

# Doka Xpress

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## The safe way to deliver success Investments in safety soon deliver benefit

### Australia

Doka Australia played a key role in the Bunnings Warehouse Project, ensuring a fast and a safe construction process

### China

Located at the heart of Yujiapu Financial Area, the Tianjin Baolong Center involves a super highrise building

### Japan

One large refrigerated warehouse after another has been going up in the Higashiogi-shima area in Kawasaki-shi



## Editorial



### Dear customers and readers;

Construction developments and landscaping have been moving in interesting directions over the past decade. In terms of project complexity, design and requirements, this has been a challenging time for many in the construction industry.

Today, most of the tallest skyscrapers in the world are located in Asia. The construction industry looks to formwork engineering to deliver innovative solutions that are designed to maximise cost-efficiency and are fully compliant with ultra-high safety standards. Speed and construction cycles are other significant considerations for many owners, largely due to the need to secure adequate returns on investment. For maximum efficiency, then, we must take account of the construction industry, the operating environment and the institutional restrictions affecting the activities, including the nature of project management.

The experience gained over years makes the Formwork Experts the partners of choice for every high-rise project. Doka never compromise when it comes to safety. At Doka, solutions featuring all-round safety are an integral part of the company's culture, making The Formwork Experts top-calibre people to work with on all safety issues. Doka gives you workplace and product safety, and certainty regarding your planning, all at a consistently high level.

Doka – the safe way to success!

**Yours sincerely, Gerold Heinrich**  
**Regional Director East Asia & Pacific**

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Cover picture: Lotte World Tower

## Doka News

### The height of elegance ▶

Thrusting skyward in the South Korean capital Seoul is what will soon be the tallest building in East Asia – the 555 m Lotte World Tower, which will add a striking new facet to the city's skyline. The Doka formwork solution fielded here uses SKE100 and SKE50 plus automatic climbers and the Protection screen Xclimb 60, and is ensuring swift, safe construction progress.



### 4 WTC completed ▶

Doka USA has been assisting in the Rebuilding at Ground Zero in New York with some high-performing solutions. After providing formwork for the two square waterfall-pools at the National September 11 Memorial and for Tower 2, Doka supplied climbing and floor-slab systems for the 72-storey, 297 m tall Tower 4 of the World Trade Center.



### ◀ Diamonds for the Orinoco

Taking a road and rail link across one of the biggest rivers in South America, together with its swamps and flood-plain, calls for a new crossing of truly superlative dimensions. Two 135.5 m pylons for the third bridge across the Orinoco River in Venezuela are taking shape with a formwork solution and automatic climbing technology from Doka.



# Climbing system speeds up construction

**Located at the heart of Yujiapu Financial Area** of central business area of Binhai New District of Tianjin, the Project of Tianjin Baolong International Center involves super high-rise Grade A office building, shopping mall, high-grade hotel apartment, etc., which will be developed into the largest financial city in the world.

With an overall height of 289.9 m and main body height of 249.9 m, the office building will have 300,000 m<sup>2</sup> of floor-space. The two main hotel/apartment towers are 164.7 m and 120.9 m in height respectively. The total building area under preliminary planning is around 400,000 m<sup>2</sup> (including the underground commercial area). The formwork concept for the No. 3 building of this project was supplied by Doka. The main building structure of the No. 3 building is a frame core wall structure with 59 above-ground storeys, a structure height of 255.75 m and a total height of 289.9 m.

The external framework consists of 16 tubular pillars and reinforced concrete beams, which together comprise the external frame structure system. The floors can be divided into reinforced concrete floors and profiled steel composite floors. The core wall is a rigid framework core wall consisting of 14 H-shaped steel columns and four cross-shaped steel columns and connecting steel beams.

## Climbing formwork Xclimb 60

The formwork for the core walls above second-floor level of the main building is carried on the climbing scaffold system, in the form of outside climbing and inside supporting, using site-provided steel formwork. Doka automatic climbing formwork Xclimb 60 is being used as the climbing scaffold system. Among the difficulties facing the forming operations; the structure has five variable cross-sections, with protruding cantilever frames, which requires the climbing system to avoid collisions with the cantilever frame during climbing.

Following extensive study, based on the usage situations encountered in the project, Doka technicians advised the client to deploy Doka automatic climbing formwork Xclimb 60. After being correctly assembled and set up by Doka technicians, the climbing unit is kept clear of the cantilever frame in the critical areas concerned.

## Landmark building

The steel formwork and climbing units can be connected using the steel claws provided by Doka, enabling a perfect combination of the Doka climbing system with the domestic '86 series' steel formwork, much to the client's satisfaction. Li Wencai, the Project Manager for the Tianjin Baolong International Center, is very satisfied with the proposal: "No matter whether you look at the early stage of proposal determination or at the user stage of project construction, the cooperation between us and Doka always runs very smoothly. With the help of the Doka automatic climbing system, we can complete tasks in a more effective manner, which plays a significant role in saving construction time and improving the mechanical efficiency of each machine-team during a shift." Commenced in April 2013, construction of Tianjin Baolong International Center is expected to be completed in June 2014, when it will become a landmark building in the Tianjin Financial District. //

by Anna Sun, Doka China



▲ Design sketch of Tianjin Baolong International Center upon completion.



## The facts

**Project:** Tianjin Baolong International Center

**Contractor:** China Construction Sixth Engineering Division Corp. Ltd.

**Planning:** 2012

**Completion:** 2014

**Systems in use:** Automatic climbing formwork Xclimb 60

◀ Doka automatic climbing formwork Xclimb 60 makes for improved climbing speeds.



▲ Managing Director Reiner Schwarz surrounded by his team of Doka Australia.

# Exclusive interview with MD of Doka Australia

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This short interview provides insight into the man behind Doka and his dream to live and operate a successful business in Australia. The office was established in Minto, Australia in mid-2011.

## **How did you become interested in construction?**

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Initially I wasn't interested in formwork. As a young 16 year-old I wanted to complete an apprenticeship in drafting. After approaching a number of companies I ended up joining a construction company where I began designing formwork as a draftsman.

## **How long have you been in the construction industry?**

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Well, that's good question. Actually I have never changed industries so you could say my whole life has been devoted to formwork. I had a short break when I studied engineering at university. But even

while I was studying I worked for a construction company to support myself. So really there has never been a break.

## **How long have you been with Doka?**

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I joined Doka Germany as Technical Manager many years ago. I was employed in this role for ten years and then spent several years away from Doka. During those seven years away I fulfilled a dream to run my own engineering company. It was the right time to fulfil this dream then as there were some structural changes in the company. But I have now been back with Doka for over two years.

## **What are some of the most interesting projects that you have done? And why?**

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There are two projects that stand out for me, both involving bridges. My first was a bridge in Dubrovnik, Croatia. It was such a big job and I was

involved from first contact with the client until the last invoice. The amount of formwork development needed for this project to be successfully managed was a tall order. Undertaking it was a great return on investment. It was so interesting that made it really special. The second was a bridge in Taiwan, where I did the estimating, not the project management. That was pretty interesting as well. Unlike the first project mentioned, there were plenty of other great opportunities and challenges. This was in the area of monitoring projects including document management and in-house consulting. This was really interesting because I learned a lot of different things about problem-solving and finding solutions. This taught me how to manage a group of people with varying personalities.

### **What are your visions for Doka Australia, example business and staff?**

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We want to offer the Australian construction industry the best service possible. This is the key to maximise profits for your business. In Australia there is a gap in service offers that Doka can definitely fill. My vision for Doka Australia is to create a team that works well together and respects each other's expertise. Furthermore a key element is the relationship between the manager and his staff. Good relationships are based on trust, commitment and engagement, and my key role is to build these relationships for the benefit of the organization. If I am successful then Doka employees will fulfil their roles with energy, enthusiasm and efficiently and on-time. Then I'll be a happy man (laugh).

### **What is the key difference between Doka and the other companies in Australia?**

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Well, we are more than just a supplier, that is one of my two key value statements and I aim to say this to everybody. What does it mean exactly? It means you talk to customers on the same level. You provide them support and advice as a consultant. You help them to save on the amount of formwork equipment required at their jobsite. Our clients are always surprised about why we do this as suppliers because in reality it means that we earn less money. However I am a true believer in the benefits of building a long term relationship with clients. The customer is happy to save money and we are glad to extend our network. We need to provide a different, better service than other suppliers. What Doka supplies to its clients makes me proud to be its representative in Australia.

Our product is formwork, but it is also knowledge and both are important aspects of any construction site. In my view, formwork is the key to speeding-

up a jobsite, and we should be selling our experience. Customers in Australia do not expect this service.

Here are some typical reactions from customers: If we say "Let's speed up your jobsite" and "Here is how we can save on formwork quantities for you", they normally look really amazed. But this is what will help us to differentiate ourselves from our competitors in Australia. Customers will come back, not necessarily to talk about the price, but to talk about the essentials for their jobsite. This ties in with my second value. I wish to tell our clients that Doka is the company where you can also save on labour time. After all, labour time here in Australia is expensive.

### **What is the business outlook for construction in Australia?**

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This is pretty difficult, it depends where you are, I mean there are differences even between States. Perth (Western Australia) for example is currently booming, but if you talk to some people in Melbourne (Victoria) some will say it is quite busy, while others will say it is not. Business in New South Wales is definitely growing. So it's actually not so easy to say just what the business outlook is like. Our target market share is not small. What we are aiming for is a larger slice of the pie.

### **On the light mode: What is your favorite pastime hobby?**

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It's hard to say, I have lots of hobbies. I know it's not a hobby, exactly, but the most important aspect of my life is my family. After my family I would say training my dogs and exercising with them. I also like to swim, ride my bike and do archery but these take a lot of time and often I just don't have time for all these things (laugh).

### **What is your philosophy in life?**

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I am a Christian, a believer in Jesus Christ, and I value the teachings found in the Bible. My philosophy in life is: to follow Jesus.

### **To end off: How would you describe yourself?**

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I am a reliable formwork lover (laugh)...

This interview gave me the opportunity to get to know Reiner Schwarz, Managing Director of Doka Australia, a little better. He gave me a glimpse of what is essential for a successful organisation. What is more, an exceptionally good manager achieves a hard-working, productive and effective workforce that punches above its weight in terms of its performance. // by Nelli Fuetterer, Doka Australia

### **The professional**



**"Dreams are not just visions – you are the constructor of your dreams and for following through with your dreams. Making your dreams a reality gives you a sense of worth and self-respect."**

**Reiner Schwarz**  
Managing Director of Doka Australia



▲ Large quantities of load-bearing towers Staxo 100 and Staxo 40 were erected quickly and safely.

## Safe and fast: Forming business in Australia

### The facts

**Location:** Maribyrnong, Melbourne, Australia

**Contractors:** Relux Commercial Pty. Ltd.

**Start of construction:** November 2012

**Completion:** February 2013

**Systems in use:** Load-bearing tower Staxo 100, Load-bearing tower Staxo 40, Dokamatic tables

**Doka Australia played a key role** in the Bunnings Warehouse Project, ensuring a fast and safe construction process. The project was released in a short time largely due to the range of Doka formwork systems deployed on it.

To conduct the project, Doka Australia utilised a combination of slab and load-bearing tower formwork systems. More than 2,000 m<sup>2</sup> of Dokamatic tables were used as slab formwork coupled with 12,000 m<sup>3</sup> of heavy-duty Staxo 100 load-bearing towers. Doka Australia's load-bearing shoring system, Staxo 40, assisted in the speed and accuracy of the project. The newly developed load-bearing tower Staxo 40 was used for more than 8,000 m<sup>3</sup>. This economical system stands out for being extremely easy to handle. It is engineered for high user ergonomic, enabling fast assembly and dismantling times while ensuring high workplace safety. Although this was the first large-scale Australian job using Staxo 100 and Staxo 40 shoring, the project progressed flawlessly, and the customer was delighted by the systems and the

ease of their assembly. The Bunnings Warehouse, located at Maribyrnong, Melbourne, Victoria is a multi-million dollar commercial construction project. Doka Australia was commissioned by Relux Commercial to devise and implement individualised slab systems for the project. Since the commencement of the project, Doka Australia's construction and project-management expertise have made it possible to solve the highly demanding requirements of this large-scale build, both on- and off-site. Doka Australia's solution for safe, fast and efficient construction was to use its load-bearing shoring system Staxo 40, as well as Staxo 100. This solution made it possible to erect formwork rapidly and securely, ensuring major savings on labour costs.



▲ On-ground assembly of towers makes Staxo 100 and Staxo 40 the market leader in safety, and speeds up forming cycles.



▲ Doka's innovative forming solutions will play a key role in building faster and safer in all types of construction in Australia in future.

## Client-focused

Doka Australia works to understand the specific requirements of its customers, including their design and dimension criteria. Doka's priority is to offer customers new and cost-effective solutions which are appropriate and relevant to specific local needs. Relux Commercial recognised early on that they needed a system that did not rely on conventional methods of assembling formwork at such a height. "The Staxo systems resolved a lot of problems for us as we were able to build the towers horizontally, then pick and carry them to the final position with a telehandler and a jib attachment.

This was possible with Staxo due to the locking-pin arrangement securely joining the frames together", says Relux's Commercial General Manager Peter Watson. Doka Australia's approach to construction spans everything from the initial planning phase through to the support, and covers the entire construction process.

## Big challenge

This service has been enthusiastically embraced by Doka clients. "The system performed in excess of our expectations and the feedback from our men that it was the best system they had ever used", remarks Peter Watson. Doka's Operations Manager Jan Pienaar says: "The big challenge for this first project in Australia is to deliver large quantities of formwork in a very short period. Our goal is to help our partner to understand the challenges and to find suitable solutions to the individual situation and the requirements of the project. Thanks to Doka's fast forming and stripping methods, the construction phase was expedited, enabling it to be completed several weeks ahead of schedule." The client Relux Commercial was very pleased with Doka products and the helpful assistance from the staff. General Manager Peter Watson sums it up succinctly: "We will definitely be using Doka products in our future projects." The Bunnings Warehouse is scheduled to be finished in mid-2013. // by Nelli Fuetterer, Doka Australia



▲ Doka's Eurex 60 prop, in combination with Staxo 100 and Staxo 40 for infill solutions, makes forming a lot easier.

► The tunnel formwork traveller was completely preassembled from the flexible, high-performing 'heavy-duty supporting system SL-1' in the dry dock in Baltimore, where the first trial pours for the eleven tunnel segments were carried out at the beginning of this year.

### The facts

**Location:** Norfolk, Virginia, USA

**Contractors:** SKW consortium of Skanska, Kiewit & Weeks

**Start of construction:** 2012

**Completion scheduled for:** 2016

**Type of structure:** Immersed tunnel

**Length of structure:** 1,13 km

**Systems in use:**

Products: Heavy-duty supporting system SL-1, Large-area formwork Top 50 and a custom steel construction for the outside formwork; Services: Pre-assembly, Field Service and Doka-Engineering



# An underwater solution to keep the traffic flowing

**The major order that Doka 'landed' for** the Second Midtown Tunnel will actually be finished underwater! This 1,13 km long immersed tunnel will link the cities of Norfolk and Portsmouth in the US state of Virginia. The eleven separate segments of the tunnel are being cast at a dry dock in Baltimore, MD, after which they will be floated about 320 km south to the Elizabeth River and lowered to the riverbed. The 'heavy-duty supporting system SL-1' tunnel formwork that Doka is supplying to this project is a high-performing yet cost-saving solution.

### The professionalist



**"We face some challenges on the Midtown Tunnel to achieve tight tolerances and ultra-high precision. For us in the team, that means we have to communicate and work together very intensively."**

**Andreas Zitzenbacher**  
Doka Business Development  
Competence Center

Norfolk and Portsmouth are located in the Commonwealth of Virginia in the United States. Both cities have been linked beneath the Elizabeth River since the building of an underwater tunnel just over 50 years ago. Carrying around a million vehicles per month, this transportation artery is one of the busiest routes east of the Mississippi. Chronic congestion in and around the two-lane tunnel, and long journey times, are the order of the day. To relieve this situation, the old Midtown Tunnel is to be rehabilitated and a new two-lane immersed tunnel built alongside it. Together with the existing tunnel, the Second Midtown Tunnel will double traffic capacity on this route.

Doka supplied the formwork solution for a similar project in 2005: the 3 km long Busan-Geoje Fixed Link is one of the deepest immersed tunnels in the world and connects South Korea's second-largest city, Busan, to the island of Geoje at a depth of as much as 60 m. The 100-percent custom-built solution convinced the construction firm Daewoo and enriched the Doka tunnel experts' long-standing experience with yet another prestige project.

### 'Deep-diving mission'

The 1,13 km long Second Midtown tunnel will consist of eleven separate segments, each





▲ The combination of the high-performing 'heavy-duty supporting system SL-1' tunnel formwork and Large-area formwork Top 50 is ideal for the box cross-section of the eleven tunnel segments for the immersed Second Midtown Tunnel.

measuring approx. 106 m long by 16 m wide by 8,8 m high. Each segment weighs nearly 13.000 tons and is being pre-cast in a dry dock in Baltimore, Maryland. The finished segments will then embark on an about 320 km southbound voyage, being floated down Chesapeake Bay on giant barges to the immersion site in Norfolk. Here, the tunnel segments will be fixed together underwater and sealed with rubber seals. This special system, and the use of watertight concrete, make the Second Midtown Tunnel only the second such tunnel in the whole US not to need an external steel skin.

At the dry dock, the preassembly work on the Doka tunnel formwork traveller was completed at the beginning of 2013 and the first trial pours are now being carried out. From June onward, the tunnel segments will enter 'series production'. From February 2013 until April 2014, preparations at the tunnel site under the Elizabeth River will be in full swing. The riverbed around the tunnel will be dredged into shape so that the segments can be lowered into place, on schedule between November

2014 and November 2015. Once it is completed in September 2016, the Second Midtown Tunnel will get traffic flowing smoothly again across the bed of the Elizabeth River.

#### High-performing formwork solution

By opting for the heavy-duty supporting system SL-1 from Doka, the SKW Constructors Inc. consortium of Skanska, Kiewit and Weeks have chosen a flexible, high-performing formwork solution. Designed for high loads, the Heavy-duty supporting system SL-1 provides an exceedingly strong, torsion-proof sub-construction for the tunnel formwork.

The heavy-duty supporting system SL-1 has already performed convincingly under difficult geological conditions on Switzerland's 57 km long Gotthard Base Tunnel, the longest railway tunnel in the world. Its short cycle times, and ease of formwork set-up and removal, were clinch factors for the client. This heavy-duty supporting system was also fielded on the large-scale upgrade and extension of the M4 metro line in the Hungarian capital Budapest. //



▲ Preparations for the immersed Second Midtown Tunnel are underway in the dry dock.

# Twin Towers Qatar: double impact on Doka climbing tasks

## The facts

**Jobsite:** Twin Towers

**Location:** Doha, Qatar

**Customer:** Arabtec Constructon LLC

**System in use:** Automatic climbing formwork SKE50, climbing formwork MF240, Large-area formwork Top 50, Load-bearing towers Staxo 40

**In recent years,** Doha – the capital city of Qatar – has seen many spectacular new skyscrapers rise above its West Bay business district.

The contractor Arabtec Construction LLC is building two 185 m skyscrapers in the brand-new business district of West Bay in Doha. The two towers will each house offices and hotel rooms on 48 storeys, complete with three podium levels of multi-storey parking space and two basement levels. Work began in 2010 and is scheduled to take 30 months.

### Keeping pace with SKE50

Doka climbing formwork SKE50 is setting the pace on the building of the two CIP concrete cores. Both cores are being climbed ahead of the floor slabs using a total of 94 automatic climbers SKE50 and 1,800 m<sup>2</sup> of large-area formwork Top 50. The climbing scaffolds come with completely railed-in working platforms and are anchored to the concrete at all times – ensuring the greatest safety for the site crew even in high wind conditions. Arabtec Project Manager Mohammed Ali Nada is very satisfied with the construction progress: “Our collaboration with Doka Qatar has gone very smoothly, both in the planning stage and during the build itself. The economical formwork systems are

easy to handle and are crucial in helping us to work more effectively and save time.”

### Plenty of space for safe working

To form the stiffening shear walls at the slab edges, Doka supplied its large-area formwork Top 50. This versatile system, nearly 830 m<sup>2</sup> of which is in use on each casting section, adapts readily to the structure changing geometry. The 2.40 m wide platforms of the crane jumped formwork system MF240, also in use here, has provided ample room for safe working.

The versatile Dokaflex floorslab system is being used for the typical storey floors, while the high slab supports needed in the podium zone are being provided by load-bearing towers Staxo 40. This weight-optimized load-bearing tower system is engineered for high user ergonomics, enabling fast assembly and dismantling times while ensuring high workplace safety. In this way, Staxo 40 makes a crucial contribution towards greater efficiency in the construction workflow. //



► Doka has supplied a complete package of formwork resources for the Twin Towers development in Doha's West Bay – including the automatic climbing formwork for the shaft cores.



▲ Star architect Renzo Piano designed the Torre Intesa Sanpaolo in Turin.

# Technology and expertise for the new Renzo Piano's skyscraper

**The Italian city of Turin** will soon boast yet another architectural masterpiece. After the famous landmark Mole Antonelliana, the Torre Intesa Sanpaolo by Italian star architect Renzo Piano will be the city's second-tallest building. This 167 m office tower is being built for client Intesa Sanpaolo, an Italian bank whose new headquarters this will be, with space for 2000 staff.

The skyscraper Intesa Sanpaolo will be 167 m high and become the new landmark of Turin, as the second highest building of the city after the famous Mole Antonelliana. Commissioned by the Italian bank Intesa Sanpaolo, Italian architect Renzo Piano designed the new headquarters, where more than 2.000 employees will be relocated. For the structure core, the Doka Formwork Experts developed a formwork solution based on automatic climbing formwork SKE50 plus. This prestige project also saw successful deployment of the next generation of crane-independent climbing – SKE100 plus. SKE50 plus is the crane-independent system for structures

of any shape and height, with maximum efficiency and crew safety. Formworks and working platforms climb together as a unit, without using the crane. The hydraulic units remain anchored to the concrete at all times and allow a constant productivity for all the construction process, independent from the weather conditions. In order to protect the poured slabs, the side-guard system XP was installed, as well as on the wheeling-out platforms. The know-how in highrise building and the Project Manager service were the very added value of Doka's solution for the site and it was also one of the reasons why Doka Italy got the commission. //

## The facts

**Jobsite:** Torre Intesa Sanpaolo

**Location:** Turin, Italy

**Customer:** Banking Group Intesa Sanpaolo

**Systems in use:** Automatic climbing formwork SKE100 plus, Automatic climbing formwork SKE50 plus, Large-area Formwork Top 50, Load bearing tower Staxo 100, Edge protection system XP, Floor system Dokaflex





▲ Doka Japan was chosen to supply column and wall formwork for a project to build a large refrigerated warehouse in reinforced concrete.

## Coming in on schedule

**One large refrigerated warehouse after another** has been going up in the Higashiogi-shima area in Kawasaki-shi, Kanagawa Prefecture, giving this region total cold-storage capacity of 700,000 tonnes. Add to this the 180,000 tonnes of extra capacity in all the new warehouses scheduled for completion by 2014, and the Kanagawa Prefecture will have the largest cold-storage capacity of any prefecture in Japan.

Various different types of structure are used for refrigerated warehouses in Japan, but in this instance Doka Japan was chosen to supply column and wall formwork for a project to build a large refrigerated warehouse in reinforced concrete.

This was an extremely demanding and challenging assignment in which the works for the total floor area of 52,000 m<sup>2</sup>, four storeys, and two different storey heights (5.8 m on the ground floor and 8.19 m in the 1<sup>st</sup> through 3<sup>rd</sup> floors) had to be carried out in a shell construction period of only seven months.

The reconstruction work following the Great East Japan Earthquake of 11<sup>th</sup> March 2011 has been

exacerbating the shortage of skilled workers and new workers (the number of construction workers is in any case decreasing by one million every year). The shortfall in the number of formwork carpenters in the Kanto area has become particularly severe, and this imbalance between supply and demand has caused a steep rise in construction costs. Under these circumstances, it would have been extremely difficult to secure the labour resources needed in order to complete such a large warehouse structure, with high storey heights, within the planned construction period using the conventional labour-intensive construction method. It was thus decided to field Doka's system formwork Framax Xlife for walls and columns,

### The facts

**Name:** Higashiogi-shima Refrigerated Warehouse

**Location:** Higashiogi-shima, Kawasaki-shi, Kanagawa Prefecture, Japan

**Construction Period:** May 2011 – January 2013

**Total floor area:** 52,000 m<sup>2</sup>

**Structure/size:** RC structure / 4 above-ground floors / storey height of 8.19 m



▲ The total area of formwork used was 1,700 m<sup>2</sup> – for six rotations on each floor in a 4-day cycle.

so as to streamline the forming operations and greatly lower the amount of formworking labour required. Doka met the construction deadline with a reduced average number of 15 to 20 formwork workers per day and gained a high reputation by implementing eight Framax column formworks and 1,400 m<sup>2</sup> of wall formworks (total area of formwork used: 1,700 m<sup>2</sup>) for six rotations on each floor in a 4-day cycle.

required, and (3) the Dokamatic Table provides a significant reduction in shoring costs. In the meantime, to enhance the productivity and economic efficiency of system formworks still further, it is advisable to consider these aspects in the early stage of planning – good reason for contacting Doka Japan sooner rather than later! //

by Hiromi Suzuki & Yumiko Sato, Doka Japan

### Practical proposal from Doka

Doka Japan has been proposing a number of Top 50 column formworks, Framax Xlife column and wall formworks, and Dokamatic Table floor formworks to builders of logistics warehouses and refrigerated warehouses in Japan, and the number of adoptions has been skyrocketing. The major reasons for adoption are that (1) the proposed solutions provide high construction speed (productivity) with a large system formwork featuring high rigidity and quality, (2) they minimise the impact of labour shortages (i.e. labour cost-increases) by reducing the amount of labour



▲ Doka gained a high reputation by implementing eight Framax column formworks and 1,400 m<sup>2</sup> of wall formworks.



▲ Four different theme worlds gave visitors an overview of formwork solutions for all sectors of construction: Residential, Highrise, Transport and Energy.

## bauma achieved new records

**The bauma 2013** – the biggest ever – was a huge success for Doka, with customers, associates and employees all deeply impressed by Doka's display of capability.

Between 15<sup>th</sup> and 21<sup>st</sup> April 2013, 110,816 interested fairgoers took a trip through the world of formwork technology in the Doka Cube in Munich, Germany, and saw a close-up how Doka made its motto 'Pathbreaking. Beyond solutions.' come alive. A one-of-a-kind show performance, a great many product premieres, the evening

events and record visitor numbers were among the highlights of Doka's bauma presence. "bauma 2013, the construction sector's premier international tradeshow, has met more than our high expectations", says Doka Group Chairman Josef Kurzmann. //



▲ Even as they entered the Doka Cube at bauma, visitors passing through the entrance lobby had already have experienced a foretaste of the company's new visual identity and its tradeshow presentation.



▲ More than 110,800 interested fairgoers took a trip through the world of formwork technology in the Doka Cube in Munich.



▲ The Doka Show was a "breathtaking" highlight in the Cube and impressed the visitors at bauma 2013.



▲ Above all, the Doka Cube has been a place of encounter and discussion.



▲ The international audience enjoyed the evening events at the Doka Cube.



▲ In the 'Energy' Theme World, Doka displayed individualised solutions for tackling the technological challenges and complex assignments encountered on power-station structures of all kinds.

## Round-up of Doka safety systems

### Working and protection platforms

- Bracket platform M
- Folding platform K
- Platform system Xsafe plus

### Fall-arrest protection

- Handrail posts & clamps
- Edge protection system XP

### Protection screens

- Protection screen Xclimb 60

### Access systems

- Stair tower
- Ladder system XS

► The Protection screen Xclimb 60 lets you carry out construction work in the top building-levels of high-rise projects in great safety, and protected from the weather.



▲ Doka folding platforms K are pre-assembled, work-ready scaffold platforms with standardised system components for all usage situations.



▲ Platform system Xsafe plus: The pre-assembled, fold-out working platforms are ready for immediate use and substantially enhance workplace safety.





# The safe way to success

**Investments in safety** soon deliver demonstrable benefit to every project. Greater cost-efficiency, a reduced risk of accidents and enhanced employee motivation are just some of the advantages of implementing a professional safety concept on the site.

When it comes to safety, Doka takes a holistic A-to-Z approach that runs all the way from product development to safety consulting, and to its extensive range of safety products and services. At Doka, solutions featuring all-round safety are an integral part of the company's culture, making The Formwork Experts top-calibre people to work with on all safety issues.

A holistic understanding of safety begins right from when formwork systems are still under development. Safety, ease of handling and ergonomic design are among the key characteristics of Doka products. This begins with the choice of materials for the system components, and with the documentation on how the product is used. The use of high-grade materials for all formwork components not only makes them last longer, it makes them safer, too. The Doka product range undergoes continuous testing and onward development with regard to safety, and as a result Doka formwork systems are dependable and efficient equipment for every construction project.

## Systematic safety

Doka systems unite speed, safety and cost effectiveness on the site. For a high standard of safety, Doka offers complete systems for floor, wall or column formwork. These come with 'on-board' protection features such as ladder-ways or working platforms with integral edge protection. Pre-assembly of the protective elements at ground level, and easy-to-use connector components that allow the formwork and platform to be repositioned in one piece, make for swift, safe work on the site. Doka's own platform systems, such as bracket platform M or folding platform K, are reliable, easy to use and versatile.

Vertical-access solution such as the stair tower or the ladder system XS gives Doka customers' a 'safe way up to great heights', with access to all work-deck levels. These ergonomically designed systems facilitate efficient workflows by allowing crews to safely climb up and down with less physical effort. New developments such as the framed enclosure Xbright for the protection-screen system Xclimb 60 enable a new quality of working on site. Safety

also pays off in moving and transport processes. Innovative solutions like the self-climbing and crane-independent Table Lifting System TLS or the high-performing DoKart set a new benchmark for vertical or horizontal repositioning of table-forms and optimise site logistics in terms of safety and speed.

## Efficient usage

As early as in the planning phase, Doka supports its customers with professional consulting and its long expertise with safety issues. In-depth analysis of the initial situation provides the basis for individualised solutions in which suitable products such as ladder-ways and protection systems are incorporated into the formwork planning right from the start. Efficient usage of formwork system is achieved not only by the features themselves, but even more so by using their components correctly.

This is why high-quality documentation such as formwork utilisation plans, instruction manuals and safety data sheets are such an important basis for a safe site. Services such as practical, relevant training offerings, Formwork Instructors and fielding technical advisers facilitate a high level of safety on-site. //



▲ Doka's ds button is a visible sign pointing to where customers particularly benefit from the safety of Doka products.



▲ The edge protection system XP from Doka is a universal safety solution for all edge protection needs.

◀ System-based ladderways with integral ladder cages can be attached to Doka wall and column formwork in a few simple steps.

► All-round safety: The polycarbonate-inlay variant of the framed enclosure Xbright for the Protection screen Xclimb 60 is translucent yet wind-impermeable.



Photos: Tainus Turm, TismannSpeyer, Frankfurt/Main, Germany  
Contractors: Ed. Züblin

## All-round protection in a new light

### The professional



**“The gapless framed enclosure Xbright for the Protection screen Xclimb 60 makes for safe working conditions on the site. The self-climbing system is simple to adapt to varying layouts and inclinations, enabling it to be used on even very complex high-rise projects.”**

**Thorsten Kirchweger**  
Doka Product Manager

**The newly developed framed enclosure Xbright** for the Protection screen Xclimb 60 has passed its field trials with flying colours: The variable enclosure can be deployed on all highrise projects to provide all-round protection at any height.

Depending on the requirements, users can choose between two different design variants, with frames that have either polycarbonate or mesh inlays. The wind-impermeable, non-see-through yellow polycarbonate inlays make possible a new quality of working, at any structure height. The tough plastic inlay is translucent, providing good natural day-lighting inside enclosed work decks – even beneath floor-slab formwork. The frames with the

close-meshed inlays are both translucent and air-permeable. The frames' hot-dip galvanised and powder-coated finish promises a long service life. In the same way as all other Doka safety systems, Xbright is easy to plan, use and operate. It is firmly linked to the structure at all times, ensuring safety even in windy conditions. Horizontal and vertical sealing strips prevent any items from being dropped, even while the screen is being raised. //



▲ The modular design concept of the crane-independent automatic climbing formwork SKE100 plus provides individualised, cost-efficient and safe solutions for every type of structure.

## Next-generation climbing

**Doka climbs into the future:** Drawing on its experience from planning thousands of climbing units for SKE100 projects over the past 15 years, the Formwork Experts have developed the Automatic climbing formwork SKE100 system still further.

The resulting new generation – SKE100 plus – scores for yet more workplace safety, more flexible scope for usage and even greater cost effectiveness. SKE100 plus is a highly efficient system-based ‘construction kit’. There are no restrictions on how its parallel climbing units can be planned, so the system can be adapted to any shape of layout and any structure height, even where there are varying wall inclinations and

wall-returns. For example, the improved standard solutions provide a generously sized workspace on shaft formwork units. The all-round enclosure allows work to take place in safety; unaffected by weather conditions. The system's integral platforms, stair towers and ladders ensure yet more safety. Several parallel climbing units can easily be repositioned at a time, by push-button radio remote-control. //

# New faces in East Asia & Pacific



**Noel Rodrigues**  
 Doka Australia  
 Sales Representative  
 Date joined: Jan 2013  
 "In a sales role every new day brings on new challenges and an opportunity to think outside the box."



**Nelli Fuetterer**  
 Doka Australia  
 Marketing Assistant (Intern)  
 Date joined: Jan 2013  
 "I am hungry to learn more about Marketing and Sales. I would love to find a way to combine research and creative marketing in my future job."



**Kent Ng**  
 Doka China  
 Managing Director  
 Date joined: Mar 2013  
 "Our people are number one in my mind. I rely on and trust our staff, for whatever I need to accomplish. I am building an A-team in Doka China."



**Justine Xu**  
 Doka China  
 Operations Manager  
 Date joined: Mar 2013  
 "My job is like cooking, with creativity, passion, limited but expensive cooking material and time. That's very challenging but also interesting. I am proud when I solve problems."



**Daisuke Ishikawa**  
 Doka Japan  
 Service Assistant  
 Date joined: Apr 2013  
 "I feel tremendous job satisfaction when I apply patches nicely and assemble panels well."



**Tae-Han Youm**  
 Doka Korea  
 Project Technician  
 Date joined: Jan 2013  
 "Top priority is to make my drawings 100 % sure. To do that, I will keep learning and improving my technical skills continuously."



**Jae-Seng Yun**  
 Doka Korea  
 Formwork Instructor  
 Date joined: Apr 2013  
 "As a formwork instructor at job site, I am proud to be a responsible for Doka products. I will do my best to give satisfaction to our customers."



**Crisencio Sunja**  
 Doka Malaysia  
 Engineer  
 Date joined: Apr 2013  
 "In my job, we deal with different types of structure, that means different challenges each scheme."



**Dhurkha Devi D/O Munernd**  
 Doka Malaysia  
 Warehouse Admin Assistant  
 Date joined: Mar 2013  
 "I would like to gain more knowledge, learn new skills, built up teamwork between us and bring our company towards excellence!"



**Muhammad Fareez bin Sudartono**  
 Doka Malaysia  
 Formwork Instructor  
 Date joined: Apr 2013  
 "I assist workers to follow Doka methods in the right way. My aspiration is to be an expert in the field of construction."



**Albert Yip**  
 Doka Malaysia  
 Senior Account Executive  
 Date joined: May 2013  
 "The best part is when all the necessary and important task are done within the timeframe and accounts are run smoothly."



**Nenad Hajdin**  
 Doka Singapore  
 Warehouse Manager  
 Date joined: Jan 2013  
 "I like the challenge of organizing and monitoring all warehouse activities. My aspiration is to have well organized, functional and competent work units."



**Tan Soon Kwan**  
 Doka Singapore  
 Commercial Manager  
 Date joined: Feb 2013  
 "I enjoy working with people, both with colleagues within the company and with customers, to get mutually beneficial results."



**Soyeb MD Jamal**  
 Doka Singapore  
 Warehouse Assistant  
 Date joined: Feb 2013  
 "I'm working in a positive environment, my aspirations are high volumes and a good condition of deliveries."



**Ng Chin Chuan**  
 Doka Singapore  
 Formwork Instructor  
 Date joined: Mar 2013  
 "I like to be able to coordinate with the clients at the job sites to get the work done. Seeing the completion of well assembled Doka formworks brings me great satisfaction."

# In brief

News, dates, media, awards

## Safety Show at Queensland, Australia

Doka Australia has been awarded with the best new exhibitor award at the Queensland Safety Show held in Brisbane on the 18<sup>th</sup> of June 2013. The show was held from 18<sup>th</sup> to 20<sup>th</sup> June 2013. The international formwork supplier demonstrated how every construction project can be delivered with greater cost-efficiency, a reduced risk of accidents and enhanced employee motivation.

## 14<sup>th</sup> International Architecture, Interior Design and Building Exhibition, Malaysia

Doka Malaysia participated the recent 14<sup>th</sup> International Architecture, Interior Design and Building Exhibition, Malaysia. In short, ARCHIDEX 2013. Event was held the KL Convention Centre from 19<sup>th</sup> to 22<sup>nd</sup> June 2013. It is an event which has drawn many enquiries and customers to the event.

## Training Development in Japan

A creative product and sales training was conducted at Doka Japan some months ago which has created a receptive, impactful and impressionable session.



▲ "Safety first!": Doka had been awarded at the Queensland Safety Show.



▲ The Doka team in front of the booth at the ARCHIDEX 2013.




▲ Active training with great impacts at Doka Japan.

## Doka East Asia & Pacific Regional Office

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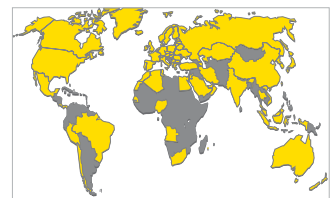
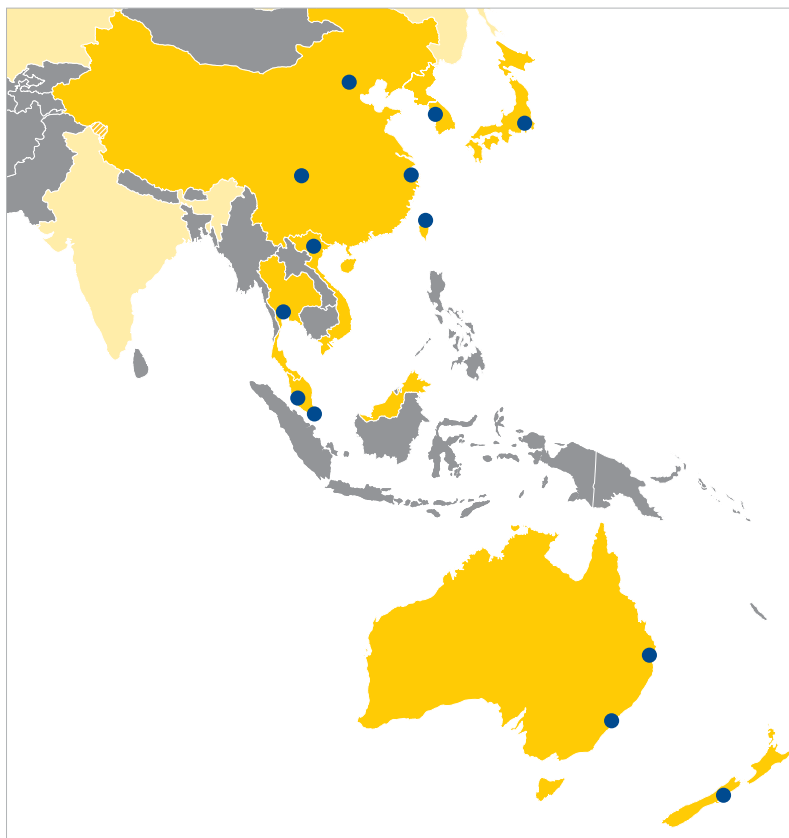
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▲ **Doka branches worldwide.**  
With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network.

### 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.**