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ON THE COVER Wanangkura Stadium in Port Hedland, Australia **ARCHITECTURE** Fisht Olympic Stadium; Arena das Dunas; Estadio Nacional de Fútbol de Venezuela, en Caracas; Palace of Water Sports; Mount Panorama Motor Racing Circuit **INTERIOR** Restaurants & Bars **LANDSCAPING** Westgate Wonderland & Children's Garden at Gardens by the Bay in Singapore **PLUS** Building Automation Trends & Interview with Mr Christophe Inglin, Managing Director of Phoenix Solar Pte Ltd

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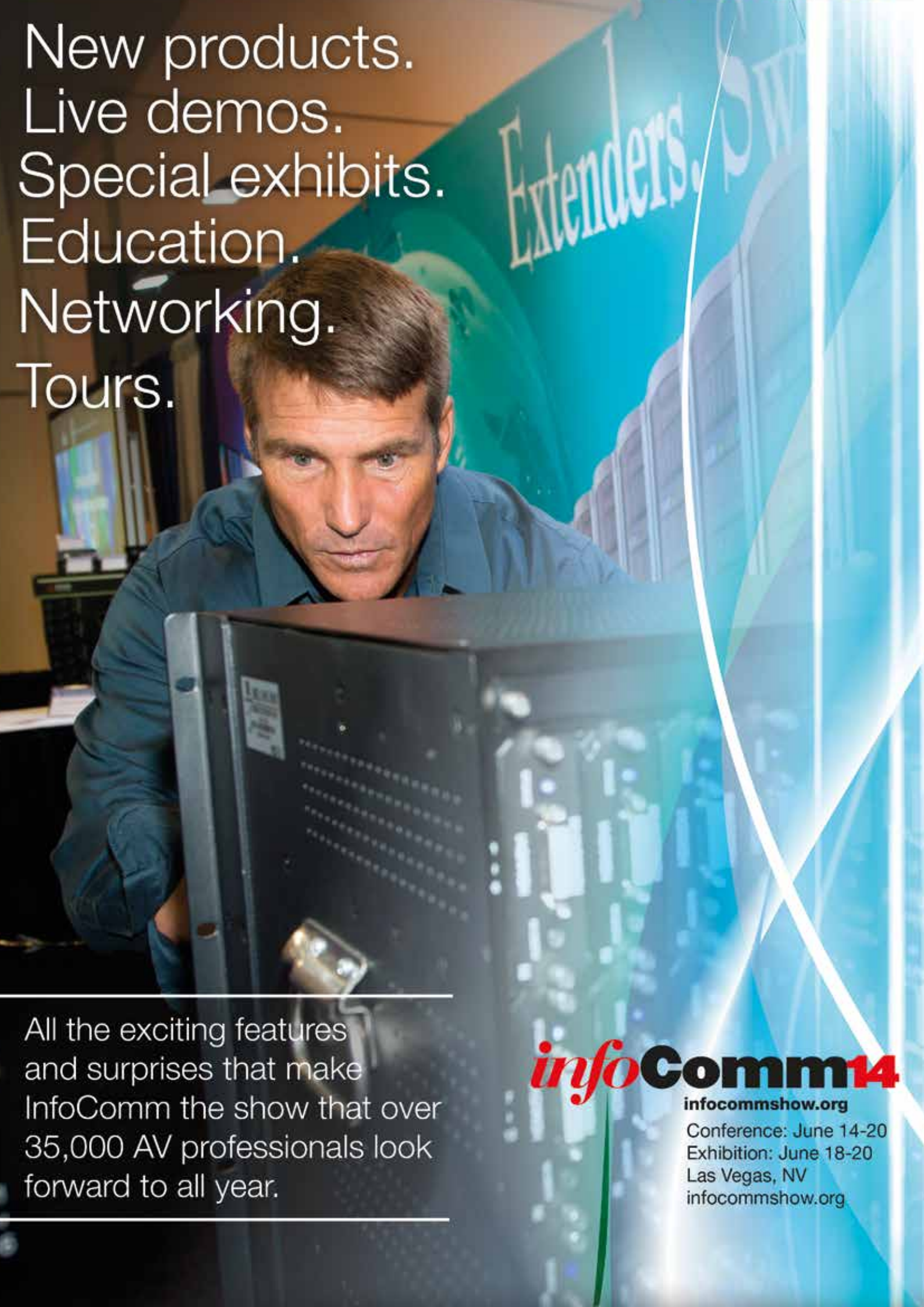
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Making energy together

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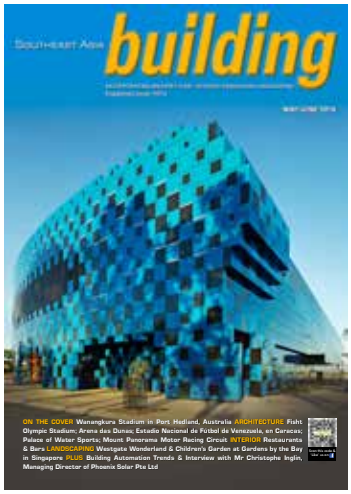

On the Cover: Wanangkura Stadium in Port Hedland, Australia.
Photographer: © Peter Bennetts

Cover design by Fawzeeah Yamin

GCC Sliding And Stacking Wall System

GCC Sliding And Folding Wall System

The three core principles of **GCC** are to provide **good quality, creditable and consideration products and services** to our customers since its establishment.

GCC has dedicated huge efforts in glass hardware and system development since 1981. **GCC** also provides variety of great solutions for users to create wide, fresh, and comfortable spaces. The product range cover from houses, office buildings, restaurants, hotels to department stores, etc.

Space planning is always a key point that designers and users focus on. To better serve user's expectation and the market trend, **GCC** launches "**Heavy Duty Sliding And Stacking Wall System**" and "**Sliding And Folding Wall System**". There are two major features of these two creative systems. First of all, it does not require to drill through glass and no need to use AB glue on glass. These two features offer more convenient operability to users and significantly cut down the installation time. Moreover, it does not require floor guide anymore, and it keeps the floor flawlessly from washing and dust and maintains simple and neat partition system. In addition, **GCC** offers anti-UV PVC seal, weather resisted rubber seal and weather brush to keep mosquitoes and insects away. All these options allows customer to flexible apply **GCC**'s products in different conditions.

To provide great living experiences to customers, **GCC** has its QC team to oversee the product with high-standard, and never compromise product quality, safety and endurances of market price competition. **GCC** develops its unique designs and holds patents in many countries. Quality assurance is always the top priority for **GCC** and we hope thorough our effort we can see application for glass hardware and systems in numerous spaces.

Looking forward, **GCC** will continue to devote its effort in developing more user-friendly systems to offer more effortless solutions, and most importantly to provide better living experiences to users.

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editor's note

Hello dear readers! Welcome to the May/June issue. As you would have guessed from the cover, sports venue design is the key theme in this issue. These days, the modern stadium is more than just a stadium – it is a development that reflects the feelings of the national pride and local identity. We showcase some new as well as upcoming sports stadiums in the world, which have been built with these design objectives in mind.

In this issue, we also have a theme on designing restaurants and bars. Sometimes it is amazing how the interiors of individual restaurants can look different and offer a unique dining experience. We hope you find the projects that we have published interesting to read.

For our Landscaping section, we are excited to share with you some new playgrounds in Singapore. With interactive technology, playgrounds have become even more fun, exciting and adventurous. You can read about the newly opened Westgate Wonderland and Children's Garden at Gardens by the Bay in Singapore, all in this section.

Plus, we explore the theme on Building Automation in the Facility Management section. If you want to know the trends between Asia and Europe and the future of building automation, turn to pages 108 to 113.

Enjoy reading this issue! If you have any suggestions for future topics to be covered in the magazine, please let me know via e-mail seab@tradelinkmedia.com.sg.

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DORMA launches its Showroom in Jakarta

Jakarta, Indonesia – DORMA, the international leader in premium access solutions and services with more than 100 years of experience in manufacturing and offering products and services to enable better buildings, is opening a new Showroom in Jakarta, Indonesia, to better serve the architectural and interior-design community. The company is a global specialist in safety and security for buildings, and offers a comprehensive range of products for fire and emergency doors complying to European (EN), and American (ANSI/BHMA and UL) Standards.

Located at the address given below, the unique Showroom offers information, guidance, and direct experience on doors, door hardware, and access-control technology to architects, interior designers, developers, owners, and contractors. Visitors to the Showroom can also learn about automatic doors & operators, glass fittings & accessories, and other related products.

Specification materials, videos, and a database of case studies are also available in the Showroom, and the innovative displays make it possible for visitors to feel and see some of the DORMA products in action. They can also benefit from the assistance of staff members who possess architectural and design experience.

The DORMA Showroom will also be the venue for product training, instructional sessions, product and service introductions, and other events serving the design community. It will also hold design consultations and other meetings for all the users of its range of high performance and high quality products, which are designed to suit every need and every budget. The company's target projects are hotels, airports, hospitals/medical centers, convention centers, and shopping malls, and, in general, all other projects where safety, security, and quality are pre-requisites.

The DORMA Showroom is expected to open in early June 2014. **For more information, please contact PT. DORMA Far East at tel (+62) 21 2930 3762 or fax (+62) 21 2930 3763.**

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New measures for developers to drive construction productivity improvements

Singapore – The Building and Construction Authority in Singapore has introduced new measures such as requiring the use of productive technologies for selected Government Land Sales (GLS) sites are aimed at getting more developers to adopt new technologies and lead the demand for such technologies.

Forté was built using CLT. Designed and built by Lend Lease in Melbourne, Australia, Forté is 10 storeys high and is the tallest residential timber building in the world. Photos: © Lend Lease

From the second half of this year, the use of Prefabricated Bathroom Units (PBUs) will be mandated for all residential GLS sites, to drive greater adoption of the technology which is able to reap manpower savings of about 60 percent. More than 14,000 of such bathrooms, which are fully fitted out in factories before being assembled on site, have been adopted in more than 20 private residential projects since 2005. The adoption of new productive technologies such as Prefabricated Prefinished Volumetric Construction (PPVC) and Cross Laminated Timber (CLT) will also be required for some suitable GLS sites.

In addition, a minimum percentage of prefabrication level will be set for Industrial Government Land Sale projects starting from the second half of this year. To encourage private developers to adopt new productive technologies, incentives will be given to those on non-GLS projects and those who are going beyond the requirements for GLS projects. To further boost productivity and promote easier-to-build building designs and labour-efficient construction methods, certain types of new projects will also be required to adopt a range of pre-determined standardised floor heights and building components such as precast staircases, precast refuse chutes and doors from September this year. All residential non-landed developments will have to use drywall for internal partitions except for wet areas such as bathroom and kitchen areas. Requirements on buildable designs and use of labour-efficient construction methods will also be raised progressively to achieve greater productivity improvements.

"Buildings can be completed faster with the use of these productive technologies. When pushing for the adoption of productive technologies such as drywalls, PBUs, PPVC and CLT, we look beyond just labour efficiency. We also consider if they can help to reduce dis-amenities to residents living near the construction site. As these technologies involve a large extent of off-site production before they are assembled on site, we can expect less noise and dust during construction," said Dr John Keung, CEO of the Building and Construction Authority (BCA).

To ensure that developers take greater ownership in implementing buildable design and use of labour-efficient construction methods, appropriate enforcement action may be taken against developers whose projects deviate from the approved plan.

The Government will also be taking the lead in driving productivity. Key Government Procurement Entities (GPEs) will be formulating their own productivity roadmaps and adopting the national productivity target of 2 percent to 3 percent productivity improvement per year. The tender evaluation for consultancy and construction of government projects will also further recognise progressive firms with good track records in adopting productive construction designs and methods. A higher productivity weightage will be accorded under the tender evaluation framework. More details will be announced later.

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Grimshaw selected to produce concept design for Ireland's most prestigious racecourse

Sydney, Australia – Grimshaw, in association with Newenham Mulligan & Associates (NMA), has been chosen to produce a concept design for the redevelopment of The Curragh Racecourse, Ireland's spiritual home of horse racing.

The practice's proposal for this prestigious Irish venue was selected following an international architectural design competition run by the Turf Club, which saw entries from more than 100 leading practices. The competition sought an outstanding master plan that could modernise the site whilst respecting the surrounding landscape.

The Curragh is considered to be one of the best racetracks in the world and is a centre for showcasing, racing and training some of the best thoroughbreds globally. The racecourse is situated on a site rich in history and tradition, the preservation and strengthening of which was a core consideration of the winning proposal.

Integral to the concept for the new grandstand and wider master plan is the importance of celebrating the unique landscape of the Curragh plains, whilst retaining the intimate and distinctive character of the existing racecourse grounds.

The redevelopment aims to upgrade the facilities and amenities of the site with an innovative design that will create a sense of arrival, atmosphere and excitement.

Grimshaw Partner Kirsten Lees said: "The master plan provides an opportunity to review the site and the wider offer in a way that cherishes its existing qualities but also enables The Curragh to meet the demands of the future and continue to compete at an international level. "The integration of the new grandstand into this beautiful setting will be carefully and sensitively handled to establish a connection and balance between the natural and the man-made," added Kirsten.

Photo: © Grimshaw

Photo: © Grimshaw

Atkins cooperates with MARA to contribute to Malaysia's Economic Transformation Plan

Hong Kong – Atkins has signed a contract with MARA to deliver the concept design for buildings and the master plan for core and potential extension areas of the Asia Aerospace City Subang, Malaysia. The Malaysian Prime Minister witnessed the signing ceremony and congratulated both parties.

Chris Birdsong, Atkins' Chief Executive Officer for Asia Pacific, said, "I am excited about this strategic project. In line with Malaysia's Economic Transformation Plan, which calls for the nation to become a self-sufficient industrialized nation by the year 2020, education plays a vital role to achieve the vision. We are extremely proud to contribute to this vision which will directly benefit the local community."

"I am also delighted to work with MARA for this project. The combination of international expertise we bring combined with MARA's vision and profound local know-how will help both parties to unlock more opportunities in the market in the future."

Upon completion, the development will provide office accommodations to international engineering firms and training facilities and opportunities to local engineers and engineering students.

Contract signing ceremony for the Asia Aerospace City Subang. The Malaysian Prime Minister (left 2 at the back) is witnessing the signing between Atkins and MARA.

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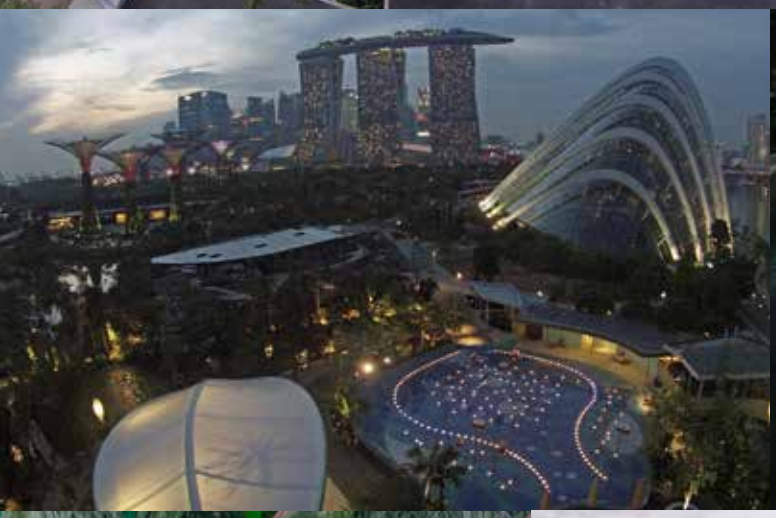

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Malaysian Timber Council publishes guide on Malaysian Hardwoods

Kuala Lumpur, Malaysia – The Malaysian Timber Council has launched a new publication called the "Malaysian Hardwood Guide" on Malaysian hardwoods.

The Malaysian Timber Council (MTC) attends up to 40 trade events around the world annually, in established vand new markets. It promotes hardwood products ranging from logs and sawn timber to mouldings, veneer, plywood, particleboard, medium density fibreboard (MDF), wooden and rattan furniture, builders' carpentry and joinery items, as well as niche-market products like picture frames, pre-finished parquetry, wooden doors and laminated veneer lumber.

These hardwood products are now detailed in this Malaysian Hardwood Guide to be distributed at all events attended by MTC.

"The Malaysian Hardwood Guide is an introduction to the exciting world of Malaysian timber-based products, whether made predominantly using Malaysian timbers, or in combination with other timber species from around the world," said Datuk Aaron Ago Dagang, Chairman of MTC.

The articles in this inaugural edition of the Guide are meant to provide background information on many of these products, as well as feature a few exciting projects in which Malaysian timbers have been applied to excellent effect. The Guide should assist traders, manufacturers, specifiers and developers to understand the choices of hardwood products available from Malaysia.

For a free copy of the Guide and to learn more about Malaysian timbers and Malaysia's commitment to strike a balance between forest conservation and deriving socio-economic benefits from forests, visit www.mtc.com.my.

Häfele (Thailand) Limited receives the first DGNB Certificate

Bangkok, Thailand – Mr Volker Hellstern (3rd from left), Managing Director and Mr Rattana Poonsanga (2nd from left), Sales Director of Häfele (Thailand) Limited recently accepted the first DGNB Certificate, a globally accepted certification scheme of highest standard for sustainable constructions, that has ever been issued to a building in Thailand from the conference on "Energy Efficiency in Buildings" organised by the German-Thai Chamber (GTCC) together with the German International Cooperation (GIZ). The certificate was awarded to Häfele Design Center in Phuket.

Häfele Design Center Phuket was designed to utilise most of the natural surrounding and optimise less energy consumption. The design of the exterior appearance is a combination of the modern architecture and the natural landscape of the tropical forest in the back of the building. Inside of the building, it is aimed to reduce energy consumption by using the resource-efficient hardware equipments and utilise the natural resources such as installing the high-performance energy-efficient glass windows to allow the solar energy into the building, etc.

In the picture (from left to right)
Mr. Elmar Kleiner, Managing Director of Office for Interior & Architecture Co., Ltd.
Mr. Rattana Poonsanga, Sales Director of Häfele (Thailand) Limited
Mr. Volker Hellstern, Managing Director of Häfele (Thailand) Limited
Mr. Michael Dax, Managing Director of DGNB GmbH
Ms. Acharawan Chutarat, Lecturer of School of Architecture & Design, King Mongkut's University of Technology Thonburi
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AECOM celebrates the official opening of Second Penang Bridge – the longest bridge in Southeast Asia

Kuala Lumpur, Malaysia – AECOM Technology Corporation, a leading provider of professional technical and management support services for public and private clients in more than 150 countries around the world, recently celebrated the official opening of Second Penang Bridge in Malaysia – the longest bridge in Southeast Asia.

AECOM has played a key role in partnering with the contractor to deliver an innovative structure designed to withstand the severe seismic stress of a once-every-2,500-year earthquake.

Second Penang Bridge is a 24-kilometre (14.9-mile) bridge linking the Penang Island and the Malaysia Peninsula and is the largest civil engineering project in the past 20 years in the region. It consists of precast segmental concrete marine viaducts in 55-metre (180-feet) span modules and a cast in-situ concrete cable-stayed bridge measuring 475 metres (1,558 feet).

Working with the China Highway Planning and Design Institute (HPDI), AECOM was the consultant of China Harbour Engineering Company (CHEC) to provide feasibility studies, detailed design as well as pre-tendering and post-tendering services and site supervision since 2008. AECOM's team in Malaysia, together with engineers from the long-span and specialty bridges group, worked in the design, construction supervision, and construction engineering of this record-breaking project. AECOM also provided specialist consultancy on aerodynamics, navigation risk assessment and ship impact studies, seismic analyses, wind and structural health monitoring, fire hazard assessment, and resolution of construction challenges in the substantial marine piling operation. A special aspect of the project involved applying intelligent construction engineering techniques to enable successful erection of the 240-metre (787-feet) main span cable-stayed bridge over the main navigation channel.

"The Second Penang Bridge is subject to the merciless forces of nature, such as earthquakes, potential tsunamis, and wind, to name a few; and is exposed to a hostile marine environment. These challenges were overcome through meticulous planning and design, and the result is one of the world's largest sea-crossing projects in recent years," said Dr. Robin Sham, AECOM's global long-span and specialty bridges director. "We have helped accomplish an immense human endeavor; creating many innovations along the way," added Dr. Sham.

Dr Robin Sham

Pioneering bridge technology

In addition to its large size, this RM4.5-billion project pioneered new construction methods to minimise the risk caused by seismic activity near the Sunda tectonic plate, including the use of 2-metre-diameter (6.5-foot-diameter) bored piles founded to a depth in excess of more than 120 metres (394 feet) for the cable-stayed bridge, and the use of high-damping rubber bearings for seismic isolation of the marine viaducts.

The whole sea-crossing project introduced numerous innovations, including intelligent bridge geometry control, a lightweight form traveller machine for cable-stayed bridge erection, the extensive use of the statnamic pile-loading testing method and the use of high-damping rubber bearings for seismic isolation. The project also saw the most extensive use of precast hollow concrete spun piles in bridgework, and substantial driven tubular steel piles in a marine environment.

"We are pleased to be part of this significant national achievement," said Lo Haw Ru, AECOM's project director and design reviewer for the project. "This strategic new link can alleviate the overloaded traffic of the existing bridge and improve the overall connectivity between the city and the Penang International Airport, spurring the area's economic growth."

Interview with Dr. Robin Sham, AECOM's global long-span and specialty bridges director.

Q: Congratulations on the opening of the Second Penang Bridge. How do you feel, associated with the longest bridge in Southeast Asia?
Dr. Sham: There is a strong sense of achievement, and an euphoria that we have helped deliver a mega project in Southeast Asia and also in modern bridge engineering.

Q: How long did AECOM, HPDI and CHEC take to design and build the bridge?
Dr. Sham: The feasibility studies date back to the year 2003. Further work on engineering investigations continued through the second half of the decade, and the design and build contract commenced in 2010.

Q: What were the main challenges of constructing the bridge?
Dr. Sham: The Second Penang Bridge is subject to the merciless forces of nature, such as earthquakes, potential tsunamis, and wind, to name a few; and is exposed to a hostile marine environment. There were also challenges to our staunch commitment to environmental protection. By meticulous planning and supreme engineering, the challenges were overcome.


Dr Robin Sham

Q: AECOM used a number of new construction methods and engineering techniques to design and construct the bridge. What were the reasons for innovating new technologies for this project?
Dr. Sham: One often perceives innovation as either a process of evolution or a revolution that shapes current thinking and steers future trends. Evolution arises from our desire to utilise past experience to perfect our art. However, if a teething problem is encountered, which defies a solution by existing techniques, then new technologies will have to be invented. The Second Penang Bridge project has many vivid examples of innovation through evolution, and also by revolution.

Q: How important is Southeast Asia to AECOM's portfolio now that the Second Penang Bridge is successfully opened?
Dr. Sham: The success of a mega project in that region certainly helps enhance our experience and credentials but more importantly we want to climb greater heights and accomplish more. Southeast Asia is vibrant, and strong in vision and energy. It is also a region where engineering endeavours are supported by a sense of adventure or expedition. We thrive on this spirit of exploration, and are determined to contribute further to the infrastructure development in that region and in the world.

BEX Asia 2014 to offer green opportunities to the region

Singapore – As a key green show in the region that promises a multi-disciplinary showcase of the latest green solutions for residential, commercial and industrial developments, the 7th edition of Build Eco Xpo (BEX) Asia 2014 is returning from 1-3 September at the Marina Bay Sands, as part of the Singapore Green Building Week (SGBW). The event is expecting some 350 exhibiting companies from Austria, Canada, China, China, Japan, Malaysia, Singapore, Taiwan, UK, and USA to showcase their newest products and solutions to 10,000 building professionals from the region.

In 2013, BEX Asia significantly facilitated a projected US$99 million worth of business deals with the three-day event. The event recorded more than 9,000 local and regional professionals from 71 countries and region. Notably, this 6th edition of BEX Asia saw pavilions from Japan, China, Taiwan and Singapore, and facilitated business meetings between global sellers and regional buyers.

"The promising interest seen last year, especially in energy efficiency by developers and owners in the region opens the flood gates for demand of technology and building material suppliers that have contributive solutions to energy saving in buildings. Specifically, we also see an uptrend in trade visitors sourcing for Heating, Ventilation, and Air-conditioning (HVAC) and Lighting innovations for new and existing building projects," said Ms Louise Chua, Project Director of organiser, Reed Exhibitions Singapore.

From a different perspective, energy saving lighting is not confined to utilising energy efficient lighting technologies. According to Mr Yap Weng Seng, Director & Greenmark Professional of Ong & Ong Pte Ltd, their "designs are created with energy efficiency in mind. Passive design is the first approach, making use of what nature provided – natural light, wind (ventilation), solar energy, vegetation – and recycling materials. Where energy is required, we should minimise its usage and explore efficient technology, such as LED lighting."

Control management systems are also sought after by potential buyers and specifiers. Mr Andrew Xiao, Senior ESD Engineer of Building System and Diagnostics Pte Ltd, said they "hope to meet with key players offering lighting control management at BEX Asia 2014."

To guarantee that visitors and exhibitors get connected with the right people that meet their individual requirements, pre-arranged customised business meetings were facilitated and well received when it was introduced.

"The well-organised and effective business meeting platform provided the convenience for me to plan and book face-to-face time with my preferred choices of vendors to meet," said Shengkai, from Jones Lang Lasalle.

This year at BEX Asia, visitors will definitely see an extensive range of exhibits from Singapore-based companies with the Singapore Pavilion now 90 percent filled. There will also be a dedicated lighting arena focusing on energy efficiency, and an exciting spring up of a Green Shoot Zone. Driving the green building movement, this zone offers bite-sized stands for new start-up companies (less than 2 years in operation) who have green & pioneering building offerings, to showcase their elements to the region's building practitioners. As the region forges ahead with its green agenda, guest speakers from the region will be buzzing the hall with exciting industry trends, growth and practices at the feature area, The Green View. Mr Emmanuel Clair, Group CEO of Light Cibles will be touching on the topic of Bridging the Gap between Disciplines to Achieve Good Design and Savings in Power. Light Cibles is a multidisciplinary lighting design consultancy globally renowned for its technical expertise, rich experience and creative solutions. Their notable projects around the world include Fullerton Hotel, Fullerton Bay Hotel, W Singapore Sentosa Cove and Resorts World Sentosa in Singapore; the Cathedral of Notre Dame and Mont Saint-Michel in France; Beirut Central District in Lebanon; and Tasik Perdana City Park and the National Mosque in Kuala Lumpur.

This year's event, BEX Asia 2014, will once again be co-located with the International Green Building Conference

(IGBC) 2014, organised by the Building & Construction Industry (BCA). IGBC will play host to more than 1,000 international delegates from over 30 countries. The conference themed "Build Green, Lead, Engage, Sustain" will host green building experts, academics, building practitioners committed to understanding and putting into action real-world tangible green building solutions. Policy makers and key government officials from growth markets in the region will also be present to provide unique public sector perspective, about the policies and plans in place in their respective markets.

Collectively, BEX Asia and IGBC 2014 will be the content and solutions provider for the Build Green Industry, paving the way to achieve BCA's visions of greening 80 percent of Buildings in Singapore by 2030.

For more information on BEX Asia 2014, visit www.bex-asia.com.

American Hardwood exports up 28 percent in Greater China and 4 percent in Southeast Asia reaching US$1.4 billion in 2013

Singapore – American hardwood products exports worldwide reached US$2.96 billion in value in 2013 according to the United States Department of Agriculture. Much of the global increase was due to continuing market development in Asia, and especially in Greater China, to where exports of American hardwood lumber were valued at US$843 million, an increase of 33 percent in comparison to 2012 figures.

The value of American hardwood lumber exports to Southeast Asia totaled US$284.8 million with an increase of 4 percent from 2012 which once again highlights the growth within ASEAN markets.

John Chan, AHEC Regional Director for Southeast Asia and Greater China.

Vietnam led all Southeast Asian countries with US hardwood lumber imports in 2013, up 18 percent to US$154.9 million. Vietnam has been the largest importer of American hardwood in the region for some years in which Tulipwood (Yellow Poplar) and White oak are the leading species, up this year by 29 percent and 9 percent in value respectively. American Black Walnut has increased by 49 percent in value from 2012 which could be due to the expansion of Vietnam's domestic consumption market for joinery and furniture products as well as exports. American Black Walnut is very fashionable for use in furniture, cabinet making, architectural interiors and high class joinery. Hardwood log shipments from the USA to Vietnam were down 11 percent in value at US$35.8 million, as buyers convert to buying sawn lumber.

Indonesia is still the second largest market among the Southeast Asian nations overall, however lumber exports have decreased by 6 percent to US$19.3 million in 2013. Hardwood logs dropped 29 percent to US$4.3 million, showing that many producers in Indonesia are turning to lumber and veneer as a raw material rather than logs. White Oak and Red Oak led the species but American Walnut was the fastest increasing species in Indonesia - up a staggering 92 percent from 2012.

Malaysia imported US lumber valued at US$18.6 million, a drop of 4 percent. Imports of veneer registered an increase of 11 percent to US$5 million indicating the fact that producers are using more veneer as a raw material. American Walnut is Malaysia's second largest imported species with a rise of 24 percent.

Thailand continues to be the fourth largest market in Southeast Asia for American hardwood products. Once again veneer had the largest import value growth of US$0.2 million with an increase of 628 percent in stark comparison to log imports which decreased 46 percent.

Singapore and **Philippines** are relatively small markets where demand for American hardwood lumber has reached US$2.1 million and US$0.7 million respectively. Singapore furniture industry remains highly competitive with its neighbours by setting up production facilities in China, Vietnam, Malaysia and Indonesia. "Southeast Asian markets will continue to be a very important role in the growth of US hardwood exports in 2014," said John Chan, AHEC Director for Greater China and Southeast Asia.

Atkins celebrates the start of a successful Chinese partnership with Qingdao airport project win

Hong Kong – Atkins and China Southwest Architectural Design and Research Institute (CSWADI) have won a contract for the conceptual planning and terminal design of the new Qingdao airport, marking the start of a successful partnership.

With an investment of 35 billion RMB, Qingdao airport is one of the largest of five airports approved by the National Development and Reform Committee (NDRC) for development. The total budget for the five airports will amount to approximately 150 billion RMB. Qingdao airport will serve as a main regional hub and enhance the aviation capacity for both passengers and cargos. The project covers all design aspects including master planning, airfield design, transport planning, landscaping and water engineering.

Chris Birdsong, Atkins' CEO for Asia Pacific, said: "Atkins has been present in the mainland China market for the last 20 years and has gained a reputation as a leading player in the planning, architecture and landscape business. Our partnership with CSWADI, one of the leading design institutes in China and the largest in western China, will allow us to unlock opportunities to deliver our multidisciplinary, high end engineering services in China."

Yang Guo, deputy dean from CSWADI, said: "This contract win is the beginning of a productive partnership between CSWADI and Atkins. Both parties bring their own skills and strong design capabilities. It's the combination of local knowledge and international experience that creates the most powerful synergy."

Qingdao, in the Shandong Province of China, is an important economic centre and seaport along the eastern coastline and an important gateway to Northeast Asia with extensive trading relations with Japan and South Korea. Upon completion in 2017, Qingdao airport will have the ability to process 38 million passengers per year in 2025 and 60 million passengers per year in 2045.

MAG to develop AED 800 million Healthcare City project

Dubai, UAE – Dubai-based MAG Group has signed a joint venture (JV) agreement with Dubai Healthcare City to develop approximately one million square feet mixed-use project in Dubai Healthcare City at an estimated cost of around AED 800 million. The development which is still at the concept design stage is expected to include two hospitals covering a total of 260,000 square feet, plus an 80,000 square feet clinic; a residential complex of four buildings with combined gross floor area of 430,000 square feet; a hotel apartment with a gross floor area of 80,000 square feet and 100,000 square feet of retail space.

The development will also include a mosque and one of the most advanced automated car parks and extensive hard and soft landscaping. It is envisaged that the whole project will be completed by the end of 2016.

Addressing officials from DHCC, Moafaq Al Gaddah, Chairman of MAG Group said, "The healthcare sector in Dubai is on the cusp of a sustained period of growth and will need to build medical facilities for the future. This expansion is being fuelled by numerous factors.

"First the natural growth in the local population and in the number of expatriate arrivals as the economy expands, looking ahead to Expo 2020. Two, the growth of private health insurance due to changes in government employment policy and Dubai's growing status as a medical tourism hub for the Middle East," he added.

The feasibility of the project needs little explanation. According to the DHA, total inpatient visits to healthcare centres grew by a CAGR of 9 percent, between 2006 and 2011 totalling 183,000 visits in 2011. By that time almost 57 percent of all inpatient facilities were in private hands, as inpatient visits to private healthcare centres grew by a CAGR of 18 percent over the same period and a clear sign of changing preferences in Dubai. It is a similar picture for outpatient care. Outpatient visits to private healthcare centres grew by a CAGR of 8 percent between 2006 and 2011. The private sector now dominates outpatient care, with 73 percent of all outpatient visits in 2011.

KSP Jürgen Engel Architekten wins first prize for the design of the Meixi Urban Helix in Changsha

Frankfurt, Germany – World leading German architects KSP Jürgen Engel Architekten recently won first place in the international competition to design the Meixi Urban Helix in Changsha.

The KSP Jürgen Engel concept masterfully highlights the start of the new urban axis on Lake Mexi in the southwest of Changsha and creates a multi-functional, public space, which opens up to the city. The Meixi Urban Helix rises up above an artificial island in the lake; with a surface area of some 20,000 square metres, it comprises a six metre wide accessible ramp, which spirals to a height of 30 metres. As a vantage point it affords visitors a panorama view of the planned urban expansion and of Lake Mexi, which is about 40 hectares in size. On the inside of the helix, the ramp leads down a reverse-spin ramp from the highest point and becomes a raised urban axis that introduces visitors to the new district. For those working in the Changsha's busy Central Business District close by, the new urban axis and vantage point forge an attractive pedestrian link between the lake and the city. In total, the spiral is up to 88 metres in diameter and around one kilometre long.

Along its entire length, the ramp will feature diverse facilities, from mico-hospitality outlets to children's play areas to sun decks and various areas of greenery. The interplay between rural elements and urban finishes is characteristic of this accessible, public structure.

Image: © KSP Jürgen Engel Architekten

Given its exposed site and welcoming atmosphere, the striking, symbolic structure is set to become a popular meeting place for inhabitants and tourists alike. The spiral and raised walkway, which at a height of 9 metres serves as a bridge link across two expressways, are reserved exclusively for pedestrians.

Image: © KSP Jürgen Engel Architekten

"The spiral-shaped Meixi Urban Helix marks the start of the new urban expansion in the southwest of Changsha and is destined to become its landmark. The wide range of facilities in different public spaces represents high value added for visitors to the Meixi Urban Helix," commented Johannes Reinsch, Managing Director of KSP Jürgen Engel Architekten International, when describing the qualities of the design. The structure comprises two curved walkways made of a hollow steel-beam, which rests on columns that are a mere 40 cm thick and positioned close to one another. The Meixi Urban Helix is due to be completed in 2015.

Steven Holl Architects wins invited competition for the Culture and Art Center of Qingdao City

New York, USA – Steven Holl Architects has been selected by near unanimous jury decision as the winner of the new Culture and Art Center of Qingdao City competition, besting OMA and Zaha Hadid Architects. The 2 million square feet project for four museums is the heart of the new extension of Qingdao, planned for a population of 700,000.

Photo: © Steven Holl Architects

The winning design for the new Culture and Art Center begins with a connection to Qingdao. The linear form of the Jiaozhou Bay Bridge – the world's longest bridge over water – is carried into the large site, in the form of a Light Loop, which contains gallery spaces and connects all aspects of the landscape and public spaces. The raised Light Loop allows maximum porosity and movement across the site, and permits natural sound bound breezes that blow in off the ocean to flow across the site.

Set within the master plan are Art Islands, or Yishudao, which take the form of three sculpted cubes, and four small landscape art islands that form outdoor sculpture gardens. Five terraced reflecting pools animate the landscape and bring light to levels below via skylights.

The Light Loop and Yishudao concepts facilitate the shaping of public space. A great central square for large gatherings is at the center of the site overlooking a large water garden. The Modern Art Museum shapes the central square. The Public Arts Museum forms the main experience of entry from the south. The North Yishudao contains the Classic Art Museum, with a hotel at its top levels, and the South Yishudao, which floats over the large south reflecting pool, holds the Performing Arts Program.

In the Light Loop, all horizontal galleries receive natural light from

the roof that can be controlled with 20 percent screens as well as blackout options. The 20 meter wide section of the Light Loop allows side lighting to the lower level galleries, and provides space for two galleries side by side, avoiding dead-end circulation.

The basic architecture is in simple monochrome of sanded marine aluminum and stained concrete, with the undersides of the Light Loops in rich polychrome colours of ancient Chinese architecture. These soffits are washed with light at night to become landscape lighting in shimmering reflected colours.

The entire project uses the most sustainable green technologies. Placed between the skylights on the Light Loop, photovoltaic cells will provide 80 percent of the museum's electrical needs. The reflecting ponds with recycle water, while 480 geothermal wells provide heating and cooling.

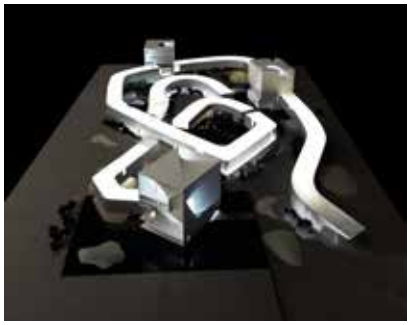

Photo: © Steven Holl Architects

Schindler opens North America's first LEED® Gold certified elevator manufacturing facility in Hanover, Pennsylvania

Schindler's first LEED® Gold certified elevator manufacturing facility in Hanover, Pennsylvania. Photos: © Schindler

Morristown, New Jersey, USA – Schindler Elevator Corporation announced the grand opening of its state-of-the-art manufacturing facility in Hanover, Pennsylvania. The facility reinforces Schindler's commitment to environmental protection and sustainability, earning North America's first LEED Gold green building certification for an elevator manufacturing plant.

A part of the Schindler global supply chain, the 150,000 square-foot facility will provide support for the North American market and will focus on producing customer-facing components such as doors, entrances, jambs and elevator cab interiors. The plant also includes the company's Order Consolidation Center (OCC), an order fulfillment warehouse which help Schindler achieve lead times that are among the shortest in the industry for customer delivery.

"We are very excited to be opening this new factory in South Central Pennsylvania where we have had a manufacturing presence for many years," said Jakob Zueger, CEO, Schindler Americas. "We help our customers achieve their green building and sustainability goals in projects around the world every day, but this facility is another example of how Schindler is truly embracing sustainability in our own business as well."

LEED Certification

The LEED rating system, developed by the U.S. Green Building Council, is the foremost programme for buildings, homes and communities that are designed, constructed, maintained and operated for improved environmental and human health performance.

Schindler's Hanover facility achieved LEED certification for implementing practical and measurable strategies and solutions aimed at achieving high performance in: sustainable site development, water conservation, energy efficiency, materials selection and indoor environmental quality.

Schindler's overall commitment to sustainability reflects a long-term investment in more than simply a clean, healthy environment – it also signifies smart business practices and a way of life. As a leading designer, manufacturer and supplier of elevators, escalators and moving walks, Schindler has comprehensive targets for responsible economic, environmental and social performance. This places the company in a unique position to contribute to the sustainability of rapidly growing urban environments. Schindler is focused on reducing the energy required for its products, services and operations; supporting sustainable urban development; and making safety, accessibility and respect for everyone top priorities. The Hanover facility serves as a model for future Schindler production facilities around the globe.

"The strength of USGBC has always been the collective strength of our leaders in the building industry," said Rick Fedrizzi, President, CEO and Founding Chair, U.S. Green Building Council. "Given the extraordinary importance of climate protection and the central role of the building industry in that effort, Schindler demonstrates their leadership through their LEED certification of this new Hanover manufacturing facility," he added.

Construction is underway on the UK's first amphibious house

London, UK – Construction has started on the UK's first amphibious house on the banks of the River Thames in Marlow.

An amphibious house is a building that rests on the ground on fixed foundations but, whenever a flood occurs, the entire building rises up in its dock and floats there, buoyed by the floodwater.

The modern 225 square metres house – set just 10 metres from the river's edge - replaces a dilapidated bungalow with a contemporary family home designed to respond to the uncertainties of future climate change.

Using the latest technology, the design is a major breakthrough for British architects and engineers who have been searching for many years for a solution to mitigate the risk - and damage - of water ingress to homes in flood-prone areas.

The amphibious home, designed by Baca Architects – specialists in waterfront architecture and flood-resilient developments – will be located on an island in the picturesque stretch of the Thames that passes through Marlow, in Buckinghamshire, a site designated as Flood Zone 3b and a Conservation Area.

While the house will be a modern, highly-insulated, low energy building, including large high-performance windows, the architects have ensured that it is also sympathetic to the special area and meets local planning guidelines. The amphibious house will have pitched roofs and a chimney to complement the irregular roofline of neighbouring homes and an overall footprint that is no larger than the existing property. The house has been designed to cope with up to 2.5 metres of floodwater, well above the predicted flood levels and future projected flood levels.

A carefully laid out garden will act as a natural early warning flood system, with terraces set at different levels designed to flood incrementally and alert the occupants well before the water reaches a threatening level, which the architects call an 'intuitive landscape'. The lowest terrace will be planted with reeds, another with shrubs and plants, another will be lawn and the highest step will be a patio with access into the dining room. These stepped levels will help to manage run-off from the house as the water begins to subside and also reduce siltation of the dock.

The upper part of the house is a lightweight timber construction that rests on a concrete hull, creating a free-floating pontoon, while the whole house is set between four 'dolphins' - permanent vertical guideposts to keep it in place. These guideposts, more normally found on marinas, have been integrated with the design and are a visible feature on the exterior of the building. The modern open plan home will also include water saving and energy saving devices to create a more environmentally friendly building, which combined with its amphibious construction will adapt to future climate change.

Richard Coutts, director of Baca Architects, said; "The planning process obviously took a bit more time than some applications, involving our team in extensive consultations and cooperation with the local authority. From the outset of the design process we sought expert advice from the Environment Agency to determine the most appropriate construction model to mitigate flood risk on the site; and provide a safe dwelling, sympathetic to its setting, and fit for the challenges of the 21st Century."

Building an amphibious home currently costs around 20 percent to 25 percent more than a similar sized house; it's a price many flood victims might well view as small change for the peace of mind it affords; as well as being a great solution for anyone considering building by water in the future.

Visual of the completed design. Photo: © Baca Architects

Internal view of the open plan living space looking towards the River Thames. Photo: © Baca Architects

Indicative diagram of the showing the movement of the building in medium and high flood events. Photo: © Baca Architects

Section through the amphibious house before and during a flood event. Photo: © Baca Architects

SolarReserve's Nevada project enters commissioning phase

Santa Monica, California, USA – SolarReserve, a leading worldwide developer of large-scale solar power projects and advanced solar thermal technology, today announced that construction of the 110 megawatt (MW) Crescent Dunes Solar Energy Project located near Tonopah, Nevada, marked another major milestone by entering the plant commissioning phase. Crescent Dunes is reported to be the first utility-scale facility in the world to feature advanced molten salt power tower energy storage capabilities. SolarReserve's unique and innovative energy storage technology provides for larger scale installations and high efficiency energy collection and storage. The Crescent Dunes Project is more than five times the capacity output of pilot projects that have previously tested this technology.

Photos above: © SolarReserve

As a result of the advanced energy storage technology, the 110 MW project will generate more than 500,000 megawatt-hours per year, enough to power 75,000 homes during peak electricity periods. This annual output is more than twice that of other technologies per MW of capacity, such as photovoltaics (PV) or direct steam solar thermal. The storage technology also eliminates the need for any backup fossil fuels, such as natural gas, which are needed with other technologies to keep the system going during times of no or low solar resource. Nevada's largest electric utility, NV Energy, will purchase 100 percent of the electricity generated, under a 25-year power purchase agreement. Full commercial operation is scheduled for later in 2014.

Commissioning is the initial stage of bringing the project into operations and includes system-by-system verification and startup, as well as equipment calibration and testing. Commissioning activities underway at Crescent Dunes include energization of the utility interconnection system and other electrical systems, as well as the first stages of testing and calibration of the heliostat field. This heliostat field is comprised of more than 10,000 "billboard-sized" mirrors that track the sun and total more than 1 million square metres of glass. Full commissioning activities will also include startup of the demineralized water, air, steam, cooling and many other systems, which are commonly found in traditional power plants. However, unlike traditional power plants, commissioning includes systems unique to Crescent Dunes such as a Heliostat Field Control System that will control and concentrate the sun's energy and also the Molten Salt System that will harness, store and transform the sun's energy into superheated steam, making this the most advanced solar power plant in the world. The facility also includes a dry cooled condenser in a hybrid configuration to minimise water use to levels well below that of conventional power plants.

"Start of commissioning of the Crescent Dunes solar power plant marks a critical milestone for the project as well as the solar industry. We are now able to build utility-scale power plants, fueled only by the sun, which operate on-demand, day and night, just like traditional fossil fuel or nuclear power plants," said SolarReserve's CEO Kevin Smith. "SolarReserve's industry-leading solar thermal energy storage technology solves the intermittency issue that limits the use of other renewable energy projects and thus enables firm, reliable delivery of electricity whether or not the sun is shining or the wind is blowing," he added.

The Crescent Dunes plant is the showcase for SolarReserve's game-changing energy storage technology – a realistic solar energy solution that operates day and night like coal, natural gas, oil, diesel and nuclear plants, but without the harmful emissions or hazardous wastes associated those traditional plants. Additionally, Crescent Dunes includes the capability to dry cool the steam cycle, an environmentally friendly low water use feature that will saves millions of gallons of water each year. Once operational, the 110 MW Crescent Dunes plant will be the world's largest solar thermal plant with fully integrated energy storage.

SolarReserve is joined as investors in the project by ACS Cobra, a worldwide leader in the engineering and construction of power plants and thermal solar facilities, and the equity capital practice of Santander, a global financial services and banking leader. ACS Cobra's Nevada-based affiliate, Cobra Thermosolar Plants Inc., is constructing the facility as the general contractor while utilizing Nevada and regional subcontractors to perform the work. The project also closed on $737 million in project debt along with a loan guarantee from the U.S. Department of Energy as part of the overall project financing that was completed in the fall of 2011.

New CEO of the Bystronic glass Group

Burghard Schneider

Neuhausen-Hamberg, Germany – With effect from February 2014 Dr. Burghard Schneider succeeded André Brütsch as Head of the Bystronic glass Group. In his position as Chief Executive Officer (CEO), he will automatically become a member of the Conzzeta AG Management Group.

Burghard Schneider studied at Munich Technical University where he gained his doctorate in the field of machine construction, which focused on process optimisation. His experience in the glass industry sector was gained through scientific cooperation projects. Subsequently, during a 10 year period, he then held a number of senior posts at the German specialist glass manufacturer Schott AG. Whilst there, both technologically and regionally, he opened up new markets for the company. Most recently, Burghard Schneider worked for the international Felss Group, which is actively involved in machinery and systems engineering.

"For me glass is a fascinating material that offers numerous processing possibilities," said Schneider. "I believe there are further sustainable options for manufacturing flat glass products that will yield many customer benefits. All of these can be achieved even more efficiently whilst still being of the highest quality, with Bystronic glass offering viable solutions to customers in the future. From concept and subsequent machine or plant manufacture through to after sales services and on-site consultancy, we will prove to be the right partner for discerning international customers. We will demonstrate to those who have a progressive approach that they can discuss their requirements and future aspirations with us."

Mecanoo wins MLK Library Washington DC

Washington, United States – DC Mayor Vincent Gray announced that the design team Mecanoo and Martinez + Johnson is chosen to revitalise the Martin Luther King Jr. Memorial Library. The city's aim for their Central Public Library project is to deliver a next generation library building that embraces Washington DC's contemporary culture and changing needs. The MLK Library will be an attractive catalyst for community activity. The MLK Library, completed in 1972, is designed by one of the great 20th Century architect Mies van der Rohe and honors the legacy of Martin Luther King Jr.

The potentially $150 million project will redesign the 250,000 square foot interior of the 1970s library to modernise the building. The MLK Library is the hub of the Public Library system in Washington, DC. It is the only library designed by modernist Ludwig Mies van der Rohe, and opened three years after his death in 1972. The teams were asked to submit two ideas: what they would do if it was a straight library renovation, as well as possibilities for a mixed-use building with additional floors above the existing building. Mayor Vincent Gray: "This takes us to a new stage. I am excited about the "bold vision" for the renovated library."

Leading the design effort will be the Netherlands based firm Mecanoo. Mecanoo's work often intervenes within existing building fabric, creating new and exciting interpretations. The practice designs public buildings that are embraced by their users, respect the social and natural environment, and consciously contribute to the quality of life in urban centers. Washington based Martinez+Johnson has extensive experience with historic renovation projects. M+J will share responsibilities with Mecanoo throughout the project. The design team will be led by Francine Houben, creative director/ architect at Mecanoo who just delivered the Library of Birmingham, the largest in Europe. Francine Houben: "We will pay respect to Mies van der Rohe and research what is possible to prepare this building for the Library of the Future. But most important is bringing out the values of Martin Luther King. My dream is to make this building to reflect his ideals."

Artist's impressions: © Mecanoo

Daylight-Award for the Rolex Learning Center in Lausanne

Zurich, Switzerland – The Velux Stiftung organises the most highly endowed architectural prize in Switzerland. The Daylight-Award has been presented by the Velux Stiftung for the fourth time, in close collaboration with the Department of Architecture of ETH Zurich and the Swiss Council of Architecture. This year's winner, Kazuyo Sejima and Ryue Nishizawa from the japanese architectural firm SANAA, received the most highly endowed architectural prize in Switzerland in the Kunsthaus Zurich for the Rolex Learning Center in Lausanne. An honorary award goes to the Zurich Leutschenbach school building designed by Christian Kerez.

The architectural prize launched by the Velux Stiftung in 2007 aims to draw greater attention to the potential of daylight in architecture. A total of CHF 120,000 – in prize money is awarded to buildings that make carefully targeted use of natural light as an architectonic design tool and set an example by increasing quality of life and improving energy efficiency. The fourth edition of the competition was organised once again in close collaboration with the Department of Architecture of ETH Zurich and with the Swiss Council of Architecture as a new partner. A renowned international jury, presided by architect and ETH professor Marc Angélil, selected the winners from the 51 projects nominated in preparation for the prize ceremony at the Kunsthaus Zurich.

First prize for the EPFL Rolex Learning Center

The CHF 100,000-Daylight-Award 2014 goes to Japanese architects Kazuyo Sejima and Ryue Nishizawa from SANAA Architects in Tokyo, who are also holders of the Pritzker prize.

At the Rolex Learning Center, daylight plays a key role both inside and out. The Learning Center was built in 2010 at the Swiss Federal Institute of Technology in Lausanne (EPFL).

The radical attempt to create an innovative educational setting turns the building into what is virtually a walk-in sculpture by means of daylight modulating the landscape. With virtually no partitions on the inside, and glass all the way around the outside, a great many different effects of the light are created, all perceptible simultaneously. In addition, the Learning Center appears to be floating in mid-air as a result of the light reflected from beneath the building.

Honorary award for the Leutschenbach school building

The Velux Stiftung chose the Leutschenbach school building in Zurich for an honorary award (CHF 20,000). The building designed by Swiss architect Christian Kerez is a convincing demonstration of the interplay between daylight, architecture and construction. The different types of glazing create a range of specific lighting effects. The highlight of this tower-like school is the spectacular gymnasium on the roof, which is glazed on all four sides, making users feel as if their sports activities are taking place in the open air.

Six projects in the final round

The jury paid on-site visits to the last six projects in the running for this year's Daylight-Award. As well as the two award winners, the following finalists received a visit in the final round:

- The training centre for the Swiss Federation of Master Builders in Gordola designed by Pia Durisch und Aldo Nolli, which impressed the jury as a light and efficient low-cost building with an intelligent lighting concept.
- The University of Applied Sciences Zurich Sihlhof, designed by Giuliani Hönger, who succeeded in opening up the narrow urban area available by making intelligent use of space with the help of a light shaft.
- The Stöckli in Balsthal designed by Pascal Flammer, which is described as "the essence of comfort" and the ideal place for the contemplation of daylight.
- The new tram depot in Berne designed by Penzel Valier, whose lighting solution is the result of the perfect interaction between construction and architecture.

Award-winner: Rolex Learning Center, EPF Lausanne of SANAA Architects, Tokyo. Photo: Alexander Jaquemet

Honorary award for Schoolhouse Leutschenbach of Christian Kerez, Zürich. Photo: Alexander Jaquemet

President of Marseille leads opening celebrations for new Vieux Port pavilion

London, UK – The transformation of Marseille's World Heritage-listed harbour was officially inaugurated on 1st February 2014 during a ceremony attended by Eugène Caselli, President of Marseille Provence Métropole and Jean-Claude Gaudin, the Mayor of Marseille. The event marked the completion of the new 'club nautique' pavilions and a new sheltered events space on the Quai de la Fraternité at the eastern edge of the port, built to commemorate the city's year as 'European Capital of Culture'.

The new events pavilion is a simple, discreet canopy of highly reflective stainless steel, 46 by 22 metres in size, open on all sides and supported by slender pillars. Its polished, mirrored surface reflects the surrounding port and tapers towards the edges, minimising its profile and reducing the structure's visual impact.

Reclaiming the quaysides as civic space and reconnecting the port with the city, the boat houses and technical installations that previously lined the quays have been moved to new platforms and clubhouses over the water. The pedestrian area around the harbour has been enlarged and traffic will be gradually reduced over the coming years to provide a safe, pedestrianised environment that extends to the water's edge.

The landscape design, which was developed with Michel Desvigne, includes a new pale granite surface, in the same shade as the original limestone cobbles. The simple, hard-wearing, roughly textured materials are appropriate to the port setting, and to improve accessibility for all, kerbs and level changes have been eliminated. Lord Foster: "I know the harbour at Marseille well and it is a truly grand space. This project is a great opportunity to enhance it using very simple means, to improve it with a large pavilion for events, for markets, for special occasions. Our approach has been to work with the climate, to create shade, but at the same time to respect the space of the harbour – just making it better."

Photo: © Nigel Young_Foster + Partners

BIG designs centrepiece for a new resort in the Bahamas

Copenhagen, Denmark – BIG + HKS + MDA have unveiled the design for the new Honeycomb building and its adjacent public plaza in The Bahamas – a 175,000 square feet (16,000 square metres) residential building with a private pool on each balcony overlooking the marina.

Albany is a modern paradise-like beach and golf resort community, located on the south coast of New Providence Island. The Honeycomb will be the tallest structure in Albany, making it a landmark in the resort, and a beacon from the ocean.

The façade has a hexagonal pattern that uniquely frames the natural beauty of the Island. The balconies are deep enough to not only provide outdoor spaces, but also summer kitchens and a pool sunken into the balcony of each unit. These pools have a transparent edge towards the plaza, eliminating the visual barrier between the pool and the environment. Bathers can be fully immersed in the view of the marina and the ocean beyond.

Image: by BIG

Bjarke Ingels said: "Our design is driven by an effort to maximise the enjoyment of the abundant natural qualities of Albany in The Bahamas: the landscape, the sea and the sun. A honeycomb façade functionally supports the pools making them sink into the terrace floor and provides spectacular sight lines while maintaining privacy for each residence. Drawing inspiration from its coastal setting, the hexagonal design evokes the natural geometries you find in certain coral formations or honeycombs."

On the ground level, the façade pattern melts into the pavement of the plaza, creating a subtle topography on the square. Along the edge, various hexagons transform into green mounds with plants, palm trees, and integrated seating. The center of the square is formed by a shallow pond, which is fed by fountains scattered around the plaza, and a network of small creeks between the hexagonal pavers.

The residences in the building offer a variety of floor plans that will suit the diverse lifestyles of its tenants. The residential lobby and high-end retail will activate the public plaza. A golf cart parking and storage units are oriented towards the parking lot on the north, in close proximity to Albany's championship golf course.

The Honeycomb will be the centrepiece of Albany's masterplan for a live, work, play environment unlike any other in The Bahamas.

Richard Meier & Partners unveils Reforma Towers in Mexico

New York, USA – Richard Meier & Partners recently announced their new project in Mexico City. The new Reforma Towers will become a dynamic mixed-use development composed of two towers with offices, a hotel, retail space, restaurants and a fitness centre.

Mexico City represents one of the most important cultural and commercial centres in Latin America. As the city's economy continues to thrive, it is Richard Meier & Partners intention to develop a project that is sensitive to the history of Mexico and its rich architectural legacy.

Reforma Towers will be located along Paseo de la Reforma in Mexico City. This distinguished Boulevard was designed to commemorate the history of the Americas and has become a major commercial thoroughfare that cuts diagonally across the city. Sitting boldly along this Boulevard, the proposed development is a mixed-use building complex designed by the firm of Pritzker Prize-winning architect Richard Meier and developed by Diametro Arquitectos.

Aerial view of Reforma Towers.
Photo: © Richard Meier & Partners Architects

The new development is comprised of two buildings unified by a base. An iconic 40-storey mixed-use tower that will accommodate a range of programs; such as high end offices, retail space, restaurants, a fitness centre and space for parking. In addition, a 27 floor Hotel tower that follows the same design principles as its counterpart will complement the activities of the complex. The overall design of the project considers the current constraints of the city while accounting for the possibility of future development and change of its surroundings.

Bernhard Karpf, Design Partner-in-charge, commented: "At the centre of development there is a central void, an Urban Courtyard, in the main tower which is a celebration of space, form and light. Natural light will filter through the void between the office modules providing for particularly animated light conditions. We have designed the surface and the volumes of the towers to take advantage of natural light, changes of scale and views to the city."

The project's design operations challenge typical tower conventions. By strategically carving a central void through the tower volume, structure and program become redistributed into unconventional yet efficient configurations. The new possibilities of this internal logic are reflected on the exterior through volumetric cut-outs. A gesture that allows maximising internal natural light and natural ventilation within the centre of the office floor spaces improving transparency and emphasises views of the historic city center and Reforma Boulevard.

Richard Meier commented: "The design of the Reforma Towers is concerned with the making of space, not abstract space, not scaleless space, but space whose order and definition is related to light, to human scale and to the culture of architecture. Every component has been carefully designed taking in consideration the public areas, the city and natural light. Architecture is vital and enduring because it contains us; it describes space, space we move through, exist in and use. We hope that this new mixed-use development contributes to the rich history of the Paseo de la Reforma in Mexico and that it will become a new urban center for work and leisure activities."

WACKER opens representative office in the Philippines

Munich, Germany – WACKER, the Munich-based chemical company, is strengthening its presence in Southeast Asia by opening a Philippine representative office in Manila. Opened on 1 April 2014, the office will distribute products of the chemical business divisions WACKER SILICONES, WACKER POLYMERS and WACKER BIOSOLUTIONS, catering for customers in the construction, adhesives, automotive, electronics, textile, leather, personal care and food industry. It will thus allow WACKER to further expand its global presence and footprint across the region and provide optimum local support to its customers and business partners. The office in Makati City is WACKER's fifth in Southeast Asia.

For more than 30 years, WACKER has been a preeminent technology leader in construction chemicals across Southeast Asia (SEA), providing a wide range of products and solutions including dispersible polymer powders for skim coats, tile adhesives, self-leveling flooring compounds, and water-proofing membranes as well as silicone sealants and adhesives. The Manila office will better serve the Philippine customers, supporting the company's growth in the region.

The representative office does not only cater to the construction business, but also markets other WACKER products, including silanes, silicone emulsions, silicone resins, and sealants for the automotive, electronics, textile, leather, and personal care industry, as well as cystein and cyclodextrin products for food manufacturers. "Our primary goal is to offer our customers and partners in the Philippines products and solutions perfectly matched to their requirements and thereby help them to enhance their own business success. The opening of our office allows us to provide better local support than ever," said SEA Managing Director Patrick de Wolf at the opening ceremony in Manila.

WACKER expects higher sales and earnings in fiscal 2014

Munich, Gemany – At an annual press conference held on 18 March 2014 in Munich, Dr. Rudolf Staudigl, President & CEO of Wacker Chemie AG, Munich, disclosed that Wacker Chemie AG ended 2013 with lower sales and earnings compared to 2012. In the 2013 annual report, Group sales totaled €4.48 billion, some 3 percent down on 2012 (€4.63 billion).

Addressing both local and international media, he said that the decline was chiefly due to weaker prices, particularly for solar-grade silicon and semiconductor wafers. All in all, price effects reduced Group sales by €366 million or about 8 percent last year. 2013's EBITDA – earnings before interest, taxes, depreciation and amortization – came in at €678.7 million (2012: €795.4 million). The corresponding EBITDA margin was 15.2 percent (2012: 17.2 percent). EBITDA dropped almost 15 percent against 2012 mainly because of persistently low solar-silicon prices.

Although more or less stable from the start of 2013, annual solar-silicon prices were about a third lower on average than in 2012. Exchange-rate effects resulting from the stronger euro also slowed the earnings trend. WACKER's chemical divisions, though, increased their EBITDA by over 11 percent compared to the previous year, thanks mainly to higher volumes. Looking at the bottom line, WACKER ended 2013 with Group net income of €6.3 million (2012: €114.7 million), €109 million lower than a year earlier.

During the first two months of 2014, WACKER experienced healthy demand across all business divisions. Over the same period, sales were above the comparable prior-year figures, especially for polysilicon, and also for chemicals and semiconductors. Overall, WACKER anticipates generating Q1 2014 sales of more than €1.1 billion (Q1 2013: €1.08 billion).

For full-year 2014, WACKER forecasts that both sales and earnings will be above the prior-year figures. Based on company projections, sales will rise by a mid-single-digit percentage. Every division is expected to surpass the volumes and sales achieved in 2013. Earnings before interest, taxes, depreciation and amortization (EBITDA) are forecast to be at least 10 percent above the prior-year figure. Group net income too, is expected to improve compared with 2013.

"After two challenging years, I am more optimistic about 2014," said CEO Rudolf Staudigl in Munich. "We anticipated that our polysilicon business will increase its sales. This trend will not only be supported by higher volumes – we also see chances for a slight recovery in prices. Price pressure in semiconductors is very unlikely to continue this year. Nevertheless, our assumption for the full year is that Siltronic will post an increase in both sales and EBITDA. At our chemical divisions, we also see good chances for further growth."

In 2014, WACKER Group celebrates the centennial (100 years) of its founding.

Dr. Rudolf Staudigl, President & CEO of Wacker Chemie AG addressing the media during the press conference.

Executive Board members of Wacker Chemie AG at the press conference.

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Shigeru Ban is the 2014 Pritzker Architecture Prize Laureate

Shigeru Ban
Photo by Shigeru Ban Architects

Chicago, Illinois, USA – Shigeru Ban has been announced as the 2014 Pritzker Architecture Prize laureate. Shigeru Ban, a Tokyo-born, 56-year-old architect with offices in Tokyo, Paris and New York, is rare in the field of architecture. He designs elegant, innovative work for private clients, and uses the same inventive and resourceful design approach for his extensive humanitarian efforts. For 20 years Ban has traveled to sites of natural and man-made disasters around the world, to work with local citizens, volunteers and students, to design and construct simple, dignified, low-cost, recyclable shelters and community buildings for the disaster victims.

Reached at his Paris office, Shigeru Ban said, "Receiving this prize is a great honour, and with it, I must be careful. I must continue to listen to the people I work for, in my private residential commissions and in my disaster relief work. I see this prize as encouragement for me to keep doing what I am doing – not to change what I am doing, but to grow." In all parts of his practice, Ban finds a wide variety of design solutions, often based around structure, materials, view, natural ventilation and light, and a drive to make comfortable places for the people who use them. From private residences and corporate headquarters, to museums, concert halls and other civic buildings, Ban is known for the originality, economy, and ingeniousness of his works, which do not rely on today's common high-tech solutions.

The Swiss media company Tamedia asked Ban to create pleasant spaces for their employees. He responded by designing a seven-storey headquarters with the main structural system entirely in timber. The wooden beams interlock, requiring no metal joints.

For the Centre Pompidou-Metz, in France, Ban designed an airy, undulating latticework of wooden strips to form the roof, which covers the complex museum program underneath and creates an open and accessible public plaza.

To construct his disaster relief shelters, Ban often employs recyclable cardboard paper tubes for columns, walls and beams, as they are locally available; inexpensive; easy to transport, mount and dismantle; and they can be water- and fire-proofed, and recycled. He says that his Japanese upbringing helps account for his wish to waste no materials.

Pritzker Prize jury chairman, The Lord Palumbo, said, "Shigeru Ban is a force of nature, which is entirely appropriate in the light of his voluntary work for the homeless and dispossessed in areas that have been devastated by natural disasters. But he also ticks the several boxes for qualification to the Architectural Pantheon -- a profound knowledge of his subject with a particular emphasis on cutting-edge materials and technology; total curiosity and commitment; endless innovation; an infallible eye; an acute sensibility – to name but a few."

The citation from the Pritzker Prize jury underscores Ban's experimental approach to common materials such as paper tubes and shipping containers, his structural innovations, and creative use of unconventional materials such as bamboo, fabric, paper, and composites of recycled paper fiber and plastics.

The jury cites Naked House (2000) in Saitama, Japan, in which Ban clad the external walls in clear corrugated plastic and sections of white acrylic stretched internally across a timber frame. The layering of translucent panels evokes the glowing light of shoji screens. The client asked for no family member to be secluded, so the house consists of one unique large space, two-storeys high, in which four personal rooms on casters can be moved about freely.

In announcing this year's laureate, Tom Pritzker said, "Shigeru Ban's commitment to humanitarian causes through his disaster relief work is an example for all. Innovation is not limited by building type and compassion is not limited by budget. Shigeru has made our world a better place."

Paper Church, 1995, Kobe, Japan
Photo by Hiroyuki Hirai

Paper Log House, 2001, Bhuj, India
Photo by Kartikeya Shodhan

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Mapei's products have been used in many sports facilities around the world. In this article, we look at two sports venues, which Mapei was involved in: The PGE Arena in Gdańsk, Poland and San Siro Stadium in Milan, Italy.

PGE Arena

Gdańsk - Poland

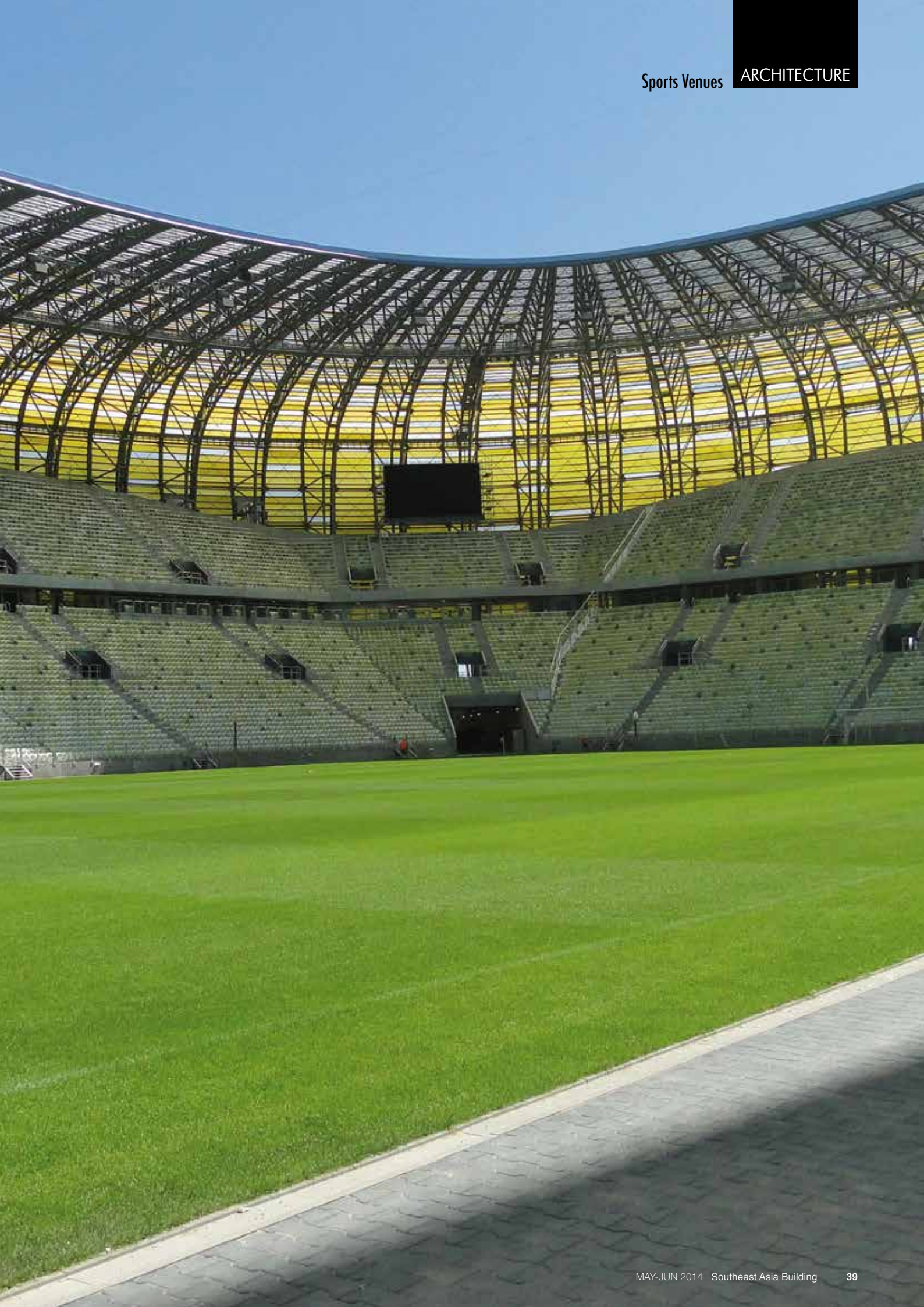
Constructed to host the 2012 UEFA Championships, the PGE Arena is one of the most modern sports structures in Europe, and has a capacity of 42,000. To solve the precast concrete stands reprofilation problem, EPORIP was used for the monolithic sealing of the cracks, while MAPEGROUT THIXOTROPIC and MAPEGROUT 430 for repairing the concrete.

On the top deck of the stadium a 4 metres high wall was built to fix the concrete elements for the stands using metal rods. To make sure that the roof of the stadium was perfectly smooth and well protected from atmospheric agents, MAPEFER 1K, MAPEGROUT 430 (mixed with MAPECURE SRA), MONOFINISH, ELASTOCOLOR PRIMER and ELASTOCOLOR PAINT were used. ELASTOCOLOR PAINT was also used to paint the walls of the corridors leading to the lateral entrances, on the beams above the entrances to the shopping, refreshment and VIP areas, on the walls of the steps leading to the VIP area, on the cashiers' roofs, on the beams above the entrance to each sector of the stadium and on the ceilings of the corridors leading to the entrances. MAPEFLEX PU 45 was used to seal around the pre-cast steps in the stands. EPORIP and TOPCEM PRONTO were used for the observation deck and for the screeds in other areas. NIVOPLAN PLUS was used to form a 5 mm thick layer on silicate block walls; ECO PRIM GRIP to promote adhesion of the ceramic tiles to the ready-mix concrete substrates; MAPELASTIC to waterproof the surfaces in the kitchens, after treatment with ECO PRIM GRIP; ULTRAPLAN MAXI, ADESILEX P9, KERAPOXY and KERAPOXY DESIGN to install the ceramic tiles on these areas; LAMPOCEM, NIVOPLAN PLUS, PLANICRETE, MAPETHENE SA, MAPETHENE PRIMER, MAPELASTIC, MAPEGUM WPS, MAPEBAND, ADESILEX PG4, ADESILEX P9, ADESILEX P9 EXPRESS, ELASTORAPID, KERAFLEX MAXI S1, KERAPOXY, MAPESIL LM and MAPESIL AC for the waterproofing and ceramic tiling works in the swimming pools, Jacuzzis and the bathrooms with showers; MAPEFILL to fill the voids between some of the metal elements and their concrete bases; MAPECOAT I 24 to protect the concrete surfaces above the numbers indicating the seats in the stands.

MAPEI PRODUCTS: ADESILEX PG4, ADESILEX P9, ADESILEX PG EXPRESS*, ECO PRIM GRIP, ELASTOCOLOR PRIMER, ELASTOCOLOR PAINT, ELASTORAPID, EPORIP, KERAFLEX MAXI S1, KERAPOXY, KERAPOXY DESIGN, LAMPOCEM, MAPEBAND, MAPECURE SRA, MAPECOAT I 24, MAPEFER 1K, MAPEFLEX PU 45, MAPEFILL, MAPEGROUT 430, MAPEGROUT THIXOTROPIC, MAPEGUM WPS, MAPELASTIC, MAPESIL AC, MAPESIL LM, MAPETHENE SA, MAPETHENE PRIMER, MONOFINISH, NIVOPLAN PLUS*, PLANICRETE, TOPCEM PRONTO, ULTRAPLAN MAXI. *N.B. THESE PRODUCTS ARE MANUFACTURED AND DISTRIBUTED ON THE POLISH MARKET BY MAPEI POLSKA.

PROJECT DATA

Period of Construction: 2008-2011
Period of the Mapei Intervention: 2010-2011
Project: RKW Rhode-KellermannWawrowsky
Client: Gdańsk City Council
Works Direction: Piotr Glowacki
Contractor: Consortium Hydrobudowa - Alpine
Mapei Distributor: DAGOTECH, Dariusz Górak, Gdańsk
Mapei Co-ordinators: Ireneusz Ropel, Michal Molenda and Piotr Dawidowicz, Mapei Polska (Poland)



San Siro Stadium

Milan, Italy

In the summer of 2012, the football pitch at the San Siro Stadium in Milan was completely renovated, and included both the playing area and the perimeter. To make the natural grass pitch at San Siro even stronger, a special intervention was carried out, so that artificial fibres could be injected into the soil at a depth of up to 20 cm. By injecting this synthetic material into the lawn every two centimetres, the San Siro playing area is a hybrid grass pitch comprising natural grass and over 20 million artificial grass bunches.

This operation was carried out very quickly in August 2012, which also gave opportunity for the synthetic grass around the perimeter of the pitch to be replaced using innovative solutions supplied by Mapei. For the perimeter part of the central pitch the latest generation of synthetic grass was chosen, and for their sub-bases, two innovative, eco-sustainable solutions developed and perfected in the Mapei R&D laboratories were adopted. In fact, two types of sub-bases were created, one with horizontal drainage and the other with vertical drainage. For the first one, with horizontal drainage, the sub-base for the synthetic grass was made by means of a stabilisation process using MAPESOIL 100 powder stabilizing agent, and by adding the old, worn grass turf playing surface which had been grinded beforehand.

The aggregate treated with the MAPESOIL 100 was also recycled. For the vertical drainage, the sub-base for the artificial grass was built up using MAPESOIL VD high performance, high durability binder in combination with well selected aggregates to guarantee sufficient drainage for the sub-base.

The sub-base is completely reversible and the aggregates may be re-used for the same or similar type of work. The new synthetic grass surface was then bonded using ULTRABOND TURF PU 2K high performance adhesive.

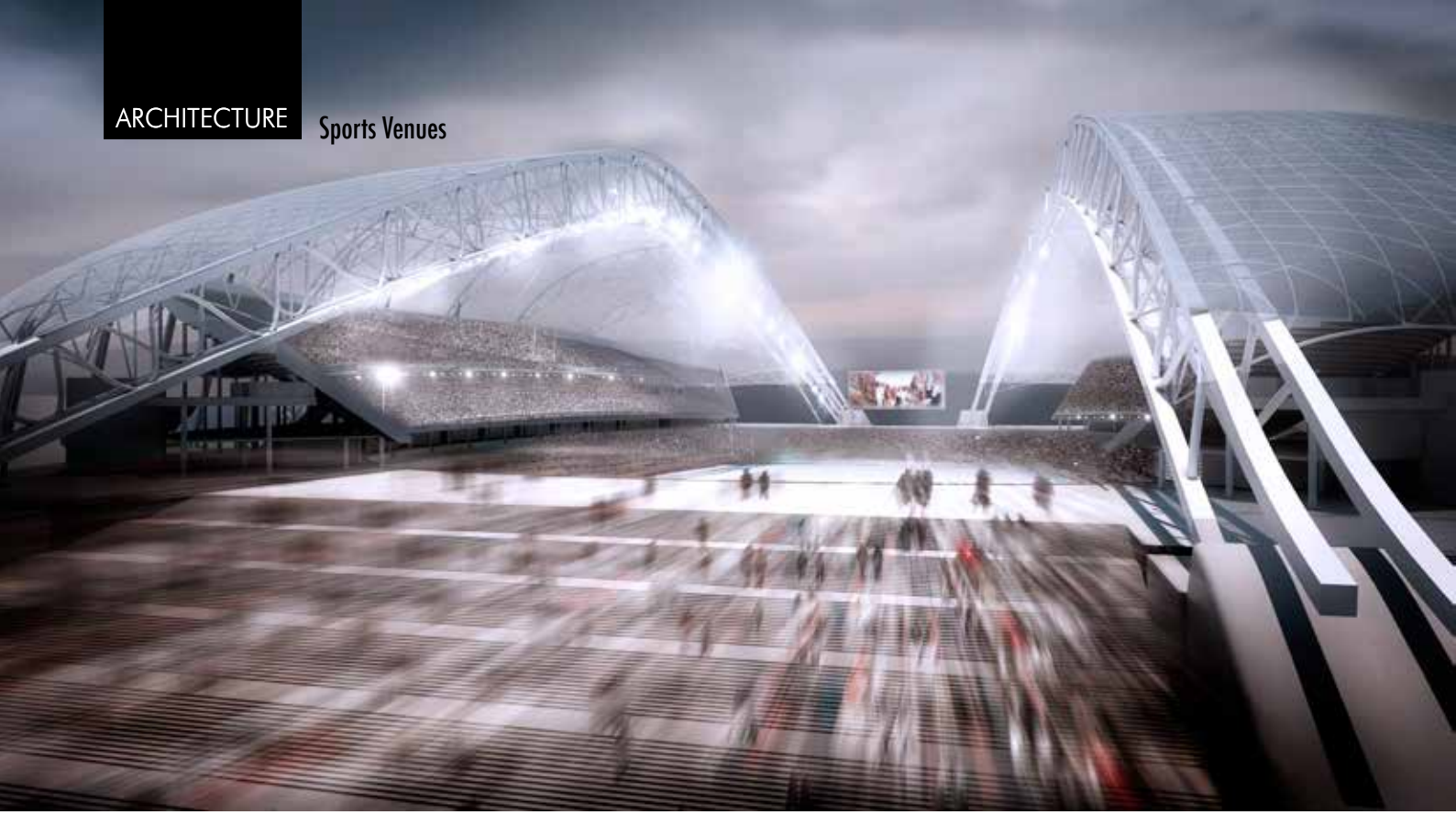
MAPEI PRODUCTS: EPORIP, MAPESOIL 100, MAPESOIL VD, TOPCEM PRONTO C 60, ULTRABOND TURF PU 1K.

Article source: Realtá Mapei International no. 42/2013

For more information, e-mail mapei@mapei.com.sg.

PROJECT DATA

Year of Construction: 1926
Year of the Mapei Intervention: 2012
Client: M-1 Stadio Srl, Milan (Italy)
Contractor: Ma.De. Srl, Milan
Installation Company for the Synthetic Grass Surfaces: Gli Specialisti del Verde Srl, Milan
Mapei Co-ordinators: Elisa Portigliatti and Angelo Nobili, Mapei SpA (Italy)



Sochi 2014 Olympic Stadium entrance. Photo: © POPULOUS

Fisht Olympic Stadium in Sochi

Fisht Olympic Stadium, designed by Populous, was the venue for the main ceremonies of the 2014 Sochi Winter Olympic Games.

PROJECT DATA

Project: Fisht Olympic Stadium
Location: Sochi, Russia
Client: Olympstroy
Architect: Populous
Capacity: 40,000
Events: Opening and Closing Ceremonies 2018 FIFA World Cups

Sochi 2014 Olympic Stadium interior. Photo: © POPULOUS

Russia's bid for the 2014 Winter Olympics was part of a broader goal to step back onto the world stage as hosts of major sporting events (the country's last event was the Moscow Summer Olympics back in 1980).

The challenge was threefold: to convince the International Olympic Committee that Russia had both the vision and the infrastructure to host such a major event; to develop the popular summertime coastal resort of Sochi into a world class destination for winter sports, and to design a stadium flexible enough to facilitate the Olympic ceremonies, then act as a venue for FIFA World Cup matches and, finally, become the home venue for a local football team.

Populous, a global award-winning sports and entertainment architecture practice, was appointed to design the Fisht Olympic Stadium, and the result was an iconic sporting facility in the heart of the city.

The Fisht Olympic Stadium is constructed in the new Sochi Olympic Park. Located within walking distance of the Olympic Village, the capacity of the stadium is flexible – from 45,000 down to 25,000.

Innovation

For the first time, an Olympic Park has been designed as part of a Winter Games master plan. This unusual step guarantees a unique legacy for these Games, marking Sochi out as a winter destination for decades to come. Within the park, the main level of the stadium is raised on a landscaped mound, providing stunning views from within.

The unique engineering systems will enable truly memorable opening and closing ceremonies while, post-Games, the in-built flexibility of the stadium's design means its capacity can change over time to provide event configurations from 45,000 seats for FIFA World Cup matches to a compact, atmospheric 25,000 for local matches.

Impact

Winning the bid for the 2014 Winter Olympic Games has not only reinstated Russia's reputation as a viable host for major events, but has transformed Sochi itself. The infrastructure that our work has helped create will regenerate the region, marking Sochi out as a year-round tourist destination and major new European winter sports centre.

Fisht Stadium. Photo: © sochi 2014

Another view of the Fisht Stadium. Photo: © sochi 2014

Exterior view of the Fisht Stadium. Photo: © sochi 2014

Arena das Dunas in Natal.
Photo: © Populous

Arena das Dunas in Natal

Recently, Populous designed Arena das Dunas officially opened ahead of 2014 World Cup.

The Arena das Dunas in Natal, Rio Grande do Norte, which will host four group stage matches during the 2014 FIFA World Cup Brazil, was recently inaugurated by President Dilma Rousseff.

World leading sports architecture practice, Populous, designed Arena das Dunas including the landscape and masterplan of the surrounding areas. The venue, which was inspired by the coastal city of Natal's sand dune landscape, has a capacity of 42,000 with 10,600 removable seats and has been delivered on time.

Christopher Lee, Senior Principal at Populous and Lead Architect of the Arena das Dunas commented: "Brazilians are passionate about their football and are rightly proud of their country's unparalleled record in the World Cup."

"We have designed a stadium and a masterplan that showcases the aesthetics of the beautiful surrounding area of das Dunas and will create a great atmosphere for the World Cup 2014," he added.

The Dunas Arena is designed to be a multipurpose venue. The main stadium will host sports events, trade shows and concerts, and the stadium's 22,000 square metres outdoor plaza will also host events.

President Dilma Rousseff commented in the inauguration: "I was delighted by the beauty of this stadium, especially given the fact that it was delivered 3 percent below budget, and that it will earn the seal of Ecology," she continued "This stadium is as beautiful as Natal."

The first matches at the stadium took place on 26 January 2014 when the state of Rio Grande do Norte's main soccer teams faced each other in a double round: América-RN vs. Confiança-SE for the Northeast Cup, and ABC vs. Alecrim for the Rio Grande do Norte State Championship.

The local soccer clubs ABC and América have signed an agreement with the Dunas Arenas management consortium to use the venue for their home games for the next 20 years.

"The arena is in the city centre and after the World Cup we can set up a commercial area between the access ways," said Charles Maia, Dunas Arena director. "In addition, we have an area where events and concerts may be held. Since the beginning, the arena was designed as a multipurpose venue that can be used year-round. Our goal is to make it profitable. The two main football clubs in the state, América and ABC, have signed a contract with us, and we have already arranged a certain number of matches," he added.

Arena Design

The arena's design is unique. Its façade and roof are integrated and made up of 20 petal-shaped modules, designed to be higher on one of the stadium's sides, giving the impression that the sand dunes – which are common in the region – are moving. The design also enables more ventilation and light to come into the stadium.

The petal-shaped structures of the roof are made of steel trusses, covered on the outside with aluminum tiles, with thermal and acoustic insulation. Internally, they are coated with a PVC pre-stressed membrane. The parts are joined by translucent polycarbonate, which allows light to come through.

The Dunas Arena's roof was also designed to capture rainwater. Gutters collect the water and take it to nine tanks below the lower stands. As a result, up to 3,000 cubic meters may be captured and reused in the lavatories and for irrigating the pitch. Fans going to matches and events at the stadium will notice a new standard of comfort and safety. In total, there are 21 access ramps to reach each of the four stadium levels, in addition to elevators that connect the indoor car park directly with the 39 boxes. The Dunas Arena also has four lounges that can accommodate up to 1,000 people, 25 food and drink kiosks, as well as 30 restrooms.

There are four types of seats, identifiable by varying shades of blue: general public, hospitality, VIP and Executive VIP. In addition, 521 seats are reserved for people with disabilities.

"The arena is accessible at all levels, with ramps and elevators, from the box office to the changing rooms," said Charles Maia. "In the boxes and throughout the stadium there are accessible lavatories. There is a directional tactile floor from the external gate to the stands."

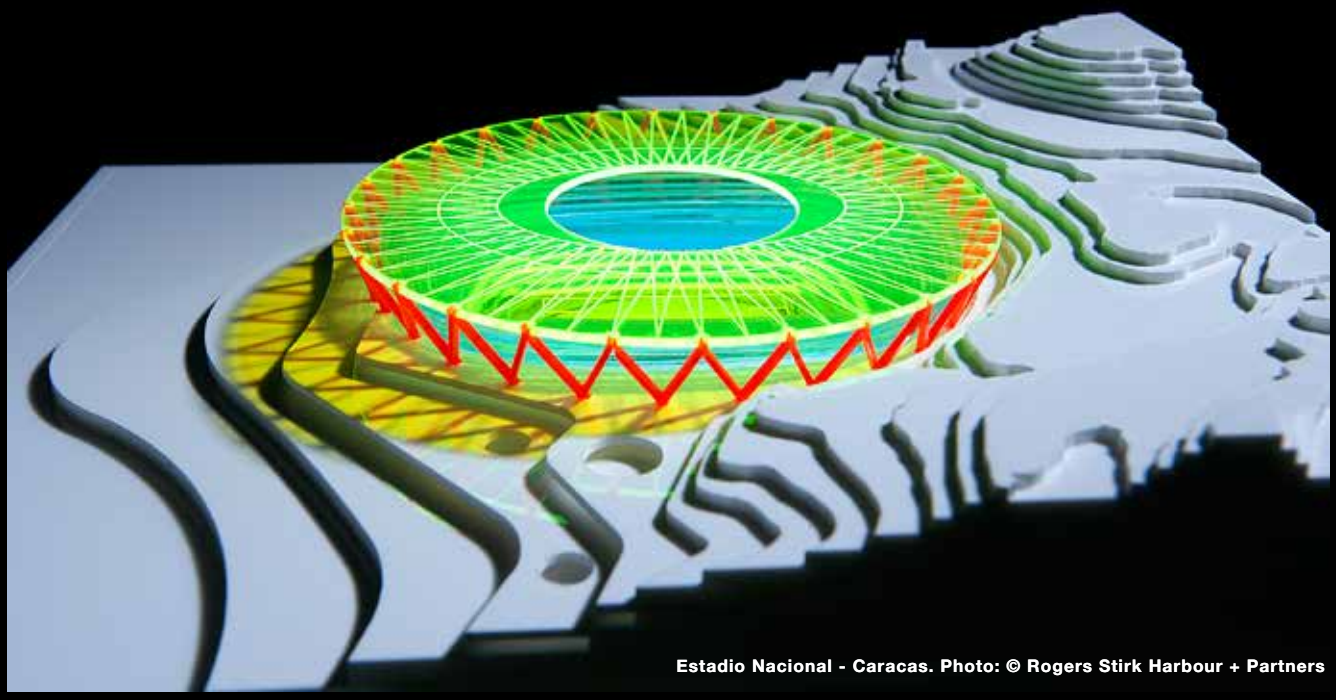
A security team in the arena's command and control center is able to monitor images recorded by 200 cameras with facial-recognition capability in the ground's external and internal areas. The PA system is integrated with the stadium's two 64 square meter screens, allowing for information and match statistics to be clearly displayed to the crowd.

Players will also notice improved match conditions. The Bermuda Tifton 419 grass species used for the pitch is ideal for the region's hot climate, and the drainage system allows for matches to be played even on extremely rainy days.

With the first row of stands only 15 metres away from the pitch, fans will be close to the action. In addition, the arena's lighting system, which uses 306 floodlights, provides uniform and consistent visibility, eliminating shadows and facilitating TV broadcasts using Full HD technology.

Rogers Stirk Harbour + Partners plans football stadium for Venezuela

Rogers Stirk Harbour + Partners unveil their first ever football stadium in Caracas, Venezuela.

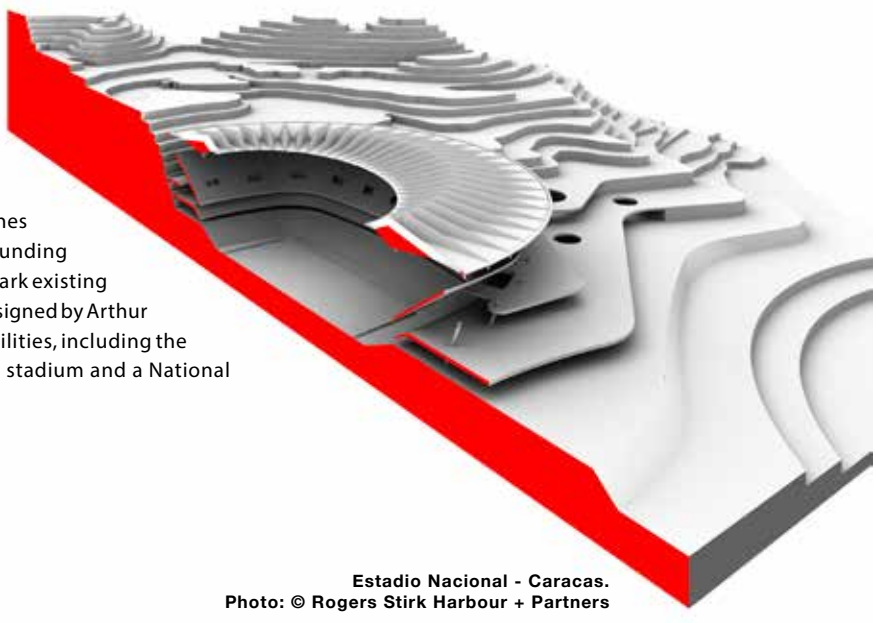


Estadio Nacional - Caracas. Photo: © Rogers Stirk Harbour + Partners

Estadio Nacional - Caracas. Photo: © Rogers Stirk Harbour + Partners

Rogers Stirk Harbour + Partners (RSHP), an award-winning, international architectural practice based in London, has completed work on a master plan for the area known as La Rinconada.

This master plan includes a transport interchange (linking the new bus station with existing metro and train station) and also establishes a new metropolitan park protecting the surrounding hillsides from further development. Within the park existing sport facilities (including the listed racecourse designed by Arthur Froehlich in 1959) are augmented by the new facilities, including the bus station (also designed by RSHP), a baseball stadium and a National Football Stadium.



Estadio Nacional - Caracas.
Photo: © Rogers Stirk Harbour + Partners

Estadio Nacional - Caracas. Photo: © Rogers Stirk Harbour + Partners

The Estadio Nacional de Fútbol de Venezuela, en Caracas – a joint venture with Arup – sits on the hillside providing spectacular views of the city to the northeast. A lightweight, brightly-coloured bicycle wheel canopy roof, capturing the joy and vitality of the city and its people, hovers over the complex.

Simon Smithson, lead Partner at Rogers Stirk Harbour + Partners for the project, said: "The hillside site created an unusual challenge and the design reflects this with terraces cut into the landscape giving way to a series of floating esplanades that provide access to the various levels of stadium."

Estadio Nacional - Caracas. Photo: © Rogers Stirk Harbour + Partners

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Wanangkura Stadium

A Multi-Purpose Recreational Centre

Designed by ARM Architecture, Wanangkura Stadium is Port Hedland new multi-purpose recreational centre. The name for the centre was chosen from hundreds of local submissions and means 'whirlwind' in the local Kariyarra language. The title pays tribute to the centre's design, which architect Sophie Cleland likened to a cyclonic pattern, creating a 'shimmering, rippling effect on anotherwise flat landscape'. Western Australia Premier Colin Barnett called the Centre '... a spectacular piece of architecture that will become a landmark for Hedland'.

Located in Western Australia's northern Pilbara region, Port Hedland is highest tonnage port in Australia, with global links to China, Europe and Japan. It is also a place of extreme climatic conditions with seasonal cyclonic periods and extreme temperatures during summer. Managing these conditions becomes a challenge for architecture, with buildings designed to withstand cyclonic conditions to Region D category 2. The mining industry also dominates the landscaping and operations and the town, providing a large fly-in fly-out population.

The main gateway into the town is through the air; not roads. The town is located at the top western end of Western Australia and is surrounded by a sea of red earth at the edge of the Pilbara in town infamous for Australia's iron ore exports. Flying several hours across the desert of the Australia outback you see a town come into view that has a suburban domestic like quality with a urban layout would be familiar in the outer suburbs of Melbourne. The bright green grass of the ovals are clearly the most identifying features.

This 'gateway' provided the first primary view of the Wanangkura Stadium and the approximately 3500 square metre roof which makes a significant feature in the landscape.

The architect chose to treat the roof as another façade and wanted to celebrate the local club football team The South Hedland Swans whose team colours are black and white by creating giant stripes in the roof profile. This creates an impressive view from above but is also an important feature from the oval as the roof is clearly visible from the ground and oval perimeter. The project site is located at the Kevin Scott Oval on the fringe of South Hedland's flood plain. It is a significant destination point for major sports and social gatherings for the local community and fly-in fly-out workers. ARM was engaged to design a scheme for the multipurpose sports facility, concurrently with the masterplanning for the surrounding playing fields for future expansion. The main building houses a new indoor playing court, a gym, squash courts, club rooms for local football teams and upper level function rooms. Adjacent to the main building are outdoor playing courts for netball and basketball.

Our approach to the design considered this building as a mirage – a shimmering, rippling effect on an otherwise flat landscape. Using a 'halftone' pixelated technique, the buildings entry facade acts as a clear visual image from long distances, whilst being highly agitated on closer inspection. The opposite side faces the Kevin Scott oval, accommodating related facilities along the oval, including a spectator's stand, change rooms and spectator suites.

In preparing the concept design, ARM first visited the site and met with Council and project stakeholders, which included different sporting groups and community members. The design had to work hard to meet the requirements of each sporting code, while also taking advantage of opportunities for efficiency, such as sharing change rooms. Circulation and access needed to consider the varying requirements of spectators, employees, paying members, and local and visiting sports teams.

The Wanangkura Stadium is an excellent example of the advantage offered by ARM's unique design approach. The architect's clients in Port Hedland knew it would be difficult to create an 'iconic' building within the restrictions of their location, climate and budget. With lateral thinking and innovation, the architect proved that something more was possible.

PROJECT DATA

Project: Wanangkura Stadium
Architecture Practice: ARM Architecture
Location: Hamilton Rd, South Hedland, WA 6721 Australia
Category: Public Buildings - Sporting
Type Of Building Contract: Lump-Sum Contract
Gross Floor Area: 4,500 square metres
Total Project Cost: $35 Million
Consultant / Construction Team Role:
- Landscape Architecture: Oculus
- Structural & Services: Aurecon
- Quantity Surveyor: Davis Langdon / Rider Levett Bucknell
- Building Surveyor: John Massey Group
- Builder: Doric Group

Date of Completion: July/2012
Photographer: © Peter Bennetts

Palace of Water Sports in Kazan

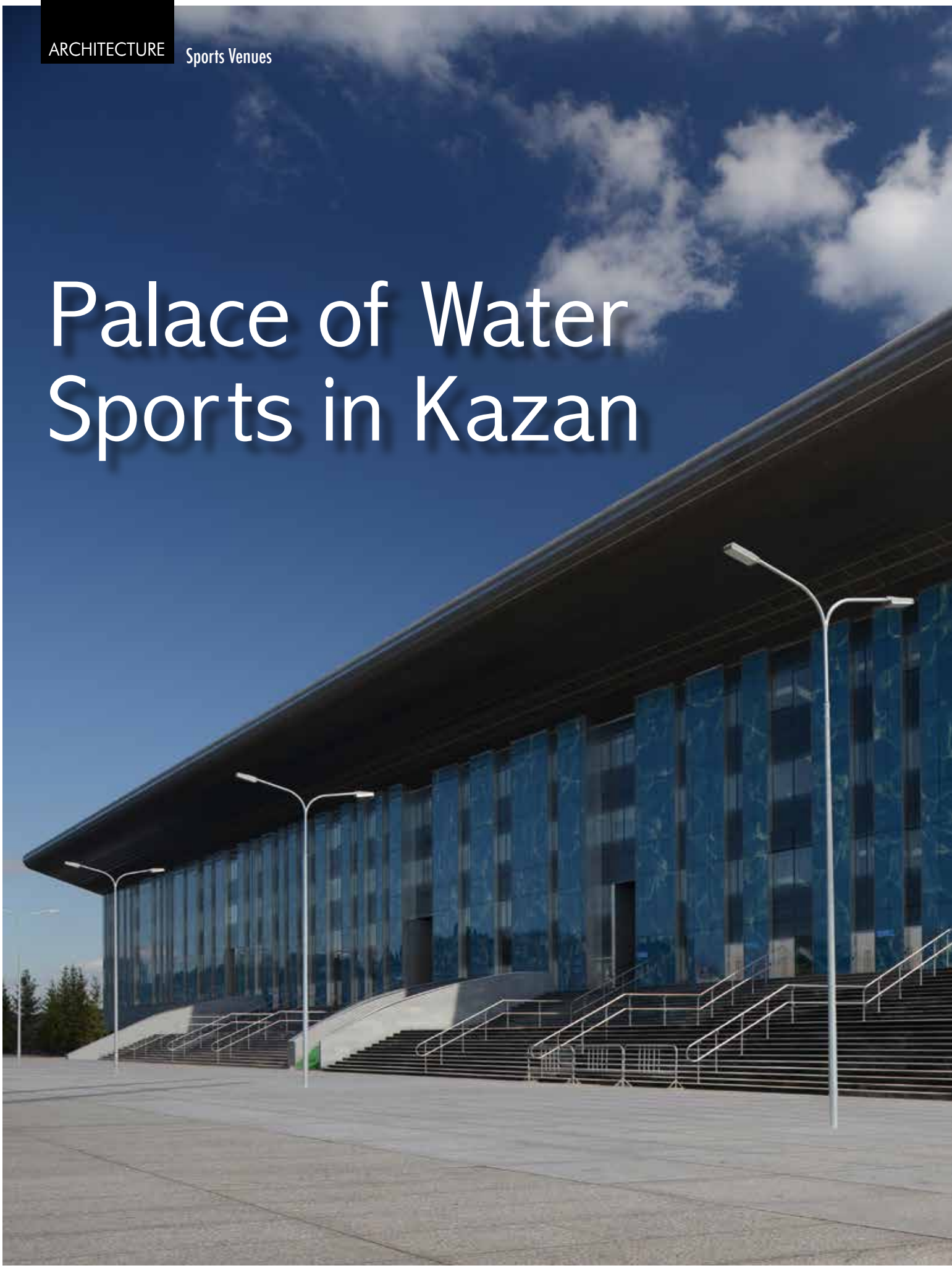
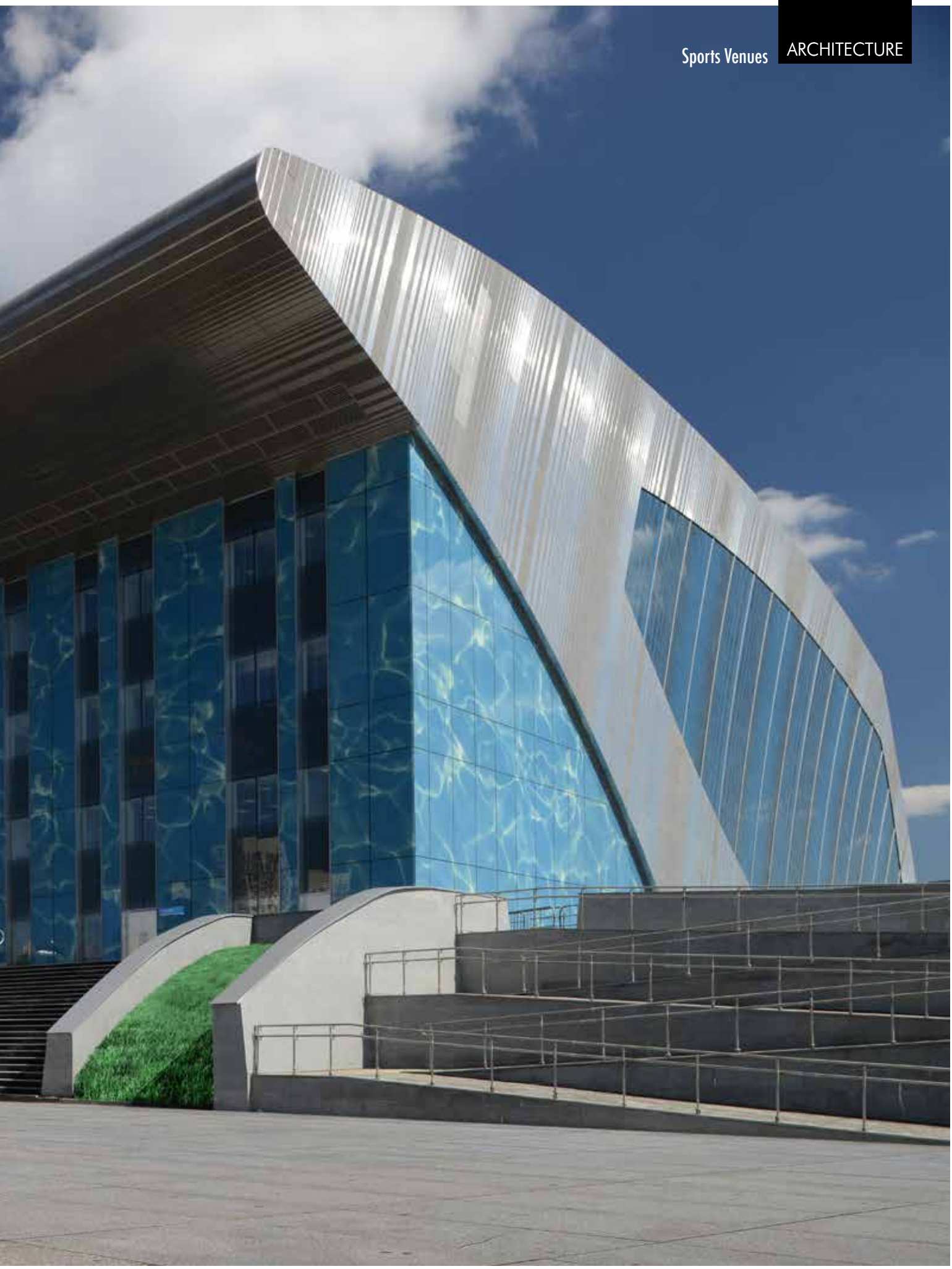


Photo: © Ilia Ivanov



Jointly developed by SPEECH Tchoban & Kuznetsov, Ove Arup and Central Research, Design and Construction Laboratory of Wooden Constructions (CRDC LWC), the Palace of Water Sports stands as an iconic building in Kazan, Russia.

The Palace of Water Sports was planned in the territory of Universiade Park and included in the complex of sport constructions being built in Kazan city as part of the preparation for holding the Summer Universiade in 2013. Apart from the role the complex plays for sports, it also has social value. After the end of the Universiade, the students of Tatar State Academy of Physical Culture, Sport and Tourism, as well as other residents of the city, will play sports and enjoy recreational swimming here.

The Palace building (length 187.5 metres, width 84 metres) stretches along the embankment of the Kazanka river and includes a hall with pools and stands, covered by a dynamic roof the outlines of which are reminiscent of the movement of a wave (maximum height 25 metres). Three swimming pools are planned: an all-purpose pool (52x25 metres, depth 2.2 metres); a diving pool (33.3x25 metres, depth 5.5 metres), and another standard pool (52x25 metres) separated from the other two by a glass partition and designed for training as well as for fitness center visitors.

The fixed stands, including the VIP area, can seat approximately 3,000 people and nearly another 1,000 seats can be added by special collapsible stands.

The main functional block of the Palace of Water Sports is located parallel to the line of the pools. The fifth floor of the building is occupied by all the main and serving spaces that are necessary for conduct of the contests of all the levels and for everyday use by Kazan residents as well. The maximum capacity of the Palace will be 3,540 seats, almost 2,000 of which are stationary seats including commentator's cabins and seats in VIP area, and 1,500 additional seats may be installed in the special collapsible stands.

The main distinguishing feature of the building is its unique covering, a constructive solution developed jointly by the specialists of bureau SPEECH Tchoban & Kuznetsov, Ove Arup and Central Research, Design and Construction Laboratory of Wooden Constructions (CRDC LWC). Three hinges of laminated wood arcs from pair curved crossbars are used as bearing elements here, forming a structure resembling lancet arches traditional in Tartar architecture.

There is a good reason for the choice of laminated wood structures for the cover of the swimming pool. This is one of the most environmentally friendly construction materials, not only because it is a sustainable resource and easy to recycle the structures in the future, but also because of the great performance characteristics which wood demonstrates in high humidity conditions. Moreover, laminated wood structures do not require additional finishing and give the interior a distinctive look and warmth, which is quite important in the harsh climate.

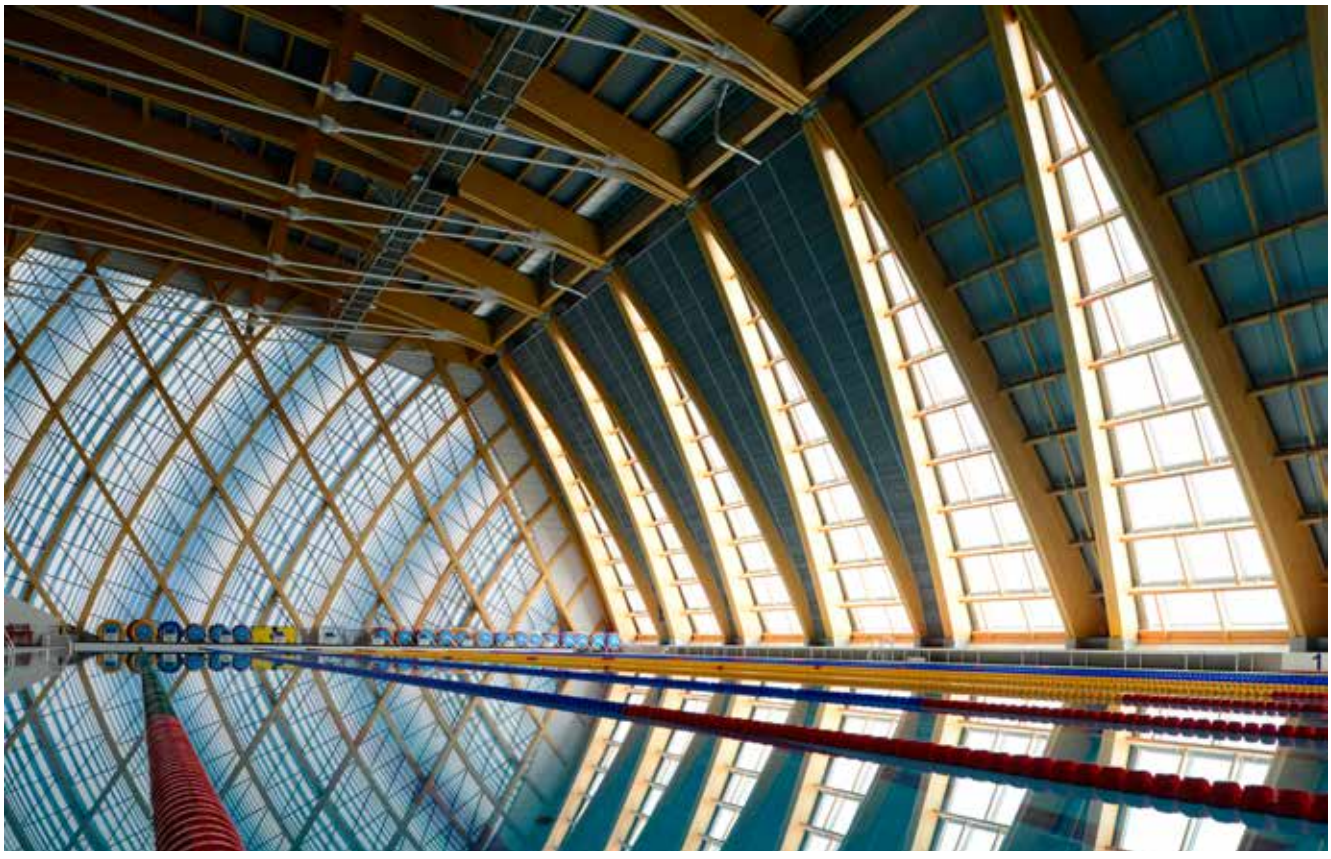


Photo: © Ilia Ivanov

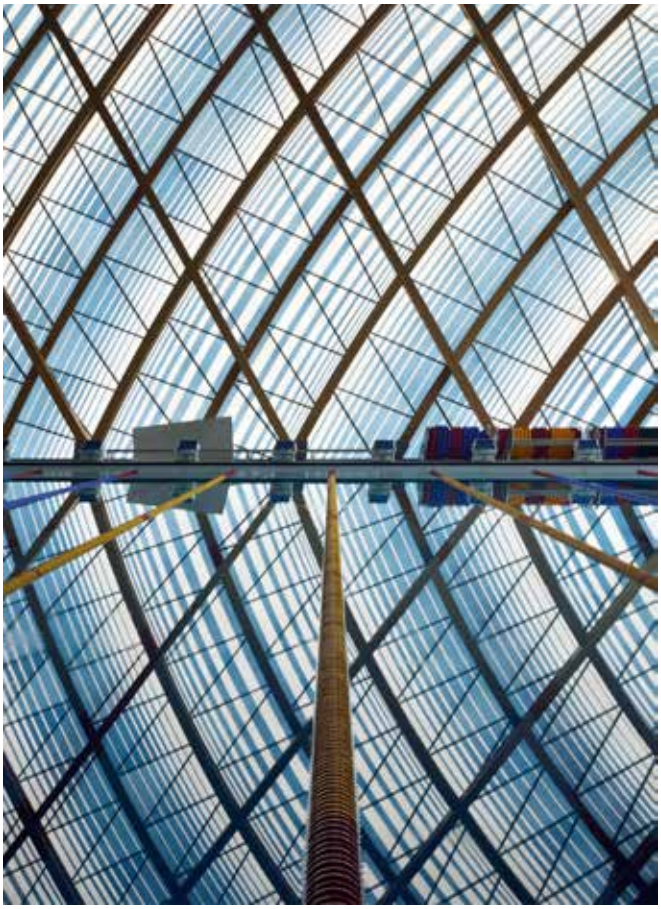


Photo: © Aleksey Naroditsky

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Translucent constructions are actively used in the facades of the Palace of Water Sports. Apertures between wooden frames on the façade, looking onto the river, the butts of the building and 5-storey vertical openings in the main façade are filled with stained-glass windows. In addition to glass, stainless steel panels, processed by grinding, were used in the façades. This geometric design of alternating matte and glossy stripes is reminiscent of ripples of waves on the surface of water.

Thanks to the carefully balanced combination of glazing and blind parts of the walling and bridging, the authors of the projects managed to achieve high level of energy efficiency in the building, which makes it possible to minimise power consumption. It is very important for a structure that is maintained at the expense of the city budget.

Most materials and structures used in the construction of the Palace of Water Sports were produced by companies from central Russia, and with the use of Russian resources. This, along with project and design solutions optimised in compliance with the individual requirements of the Owner of the project, enabled the authors to work to the tight budget constraints without compromising on the architectural and technical quality of the facilities.

Photo: © Aleksey Naroditsky

PROJECT DATA

Project: Palace of Water Sports
Location: Kazan, Russia
Customer: PSO Kazan
Authors: Sergei Tchoban, Sergey Kuznetsov
Chief Architect: Nikolay Gordushin
Architects: Tatiana Varyukhina, George Glebov, Tatiana Logunova, Alexey Shubkin
Engineer: Sergei Serdyukov
Capacity: 4,200 seats
Start: 2008-2011
Completion: 2011-2012