to award the contract to Doka", explains Zhao Wenyi, Project Manager of the contracting joint-venture MBEC-COVEC.

Formwork solution for an infrastructural work of art

In both aesthetic and architectural terms, the two bridge pylons make some very tough demands of the formwork engineering involved. The oval pylons are each made up of four curved pillars, lending this massive structure a stylish and open aspect. Visually, the bridge-deck separates the upward-tapering main piers half-way up, taking the roadway through between them.

"For the Doka Formwork Experts, this meant uniting several different sectors, with differing layouts, into a single work of formwork planning", explains Daniel Maderthaner of Doka Engineering. The inclination and cross-section of the 197 m and 185 m tall pylons change after every single casting section. The Doka technicians planned an individual solution, based on Automatic climbing formwork SKE100, for each casting section. This solution requires only minor modifications to the system, and makes efficient use of the equipment. Despite the great versatility of the climbing system and the fact that it allows rearward inclination, custom components and telescopic platforms were developed and fabricated to deal efficiently with the continuous changes in inclination.

Combining this climbing system with versatile 'Large-area formwork Top 50' made for an efficient overall solution. The basic elements of the formwork stay the same in every casting section. A very few modifications to the construction are all it takes to manage complicated layouts.

The bridge pylons are each being formed with 40 units of Automatic climbing formwork SKE100 and around 220 elements of the Large-area formwork Top 50 system. The client was looking for a system with which the desired construction progress could be achieved quickly, even in windy conditions. The 45 (48) casting sections, each up to 4 m high, are being completed in weekly cycles in some cases.

The high-performing crane-jumped Climbing formwork MF240 and Large-area formwork Top 50 are being used on the five piers in the foreland zone. This solution was also used on the concrete plinths for the pylons.

Aesthetic appearance accentuated by fair-faced concrete

The overall aesthetic impact of the structure is emphasised by the quality of its fair-faced concrete, and especially by structure matrices in the concrete of the two main piers and of the adjacent piers. The formwork systems in use here are enabling the site to achieve first-rate surfaces that more than meet the visual requirements. The formwork planning for this prestige project in Morocco was carried out in collaboration with experts from Doka Headquarters in Amstetten. A team comprising staff from the Highrise and Pylons Competence Centre, from Doka Engineering in Morocco and from the Statics Department delivered precisely detailed plans to make this challenging architectural concept feasible in practice. Doka Formwork Instructors were on-site to help with correct assembly of the Top 50 and SKE100 elements, ensuring that the systems were assembled and erected at speed. //

▼ The oval pylons are each made up of four curved pillars, lending the massive structure a stylish and open aspect. The quality of the fair-faced concrete surfaces accentuates the aesthetic impact of the structure.

▲ Doka systems are used for foundations as well as towers during construction of wind mills, such as the offshore wind farm Thornton Bank in Belgium.

Formwork engineers to focus energy

Demand for energy around the world is rising, a fact that requires energy to be supplied in an environmentally friendly, efficient and safe way. Construction lots for building different types of power stations ranging from water to gas- and coal-fired power all the way to wind energy systems are as diverse as the forms of energy generation. In response Doka provides custom as well as holistic solutions and underscores its versatility with its in-house Competence Centre Power Plants.

▲ Doka provided the formwork solution based on the Cooling-tower formwork SK175 for the construction of the 164 m high cooling tower of the coal power station Sostanj in Slovenia. The self-climbing system for pouring sections of 1.50 m high allow for precise forming with extremely short cycling times.

Aside from construction sites that are often difficult to access, special standards for concrete and optimal scheduling of various procedural steps are among the challenges facing formwork technology. The sooner a power station is taken on line, the sooner it can generate energy. Doka formwork experts concentrate their energy for power station projects of all types and develop adapted solutions in collaboration with their customers. Using modular formwork systems is as much a part of this concept as planning construction processes in all project phases and safety of the team at the construction site. “As a partner to our customers, we provide them with well-founded decision-making support starting with the development phase”, so Andreas Guttenbrunner, Head of the Competence Centre Power Plants. “With its comprehensive catalogue of services Doka provides project support all the way to the point of completion.”

In the case of power station projects with a variety of construction lots, an all-encompassing logistics concept contributes significantly to a successful project progression. The Doka service portfolio includes all types of power stations, such as hydroelectric power plants and wind mills, gas-, oil- and coal-fired power stations or professional support in the implementation of power houses, turbine tables, stair towers, inlet and outlet structures, maintenance tunnels, chimneys, coal bunkers or caverns.

Solutions for tanks and silos

Storage structures, such as tanks and silos for oil- and gas-fired power stations (LNG tanks) are characterised by their complex construction site methodology. Pre-stressing and anchoring technology, platform widths and anchoring capacities

▲ The crane-lifted Climbing formwork MF240 ensured systematic forming processes as well as rapid construction process during construction of the LNG tank Map Ta Phut in Thailand that measures 82 m in diameter and is 52 m high.

pose particular challenges for formwork technology. Crane-lifted Climbing formwork MF240 or 150F ensure systematic forming processes as well as rapid construction progress when building large-volume tanks, machine houses and stair towers.

Forming cooling towers quickly and precisely

In the case of cooling tower projects for coal- or gas-fired power stations, the combination of detailed formwork and construction process planning as well as large-area formwork for clearly organised work flows ensure rapid construction progress. The Cooling-tower formwork SK175 is a fully mechanised, self-climbing system for pouring sections of 1.50 m in height. This solution allows for precise forming with extremely short cycling times.

Each project presents specific demands for formwork technology. The experts also develop solutions for turbine tables, machinery and power houses as well as heavy slabs. This type of work requires use of the supporting construction frame for single-sided walls up to 12,8 m in height as well as powerful Doka shoring systems. Load-bearing towers Staxo 100 and Staxo 40 allow excellent adaptation to different ground plans due to high load-bearing capacity and variable frame spacing.

Safety squared

In more than one way, the topic of safety plays a significant part in power station projects. On the one hand, the safety of the team on site is an important factor and an integral part of any Doka formwork concept. On the other, structural requirements such as sealing tightness, structural tolerances, concrete mixture and joint concepts pose high demands on formwork technology.

Existing and new power station projects all over the world highlight the expertise of Doka in the energy sector. The Midlands Dam on Mauritius or Castrovido Dam in Spain are testimony to the skills Doka brings to the construction of hydroelectric power stations. Doka provided a formwork solution based on the Cooling-tower formwork SK175 for the construction of the 164 m high cooling tower for the coal-fired power station Sostanj in Slovenia. The LNG tank Map Ta Phut in Thailand with an 82 m diameter and 52 m height or the Civil Works-Ruwais GASCO Storage Tank in Abu Dhabi as well as the offshore wind farm Thornton Bank in Belgium are testimony to the wide variety of fields where Doka formwork systems are used. When all energies come together in one holistic formwork solution, nothing stands in the way of a successful construction project. //

▲ The history of Doka is closely connected to the construction of power stations. Decades of experience in international power station projects, such as the Castrovido Dam in Spain, benefit Doka customers during implementation of their construction projects.

▲ Premiere for Dam formwork D35: the new Doka standard system is used for the first time during construction of the barrage “Dam Sarvsfossen” in Norway.

IB Tower standing tall with other surrounding buildings.

IB Tower standing tall with other surrounding buildings

Petronas Twin Towers are not alone in Kuala Lumpur City. There are several other tall buildings built in the city which easily exceed 200 metres – and IB tower will be one of them. The estimated year of completion will be 2014 and if completed the building will be the fourth tallest in Malaysia.

Designed by Sir Norman Foster of London, IB Tower has 33 floors of offices and 22 floors of services apartments, and is located along Jalan Binjai near Kuala Lumpur Conventional Centre (KLCC). By its stunning design which is striking and visually appealing, you will be hardly to overlook the building when you are passing every main road in the city.

Doka Malaysia was awarded the contract to supply support systems for the slabs and beams, and a climbing protection screen around the building on June 2012. This is the 3rd cooperation of projects between Doka and the Korean contractor in Malaysia.

For solution to the edge protection, the special designed shape of IB tower is the most challenging part. One of them was to over-climb the integrated slanting column which occurs in all 4 elevations of the building. The direction of the column changes every 10 floors. All of them have an inclination of 43° & 45° and an 800 mm cantilever from the slab edge.

By considering all of the possible factors, Doka decided to design customer the special floor support for the Protection Screen Xclimb 60! Climbing brackets with a climbing track running along the 4 vertical columns were equipped with a special bracket in order to inline all individual platforms. The variable location of the column in layout plan view required a different suspension of the climbing screens in every floor. The Doka experienced site team was invoked to act in a very foresight way in order to ensure a fast and smooth workflow on site.

The congested jobsite was also one of the concerned issues by the customer and Doka. After few discussion and negotiation, the assembly of 22 nos of Xclimb 60 platforms had to be done in certain period and area. By closely monitoring and coaching by our formwork instructors, all of the platforms with brackets were successfully installed within the scheduled time frame.

For the slabs Dokamatic tables were used repetitively through the building with Dokaflex tables being used for the edge beams where the variations occurred due to the slanting columns. Make-up areas were covered with Dokaflex.

Customer satisfaction is our pride. We pursue safe working conditions, fast cycle times and a crane independent formwork system, which meets our customer requirements. Our regular support, an additional service given by the Doka Supervisors during on site ensures the added value when using Doka Formwork Systems.

Doka Malaysia Engineering team supports with design and solutions also for non-typical floors. Regular site visits guarantee the relationship and the trust that Doka is the pathbreaking partner for our customers and their constructions.

By using only 10 months time, the structure is now up to the 39th floor after the first climb in the beginning of 2013. The Korean contractor is enjoying a cycle time of 6 days per floor thanks to the use of Table Lifting System TLS and the self-climbing protection screen.

Doka Malaysia looks proudly at a unique landmark in Kuala Lumpur!

//by Wee Hau, Christine Fasching and Gary Joyce, Doka Malaysia

The Facts

Jobsite: Ilham Baru Tower (IB Tower)

Location: Kuala Lumpur, Malaysia

Project: 247 m, 58 stories mixed use development

Customer: Daewoo E & C

Products in use: Xclimb 60 protection screen, Dokamatic & Dokaflex tables

▼ A panoramic view of tall buildings in Kuala Lumpur City, Malaysia.

▲ Huge Mixed Development project in Singapore, The North and South Tower of South Beach Development

South Beach Development

Exceptionally fast, safe and reliable system – Huge Mixed Development project in Singapore. South Beach is a landmark project in downtown Singapore. This project is a combination of new construction and the restoration of existing buildings, housing a mix of office at The North Tower and hotel, retail and residential spaces at The South Tower.

The Facts

Project: South Beach Mixed Development project

Location: Beach Road, Singapore

Contractor: Hyundai E&C

Start of construction: May of 2012

Completion schedule for: 2016

Systems in use: Top 50, MF240, Automatic Climbing Formwork Xclimb 60, Dokamatic Table with Table Lifting System (TLS) and Protection Screen Xclimb 60

▼ North Tower - Inclinded columns. Doka solution with Top 50 wall Formwork system.

The Top 50 Formwork system was provided for the columns at both towers, where the adaptability of the system helped the site to fabricate, assemble and cast these columns seamlessly including inclined shapes. High shoring levels were supported by the MF240 platforms.

To cater for the corewall of the 2 towers, the Top 50 Wall Formwork and the Automatic Climbing Formwork Xclimb 60 system were deployed to meet the needs of the site i.e. the large corewall at both towers and the construction sequence. We have supplied a combined wall formwork area of 2,000 m^2, 54 Xclimb brackets were used at the North Tower and 50 Xclimb at the South Tower to support such a huge development. For slab casting, the Dokamatic Table system was provided for the North Tower to cater for 2 levels of supply across an area of 3,600 m^2. The Doka Table Lifting System (TLS) supplements the approach to allow shifting of Tables from one level to the other and Shifting trollies together with Attachable drives facilitated shifting within the slab. TLS units at high shoring areas were also possible to be installed through the use of practical tie back supports for the vertical supporting profile. This combination greatly reduced the use of cranes enabling faster cycle time and higher productivity with less manpower.

Last but not least, the Protection Screen Xclimb 60 system (The North Tower – 32 brackets and The South Tower - 36 brackets) was supplied to constantly enclose 3 floor levels for a safe working environment during the column/slab casting operations. The hydraulic operated Protection Screen platform also saves both costs and time by eliminating crane use.

▲ A new landmark project in downtown Singapore: South Beach Development

Project management Challenge

Lead time from award of contract and delivery of the first set of materials for both towers was short. The construction schedule for the towers was tight and both were to start at the same time. Two Engineers were assigned to work out the whole project design and coordination matters and they were able to do so in time to meet Hyundai's deadline, with one Senior Formwork Instructor catering to site coordination with Sub contractors of both towers.

Design Challenge

In order to speed up the cycle time and corewalls progress, Hyundai E&C decided to use Aluminium Formwork system as part of the corewalls, to cast the Stair case steps, lobby slab and the adjacent walls concurrently with Top 50 wall formwork system for the walls of the Lift /Mechanical Shafts and external sides. The suppliers of Aluminium formwork for both The North Tower and The South Towers are also different with differing design requirements from each other. This arrangement was a first of a kind for the projects in Singapore.

The flexible and adaptable Top 50 Wall Formwork system in both the towers helped to cater to the Aluminium formwork design requirements. The H20 beam spacing's and the WS10 waling arrangement matches the tie rod spacing and layout of the Aluminium wall formwork. Another site requirement was Perforated screen enclosure for the corewall platforms, which could be integrated in our Xclimb Climbing system.

A new, improved Lifting Mechanism for Xclimb 60 was developed and introduced in the Doka production line, as a result from studying the climbing operation of casting a 3.6 m heights wall at The South Tower.

Finally, we have solved the issue on the Protection Screen situated at the high shoring levels by supporting the platforms on customize A-Frames and cantilever slab areas by special floor support. We believe that engaging the various types of our formwork systems will help to maintain the construction schedule to maintain at a cycle time of 6-7 days. The complex is scheduled for completion in 2016. // Joey Teo, Jerry George Varghese and Karsten Doering, Doka Singapore

Product training 2013 (07 September 2013 - Kajima) & (05 October 2013 - BHCC)

2013 marks the beginning of our Doka Product Training for Customers in Singapore. This year we conducted 2 sessions of product training for our clients on 07 September and 05 October that received plenty of positive feedback from the participants.

These sessions help the customers to better understand and appreciate our products, enabling them to use our products more efficiently and with greater safety. Armed with more knowledge of our products, clients can boost their productivity, cut costs, and enhance site safety, greatly benefiting their operations.

The training started with an introduction of our company profile by Sales Manager Karsten Doering, followed by product overview by Engineering Team Leader Ms Barbara Weilguni. Customers were then given more practical advice on usage by the Head of Engineering Tadas Ciuckys, who also covered rental options, documentation and Invoicing and reduction of loss & damages. Finally the Sales Engineer Tricia Chan went over some case studies to highlight the benefits of our product training. // by Joey Teo, Doka Singapore

High level of efficiency as well as quick and safe work: Doka's Load-bearing tower Staxo 100 eco is a solution for shoring heavy loads that optimises costs and materials.

▼ Frami eco is ideal for fast, cost-effective forming – with or without a crane. With Frami eco, excellent concrete surfaces can be achieved – that means less finishing work.

Eco – An Efficient, Cost-saving and Outstanding product family

Doka has introduced new products specially fitting the oversea's market. Well-proven systems have been customized to meet market requirements in Asia, Latin America, Africa and the Middle East in order to make them even more efficient relating to costs and time.

Staxo 100 eco – A cost-effective power pack

The tried and proven Doka Load-bearing tower Staxo 100 serves as the basis for the new, cost-effective steel frame that provides the same high performance and flexibility for a wide range of applications. Staxo 100 eco facilitates safe and easy shoring of floor slabs for a broad range of floor plans, shapes, and loads in structural and civil engineering applications. The system's robust frames are designed for heavy loads up to 100 kN per leg and can be easily adapted to different floor plans as a result of variable frame distances ranging from 0.60 m to 3.00 m.

The Staxo 100 eco version convinces with its versatility of use and easy handling. The option for combining three frame sizes with diagonal crosses of varying lenghts allows flexible adjustment of the system to a variety of floor plans and shoring heights. The logical modular system and limited number of individual parts ensure quick assembly as

well as disassembly of the load bearing tower in only a few steps. Staxo 100 can be assembled vertically or entirely horizontally and is easily stacked. Ratchet braces attached to the frames and lengths that are clearly marked by colour clips support easy handling and facilitate quick and, above all, safe diagonal cross assembly.

Frami eco: a product innovation from Doka

Frami eco is ideal for quick, economical forming of foundations, walls and columns – with or without a crane. The new formwork system combines a hard-wearing powder-coated hollow steel-section frame with a 15 mm Dokaplex form-facing: sturdy system components with optimised product quality for long service life and dependability over many re-use cycles. The ergonomical design combines high load capacity with easy, straightforward handling. Tried-and-tested components and strong connectors from the Frami Xlife 'toolbox' round off this system.

Frami eco scores for its simple system-grid and low form-tie ratio. The provides flexibility on the site, reduces the commissioning quantities and minimises infill zones. Above all, though, the system shortens the forming-times, ensuring fast workflows: a hammer is the only tool needed. The range of possible uses is very wide: with widths of 0.30 m to 0.90 m – in a 15 cm grid – and heights of 1.20 m and 3.00 m, Frami eco is a complete system for forming walls, columns and foundations. The universal panels can also be used to build column formworks – within the system, and with no extra panels. Thanks to the extensive line of accessories, Frami eco is also the right formwork system for casting foundations.

In the concreting operations, Frami eco also ensures high safety: bracket-based platform solutions, including system ladderways with integrated ladder cages, can be added to all Frami eco wall and column formwork units in a few simple steps. This boosts safety on the site right from the word 'go'.

Dokaflex 15 – a formwork solution for thin slabs

Doka's new Floor-slab formwork Dokaflex 15 is a lightweight hand-set system for floor-slabs that are between 10 cm and 15 cm thick and have a larger number of downstand beams, as often found in residential construction. The advantages of these slab constructions are obvious: the cost-savings from needing less concrete for the slabs and less structural steel for reinforcing them. In developing Dokaflex 15, the Doka Formwork Experts took account of the lower weight of the slab. The system is based on the proven Doka timber formwork beam H16, with its unique '1-2-5' spacing marks for easy handling, and on the new Floor prop Eco 15 with a load capacity of 15 kN. Both these basic components are optimally tailored to Dokaflex 15's field of use.

"Dokaflex 15 wins out over traditional forming methods for its attractive price level", explains Product Manager Wolfgang Stadlbauer. When handled correctly, Dokaflex 15 is good for up to 120 formwork re-use cycles. This versatile system also stands out for benefits like short forming-times and easy handling on the site. This is thanks to the optimised weight and load capacity of its system components, which makes it lighter than conventional formwork systems, and by its complete solutions for slabs and downstand beams. To help users work out what quantities are needed, and to facilitate formwork use on the site, Dokaflex 15 comes with the pre-defined '1-2-5' system-grid. This grid uses marks on the beams to show the maximum spacings between the props and beams, permitting 'no-worry' pouring of slabs up to a max. thickness of 15 cm. With only a few different system components, Dokaflex 15 is an ingenious all-in-one solution for floor-slabs and downstand beams – for short forming-times and easy handling on the site. With Dokaflex 15, construction firms obtain top-quality concrete finishes and save time as less finishing work is needed. //

▲ The '1-2-5' system-grid and the unique spacing marks on the beams make forming-up a lot faster, and also a lot safer.

▼ Dokaflex 15 has been developed specifically for forming concrete floor-slabs of between 10 and 15 cm in thickness. This versatile hand-set system features weight- and capacity-optimised system components and so is very easy to handle.

New faces in East Asia & Pacific

Welcome our new employees! We are pleased and very excited to have them as part of our team. We wish them every success in their assignments.

Lynnette Kanua
Doka Australia
Date joined: May 2013
Designation: Accounts Clerk & Admin
"I like to gain more knowledge, learn new skills, build good teamwork in Doka and extend to maintain an excellent relationship with both customers and suppliers."

Wayne Burnham
Doka Australia
Date joined: July 2013
Designation: General Warehouse Operator
"I am eager to learn fast and move up in the company. I offer experience in all areas of warehousing and I will always do my best for Doka."

Evangel Ngau
Doka Australia
Date joined: July 2013
Designation: Yard Admin for Doka Australia Brisbane Branch
"I am looking forward to grow with the company."

Wayne Weekhout

Date joined: September 2013
Designation: General Warehouse Operator
"I want to thank Doka for this opportunity and I want to make sure that the products that get received by the customers are at the highest standard for Doka's future in Australia."

Nicolaas Holtzhausen
Doka Australia
Date joined: October 2013
Designation: Contracts administrator
"After travelling for three years I am ready to take on the new challenge at Doka and continually improve myself and move forward."

Sarah Yang
Doka China
Date joined: August 2013
Designation: Head of Finance & Controlling
"It is a very good opportunity that I can join Doka and work with all of you. Let's work 2gether passionately and enjoy the exciting journey."

Fei Wang
Doka China
Date joined: September 2013
Designation: Technical Sales Manager North China
"I like to face great challenges. For me the way to achieve success is to keep a strong faith, continuously improve abilities, grasp the pulse of the market and cooperate jointly. "

Jason Wu
Doka China
Date joined: September 2013
Designation: Project Manager
"All things are difficult before they get easy."

Yang Hua
Doka China
Date joined: September 2013
Designation: Assistant Operation Manager
"The community is a big school. I hope to share each other's experiences on problem solving and cost saving in a strong collective."

Judy Shui
Doka China
Date joined: August 2013
Designation: Technical Sales Manager
Chengdu branch
"Mentality is the habit of thinking. Communication is the bridge of sales. Learning is to promote sales. The sales team is our basis."

You Li
Doka China
Date joined: September 2013
Designation: Junior Draftsman
"What I want to see the most is that every component is installed accurately."

Ben Chen
Doka China
Date joined: July 2013
Designation: Trainee Technician
"Doka offers me a great platform to make a formwork design. As a young engineer, my job is to be aware of how to take advantage of our products and make clients satisfied."

Yuji Hattanda
Doka Japan
Date joined: July 2013
Designation: Formwork Instructor
"I am a formwork instructor at Doka Japan, with prior experiences as a carpenter for construction companies. I find my job very rewarding and look forward to continuing to do my best."

Shuko Sato
Doka Japan
Date joined: July 2013
Designation: Operations Assistant
"Fresh out of university, I have joined Doka. I would like to make my utmost effort to be a productive member of our team."

Gary Seet
Doka Singapore
Date joined: June 2013
Designation: Sales Engineer
"I joined Doka on the 3rd June 2013 as a Sales Engineer. What spurred me to join Doka is the excellent branding and diversed working environment. I look forward to gaining more technical knowledge and exposure in system formwork in the future."

Rodolfo Estrada
Doka Hong Kong
Date joined: June 2013
Designation: Group Leader of Engineering
"I like working with Doka, it fascinates me. I can learn a lot of things."

Mark Marcelo
Doka Singapore
Date joined: May 2013
Designation: Project Engineer/Technician
"Learning will not stop at school, you can have it in everyday life. In a new environment, I would love to have this further knowledge as I work together with my colleagues and contribute to the Company."

Wendy Huang
Doka Singapore
Date joined: June 2013
Designation: Sales Co-ordinator / Quantity Surveyor
"I enjoy being constantly challenged and learning new things. I hope to improve my skills and make myself more beneficial to my team and company."

Aida Jumari
Doka Singapore, Date joined: August 2013
Designation: Yard Co-ordinator
What you like about your current job?: Handling the administrative, for the Yard. What do you do and what is your aspiration in your job?: Being new to this fast pace environment, I would continue to learn & gain new knowledge. Sometimes unexpected challenges arise - having a good teamwork, we will work together to resolve it.

In brief

News, dates, media, awards

Oktober Fest in Singapore 2013

Since the formation of the Doka Singapore Branch in January 2008, we have pride ourselves in customer relationship building as a way of establishing long term working relationships with our clients and partners. One of the events in which we have participated was the important Bavarian festival, the Oktober Fest. We had our celebrations held at Paulaner Brauhaus on 05 October 2013. The Doka team invited a record number of 22 construction companies in Singapore to the event. The overwhelming support from the MNC and local construction companies gave us ample opportunities to enhance and strengthen existing relationships.

Indonesia International Infrastructure Conference and Exhibition - November 2013

The maiden tradeshow in Indonesia was held at Jakarta Convention Center from 13 to 15 November 2013. It was a joint effort event by Doka EAP team and Doka Singapore. The event has certainly helped to promote Doka's presence in Indonesia.

Austria National Day Celebration – October 2013

We have celebrated the Austria National Day on 25 October 2013. The Austrian Embassy welcomed more than 300 guests at 'The Gallery' of the Grand Hyatt which was "unsurprisingly crowded". Together with Doka Singapore and the EAP team, we co-sponsored the event. Guest of honor was Senior Parliamentary Secretary for Foreign Affairs, Culture, Community and Youth and Mayor Central District Mr. Sam Tan, accompanied by MP Ms. Tin Pei Ling and MP Mr. Inderjit Singh. Several of our business partners were invited to the event to celebrate the Austria National Day together in Singapore.

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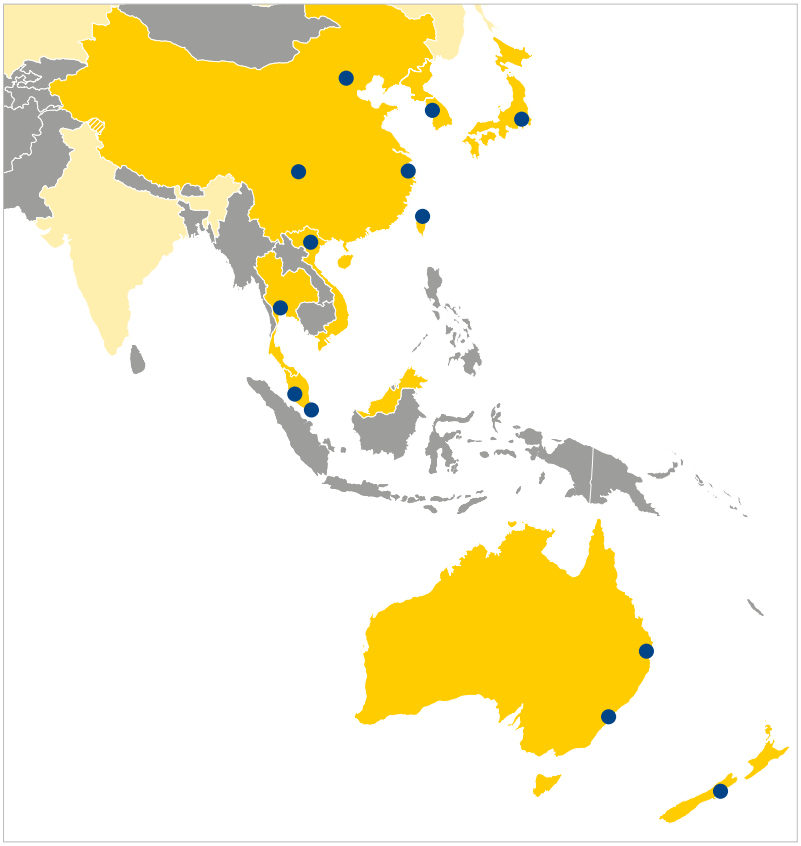

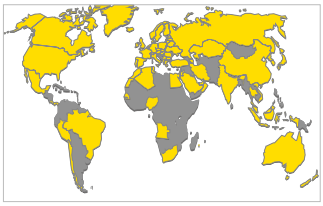

▲ **Doka branches worldwide.**
With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network.

Branches
- Doka Australia
- Doka China
- Doka Japan
- Doka Korea
- Doka Malaysia
- Doka Singapore

Authorized Agents
- Acrow Ltd – New Zealand
- DEC Engineering Corp. – Taiwan
- Subway Engineering & Supply Co. Ltd – Thailand
- SPECO (HK) Co / Chi Thang Construction Engineering and Trading Co.,Ltd – Vietnam

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In some cases the site photos show the situation during formwork assembly and are therefore not always complete from the point of view of safety.