

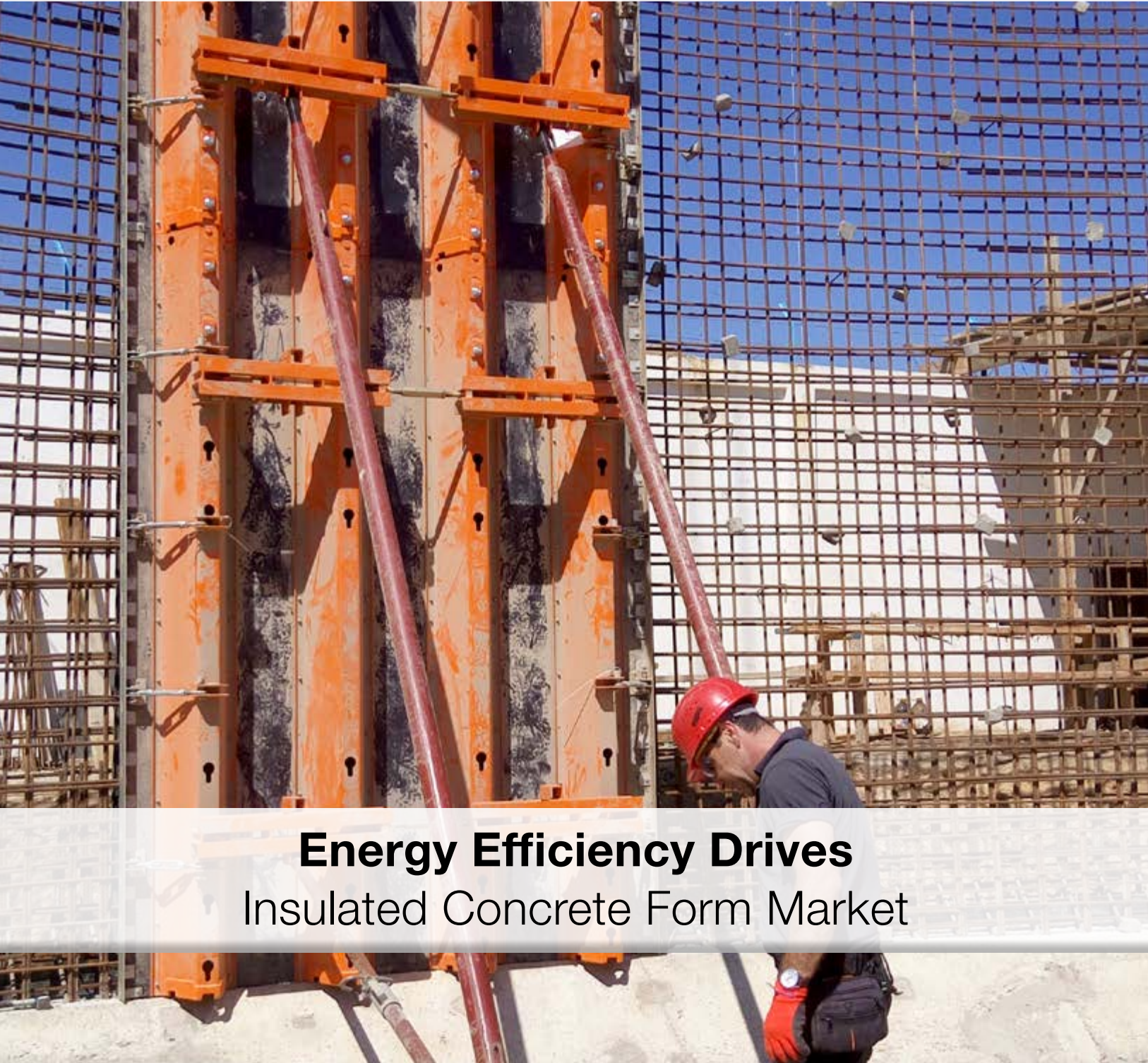


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March 2017 / Vol. XXXV Issue 3

Arab Construction World

عالم الإنشاءات العربي



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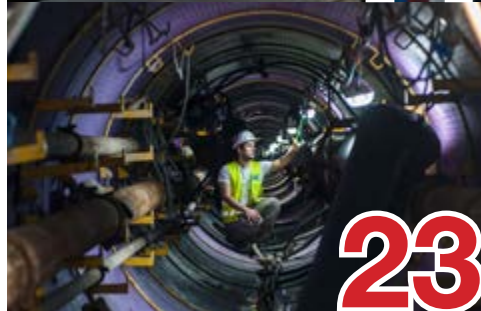
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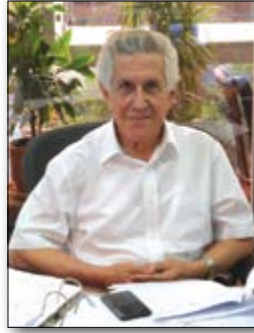
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Major Projects Drive Infrastructure Market in GCC

المشاريع الكبرى في دول مجلس التعاون الخليجي تقود سوق البنية التحتية

Construction in the GCC infrastructure sector is driven by major infrastructure projects being developed in Saudi Arabia, the UAE and Qatar. As per **BNC Project Intelligence Database**, the GCC infrastructure market has an estimated value of over USD400 billion. Moreover, the GCC infrastructure market is expected to undergo positive growth over the next few years as the GCC region prepares to host global events such as Dubai Expo – 2020 and FIFA - 2022.

According to **Brikstats Consulting**, post the announcement of Dubai 2020 expo event, the Emirate is a wave of opportunity with Government setting aside USD4.63 billion in 2016 budget for infrastructure development till 2020. The investment will spread over different asset classes broadly covering housing, roads, railways, schools, health facilities and public buildings. Abu Dhabi is the next destination for investors eyeing long term growth. The emirate has earmarked USD100 billion to be invested till 2030 and majority of it will be ploughed in real estate and transportation sector. As the host country of FIFA 2022, Qatar has invested a huge sum over the last few years in the development of the required infrastructure. The country has devised plans to draw USD222 billion of amount by 2022 for the infrastructure projects including stadiums, hotels and other transport related facilities. In the year 2013 when Qatar won the FIFA 2022 bid, it had awarded projects worth more than USD50 billion. The country still has many infrastructure opportunities with a huge pipeline of projects planned to be awarded between 2016 and 2020.

The March 2017 issue of Arab Construction World (ACW) magazine covers a variety of interesting projects and topics. On page 07, the article sheds light on the growing global demand for loaders. The article on page 13 provides an analysis of the BIPV systems used in building facades. Furthermore, the article on page 18 tackles the influence of energy efficiency on the insulated concrete form market. On page 27, the article discusses the growth of Bahrain real estate market. Your comments and remarks are appreciated; please don't hesitate to contact us through our email content@cph.world

تقود مشاريع البنية التحتية الرئيسية التي يجري تطويرها في المملكة العربية السعودية، والإمارات العربية المتحدة وقطر البناء في قطاع البنية التحتية الخليجي. ووفقاً لتقرير أعدته شركة بي أن سي بروجيكت إنتاليجانس داتا بيس (BNC Project Intelligence Database)، تقدر قيمة سوق البنية التحتية لدول مجلس التعاون الخليجي بأكثر من ٤٠٠ مليار دولار أمريكي. وعلاوة على ذلك، من المتوقع أن يشهد القطاع نمواً إيجابياً خلال السنوات القليلة المقبلة في الوقت الذي تستعد فيه دول مجلس التعاون الخليجي لاستضافة الأحداث العالمية مثل معرض إكسبو الدولي ٢٠٢٠ في دبي وكأس العالم ٢٠٢٠ في قطر.

وفقاً لتقرير نشرته شركة بريكستات كونسلتنغ (Brikstat Consulting)، فإنه بعد الإعلان عن حدث معرض إكسبو الدولي ٢٠٢٠ في دبي، تحولت الإمارة إلى موجة من الفرص، إذ أعدت الحكومة مبلغ ٤,٦٣ مليار دولار أمريكي في ميزانية ٢٠١٦ لتطوير البنية التحتية حتى العام ٢٠٢٠. وسيتم توزيع الاستثمار على فئات الأصول المختلفة لتغطي السكن، الطرق والسكك الحديدية والمدارس والمرافق الصحية والمباني العامة على نطاق واسع. أما أبو ظبي، فهي الوجهة المقبلة للمستثمرين الذين يتطلعون إلى النمو على المدى الطويل. وخصصت الإمارة مبلغ ١٠٠ مليار دولار لاستثماره حتى العام ٢٠٣٠، وسيتم ضخ الأغلبية منه في القطاع العقاري وقطاع النقل. وبوصفها البلد المضيف لكرة القدم عام ٢٠٢٢، استثمرت قطر مبلغاً ضخماً في تطوير البنية التحتية اللازمة خلال السنوات القليلة الماضية. وأعدت البلاد خطط لإنفاق مبلغ ٢٢٢ مليار دولار أمريكي على مشاريع البنية التحتية بحلول العام ٢٠٢٢، بما في ذلك الملاعب والفنادق والمرافق المرتبطة بالنقل. ففي العام ٢٠١٣، عندما فازت قطر باستضافة كأس العالم ٢٠٢٢، كانت قد منحت مشاريع تبلغ قيمتها أكثر من ٥٠ مليار دولار أمريكي. ولا يزال هناك الكثير من فرص مشاريع البنية التحتية في البلاد بوجود العدد الهائل من المشاريع الوشيكة الحدوث المخطط لها والتي ستمنح بين عامي ٢٠١٦ و ٢٠٢٠.

يغطي آذار/مارس ٢٠١٧ من مجلة عالم الانشاءات العربي مشاريع ومواضيع مختلفة مثيرة للاهتمام. ففي الصفحة ٠٧، يسلط المقال الضوء على الطلب العالمي المتنامي على سوق اللوادر. ويقدم المقال في الصفحة ١٣ تحليلاً حول سوق أنظمة خلايا الطاقة الشمسية المتكاملة المستخدمة في واجهات الأبنية. وعلاوة على ذلك، فإن المقال على الصفحة ١٨ يتناول تأثير كفاءة الطاقة على سوق قوالب الخرسانة المسلحة العازلة. وفي الصفحة ٢٧، يناقش المقال نمو قطاع العقارات في البحرين. آراءكم وتعليقاتكم تهمنا، فلا تترددوا بالتواصل معنا عبر البريد الإلكتروني: content@cph.world

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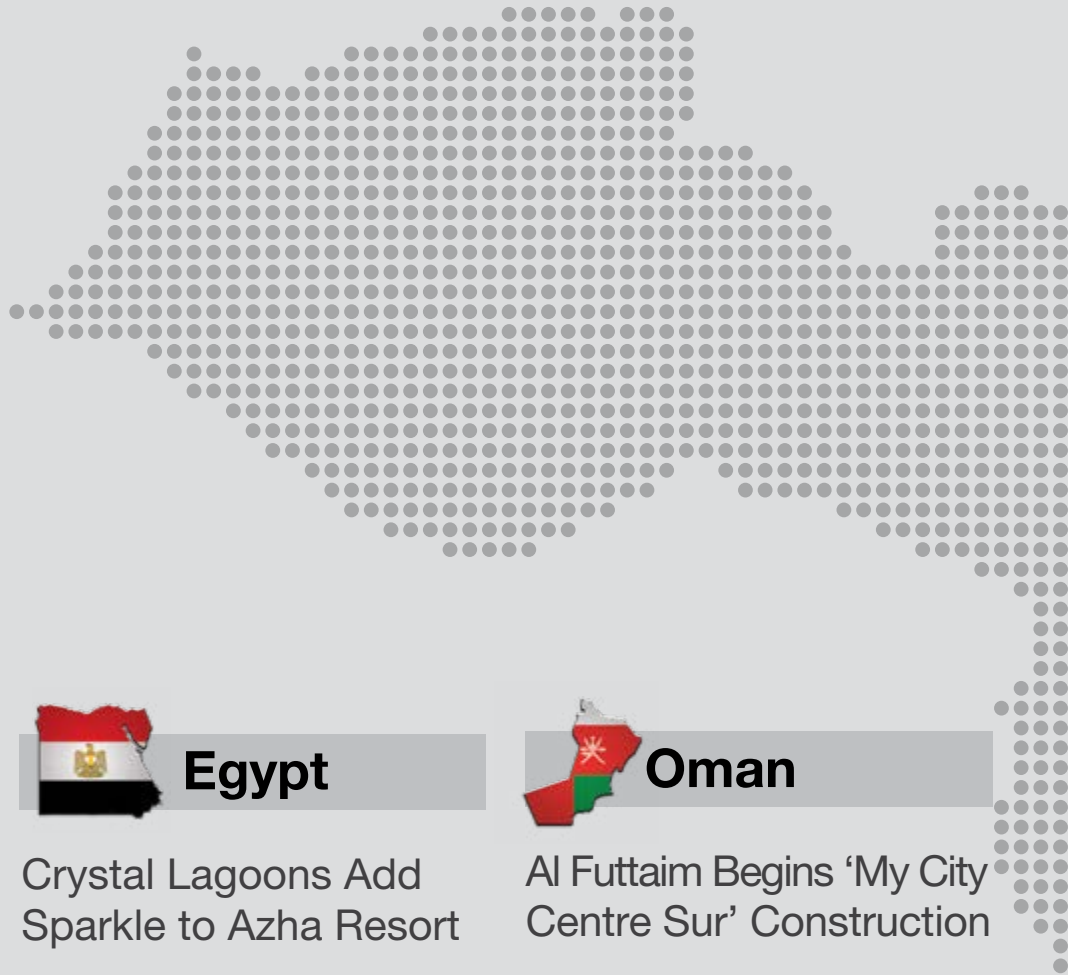
Qatar

Leminar's Cooling Towers in Qatar Markets

Leminar Air Conditioning Company WLL, the well-known distributor and service provider of HVAC and plumbing products in the GCC, introduced Mesan USA Cooling Towers to an elite gathering of industry professionals in Qatar and Kuwait on March 6th & 8th respectively. The product debut took place during Leminar's technical seminars, which focussed on alternative evaporative cooling technology. Earlier in the year, Leminar formalised a distribution agreement with **Mesan USA** for the supply of its CTI certified products in these two countries. The latter is one of the well-known manufacturers in the USA and has over 2,300 models in its portfolio. It is also the only manufacturer which designs and develops its own fans, ensuring a perfect match between towers and fans, for the highest combined efficiency (thermal and energy), and consequently the lowest energy consumption per tonne. The keynote speaker at the seminar, *Sergio Flores*, Director of Mesan USA, said: "Mesan USA uses the same technology used in the design of winglets of an aircraft for its fan blades."

also for energy intensive products, and finally more peace," emphasizes Professor *Christian Breyer*. Transforming the electricity system fully to renewables for Iran requires 49 gigawatts of solar photovoltaics, 77 gigawatts of wind power and 21 gigawatts of hydropower. Most of the hydropower already exists, but the solar and wind capacities would require new investments. Wind power can be installed in many parts of the country and solar systems in all parts of Iran for an attractive cost. Both technologies can be easily added to the existing energy infrastructure.

6.4 hectares and 10.2 hectares with completion expected at the end of 2018. The crystal-clear lagoons will play a vital role in the appeal of Azha, a high-end waterfront luxury residential development that is being described as 'the new capital of Egypt', on the increasingly popular western Red Sea coast. The 1.6 million-square-meter development will feature a five-star line-up of luxurious amenities including spacious village residences, hotels and serviced apartments, a golf course and clubhouse, shops, community centres, a beach club, sports facilities and parks.



Iran

Iran Adopt Renewable Electricity Systems

Iran can transition to a fully renewable electricity system and financially benefit from it by 2030. Researchers at Lappeenranta University of Technology (LUT) show that major oil-producing countries in the Middle East and North Africa (MENA) region could turn their abundant renewable energy resources into lucrative business opportunities in less than two decades. "The low cost renewable electricity system is a driver for growing standards of living, continued economic growth, in particular



Egypt

Crystal Lagoons Add Sparkle to Azha Resort

Crystal Lagoons, the international water innovation company and developer of the 'world's top amenity' able to bring an idyllic beach lifestyle anywhere in the world, has teamed up with leading Egyptian real estate development company, **Madaar Development** to create two lagoons at the USD400 million Azha resort being built at Ain Sokhna in Egypt. Combined, the crystal-clear lagoons, developed at very low construction and maintenance costs, will total over 16 hectares, spanning



Oman

Al Futtaim Begins 'My City Centre Sur' Construction

Located in one of Oman's growing coastal cities in the eastern province, My City Centre Sur is set to become a key destination for both residents and the increasing number of tourists visiting nearby attractions. Aimed to be completed by 2018, My City Centre Sur—an USD39.48 million investments—will offer 16,500 square meters of gross leasable area with a tailored mix of practical and lifestyle-oriented stores and services, making

it an ideal location for the community to shop, and socialize. The shopping Centre will feature a 6800 sqm **Carrefour Hypermarket** as well as 50 select stores including food and beverage outlets. "The appointment of the contractor and groundbreaking of My City Centre Sur means that we



Saudi Arabia

MODON Adopts Solar Energy

The Saudi Industrial Property Authority "MODON" revealed the success of its experience of using

amounted to 103 kW, which is able to cover the area of the project, for an average daily production capacity of (558 kWh), used in the generation of (350) solar cells. It is to be mentioned that Riyadh 3rd. Industrial City, which extends over an area of one million m², consists of more than 90 ready factories, set aside for food and light eco-friendly industries and projects for women.



UAE

Dubai's Housing Subdues Demand

The increase in affordable housing in Dubai is having a negative effect on rents in the Northern Emirates, according to the latest report from real estate consultancy **Asteco**. The Northern Emirates Real Estate Report Q4 2016 revealed average rent levels declined marginally during Q4 2016 in the Northern Emirates, with Sharjah, Ajman and Fujairah witnessing decreases of 1 percent on average. *John Stevens*, Managing Director, Asteco, said: "We could see further declines in 2017 if the supply of affordable property, continues to stifle demand in the Northern Emirates. Sharjah and Ajman are expected to experience more downward pressure on rates in comparison to Ras Al Khaimah and Umm Al Quwain." Over the year (2016), apartment rents in Sharjah fell 3 percent, on average, with a typical one-bedroom apartment renting for around USD8440.20 per annum. This was not helped by the Sharjah Municipality's decision in Q3 2016, to increase the rent attestation fee from 2 percent to 4 percent of the annual rent, which resulted in a reduced number of tenant relocations and upgrades within the Emirate.

the solar energy system to feed the administrative building in Riyadh 3rd. Industrial City for electric power. *Sami Al-Hussaini*, Director of Marketing and Corporate Communications at "MODON", explained that the electricity feeding system using solar cells along with storage energy system contributes to reducing the cost and preserving the environment; next to being a source of free and clean energy, lacking the waste or harmful emissions or hazard ratio, as well as being a continuing inexhaustible source. Hussaini added that the total energy derived in this project

are several key steps closer to creating great moments for everyone, every day, in that community." said *Ghaith Shocair*, Chief Executive Officer Shopping Malls, **Majid Al Futtaim Properties**. Majid Al Futtaim's planned investments are anticipated to create more than 42,000 direct and indirect job opportunities in the Sultanate in the next five years.



Construction Machines & Equipment

Compactors, Loaders & Rollers

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Building Products & Equipment

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Global Demand for Loaders Steadily Growing

The global construction equipment market size is projected to reach USD 208.36 billion by 2020, growing at a CAGR of over 5 percent from 2014 to 2020, as per a report published by **Grand View Research**. Rapid infrastructural growth along with urbanization is expected to drive industry growth over the forecast period. Further, increasing investments from government in the infrastructural sector and growing application of the advanced technology in operations including material handling, excavation, and earth moving are expected to drive demand.

The industry can be classified by products into concrete and road construction equipment, material handling machinery, and earth moving machinery. Earth moving products comprise loaders and excavators.

The demand for backhoe loaders is steadily rising in the APEJ region, as per a report by **Persistence Market Research**. The governments of this region are pumping in massive funds to strengthen the civil and industrial infrastructure of their respective nations. Several billion dollar projects are lined up in APEJ, which is expected to reassure the overall growth of the regional backhoe loaders market.

The demand for backhoe loaders in the APEJ region is projected to soar by 2026. The market will witness a massive growth by the end of 2026. The approximate sale value will rise from USD866 million in 2015 to USD1727 million by 2026. The sale of backhoe loaders in APEJ will be pegged at more than 46,000 units by the end of 2026. The market is likely to register a CAGR of 6.6 percent by 2026. The growing economies of the region and the futuristic investment plans rolled out by the governments of this region will impact the scene of the APEJ backhoe loaders market.

Meanwhile, **Technavio's** market research analyst has estimated that the global market for skid-steer loaders will grow at



a healthy CAGR of nearly 9 percent by 2020. The recent increase in the number of infrastructure projects, such as the construction of highways, railways, roads, and ports, is expected to account for this market's impressive growth rate during the forecast period.

“The demand for backhoe loaders in the APEJ region is projected to soar by 2026”

The development of smart cities is the key driver for the growth of this market. Recently, it has been observed that migration of people from rural to urban areas is attracting investments towards the development of smart cities. Such development projects involve the adoption of advanced technology in the construction process, which in turn drives the demand for skid-steer loaders.

Skid-steer loaders can be fitted with various attachments to perform a multitude of tasks in construction and mining sites. Technavio's market research analyst has estimated the skid-steer loader market in EMEA to be influenced by factors like rapid urbanization and infrastructure development, which results in its moderate market growth rate of more than 6 percent by 2019.

The versatility of skid-steer loaders is a significant growth-driving factor observed in this market. These loaders are highly maneuverable and can pivot 360 degrees to perform multitude of tasks in addition to their standard function of loading. Additionally, these loaders can also be fitted with attachments like an angle broom, backhoe, and auger to perform tasks such as breaking concrete, trenching, digging, palletizing, vertical lifting, and hauling. ■

ACW Staff ■

وفقاً لتقرير نشرته شركة جرانند فيو ريسيرش للأبحاث (Grand View Research)، من المتوقع أن يصل حجم سوق معدات البناء العالمي إلى ٢٠٨,٣٦ مليار دولار بحلول العام ٢٠٢٠، وأن يتزايد بمعدل سنوي مركب نسبته أكثر من ٥ في المئة بين عامي ٢٠١٤-٢٠٢٠. كما يتوقع أن يدفع النمو المتسارع في البنية التحتية والتحضر النمو في حجم سوق معدات البناء العالمي خلال هذه الفترة. بالإضافة إلى ذلك، من المتوقع أن يؤدي ازدياد الإستثمارات الحكومية في قطاع البنية التحتية وازدياد تطبيق التكنولوجيا المتقدمة في عمليات البناء، بما في ذلك مناولة المواد وأعمال الحفر وجرف التربة، إلى ازدياد الطلب على معدات البناء أيضاً. ووفقاً لتقرير صادر عن بيرسيستنس ماركت ريسيرش (Persistence Market Research)، فإن الطلب على الجرافة ذات اليد الخلفية في تزايد مستمر في منطقة آسيا والمحيط الهادئ، إذ أن الحكومات في هذه المنطقة تضخ أموالاً ضخمة لتعزيز البنية التحتية المدنية والصناعية في دولها.

SANY Intros 20-Ton, 22-Ton Hydraulic Single-Drum Rollers

SANY has recently launched the 20-ton and 22-ton hydraulic single drum rollers that give operators access to new technology and make work more efficient. The new SSR200AC-8 and SSR220AC-8, both with 2.12m width, are equipped with Bosch Rexroth vibration pump, which feature large volume pump delivery and stable power transmission, shortening the starting time of oscillation to only 3 seconds. The new dual frequency and double amplitude vibratory mode is adopted to generate more excitation force and better compaction performance. The WeiChai WP6G200E331 engine is deployed to provide 147 kW (197 hp) power, greatly improving the grade ability, and keeping the fixed speed even in the high altitude area. The Dynamic Systematic Thermal Conduction Control Technology ensures the roller to continuously operate in high



SANY's 20-ton, 22-ton hydraulic single-drum roller

temperature up to 46 degrees Celsius. The wholly-enclosed operation cab features industry-leading anti-vibration technology, making the noise lower than 84dB, creating a more comfortable and focused working environment for the operator. The new models in popular mid-range side and with perfect versatility can be employed in any compaction job. Whether for highway projects,

dam construction, or for general site building, the new SSR200AC-8 and SSR220AC-8 can adapt to any road types, sandy, half-clayed and clayed soil, gravel and macadam. SANY Group (SANY) is a well-known global heavy machinery manufacturer with plants in the US, Germany, Brazil and India, and business covering over 100 countries and regions worldwide. ■

Ace Pick-A-Part Runs SDLG Fleet for Recycling

With more than 30 years in the auto salvage business, **Ace Pick-A-Part** has earned its expertise in handling vehicles. The company holds some 3,000 cars on its lot at any one time, with easy access for customers to pull parts for repairs. It also recycles

approximately 10,000 cars a year, using a fleet of wheel loaders to haul hundreds of vehicles each day. The Jacksonville, Florida-based company has been using wheel loaders with custom-made fork attachments since the mid-90s, perfecting the application

over the years by using a variety of different brands and capacity sizes. Since 2016, Ace Pick-A-Part has selected **SDLG** as its wheel loader of choice. It's using two SDLG LG959s with plans to add more loaders to its fleet this year. "We started our business using forklifts, but wheel loaders are much more maneuverable, and they have increased wheel distances and higher capacities that are better suited to our needs," explained *Gary Lindros, Jr.*, general manager at the company. "We had custom fork attachments made that enable us to lift up to four crushed cars at once. The longer forks reach through the cars and there is a stop on them so the cars won't slide back." SDLG's value proposition—in which the brand offers basic, reliable technology that is field proven and backed by a substantial warranty—won Lindros over. Ace Pick-A-Part chose two LG959s for their size and lifting capacity. ■



Florida's Ace Pick-A-Part

Air Pressure: More Powerful Than You Think

Creating openings in concrete walls presents a very real danger-and it is probably not a danger that comes to the mind of most operators. Most often, operators are thinking about making precise openings. The danger is with air pressure and the weight of the concrete piece that is going to be removed to make the opening. This article looks into the reasons why air pressure is often not considered when making openings, why it should be; and why the proper approach to cutting openings is so important.

One reason why many operators are unsure of the proper and safe approach to cutting openings is outdated or, just plain improper, training on how to secure the piece being cut. In the past, most operators were trained to use wedges, often custom-designed, long, thin tapered wedges to hold the piece being cut. Operators were taught to use the tapered side of the wedges to face the opening so that the spalled concrete would not show in the finished side of the opening.

The fact was never questioned that the spall occurs because the maximum compressive strength of the concrete had been exceeded, and this occurs before the full weight of the opening is on the wedge. Nor was it questioned that when the spall occurs, the concrete being cut to make the opening, can shift, pushing the wedge out. Let me reiterate this point. When a spall occurs, the massive

concrete piece being cut to make an opening can shift.

Another reason why operators may not consider the danger of air pressure when cutting openings is that they have always been taught that there is no way a 10-inch-thick, or greater, wall will tip because it will jam in the wall before it can fall.

“Operators might question the ability for the opening to move”

The final reason for an unsafe approach to cutting openings is the “hurry up and get the job done” mentality. Most wall saw operators have made the decision, at least once, to use one wedge or two at the most, to secure a cut piece instead of affixing a strap to temporarily hold an opening in place, to save time. And in most cases, it is pure luck

that prevented this piece of concrete being cut from falling out of the opening.

Having successfully gotten away with this short cut once, the operator thinks that he or she can get away with it, again and again. An operator is lucky to be around to have firsthand experience of a piece of concrete walking out of a hole. Some are not so lucky. Using wedges to secure a wall opening gives operators a false sense of security, for two reasons. First, they will only secure the opening if the opening does not move. Second, they will only secure the opening when the very small area of concrete that is in contact with the wedge does not fail.

Operators might question the ability for the opening to move, so here is an example based on a 3- by 7-foot-wide door opening in a standard 8-inch-thick, 3,500-psi concrete wall in a food processing plant. By design, the interior of the building will be kept under positive pressure to keep dirt, dust and contaminants from migrating into the building. The amount of positive pressure can vary, so the lowest practical value of 1 psi has been used in this example. The weight of the opening is 2,100 lbs., assuming a concrete density of 150 lbs./ft³. The force pushing out on the door opening due to the 1 psi positive pressure is 3,024 lbs.

If the operator installs wedges from the inside of the building, the combination of the slope of the wedge and the air pressure on the door opening being cut can work in concert with each other to easily move the piece. This movement can easily occur if something changes the amount of positive pressure in the room, such as a door being slammed closed. When this happens, a pressure wave is established and the operator may experience a sensation in the



Cutting a door opening in a concrete wall



Implementing safe practices when cutting door openings

inner ear or a small shake to the entire body.

What effect does this have on the door opening? The pressure wave momentarily increases the air pressure in the room or building. For a person to feel the pressure wave, it has to be several times greater than the normal building pressure. If the pressure wave increases the building air pressure by 1 psi, the force on the opening becomes 6,048 lbs., resulting in the concrete door opening jumping out of the wall.

While the author was writing this article, a thunderstorm passed through his hometown, about 48.28 km to the east, and the claps of thunder were shaking the walls. Imagine the impact of this thunderstorm on the door opening in this example being described. Changes in weather, like a storm moving into the area, can have a dramatic impact on the forces being applied to the surface of a wall opening. One of these forces is wind. Standard design load for winds up to 24.14 kph on walls less than 60 feet tall is 15 lbs./ft². For the example provided, that calculates to 315 lbs. pushing on the opening. When a wall saw operator actually “walks” or pushes an opening out of a wall, he or she uses less than 315 lbs.

When using wedges to secure an opening, the operator also needs to understand the effect of the spalling of the concrete. The

fact that the concrete spalls or chips is due to the fact that the forces imparted by the wedge are greater than the maximum compressive strength of the concrete. For the purpose of this example, let's examine the effect of using two, 2-inch-wide wedges (even though operators may normally use 1- or 1.5-inch-wide wedges). It is assumed that wedge to concrete edge contact is

“The pressure wave momentarily increases the air pressure in the room or building”

0.125 inches instead of line contact as it actually occurs. Given these values, the load on the concrete in contact with the wedges is 4,200 psi, which exceeds the maximum compressive strength of 3,500 psi concrete by 700 lbs. The result is that the concrete will fail and spall away. In addition, this example does not include the force generated by the operator driving the wedge into the opening, which increases the load. When the loads imparted by the wedge become less than the maximum compressive strength of the concrete (spalling the opening edge until the contact area becomes large enough that the maximum compressive load of the concrete is not exceeded) spalling stops, provided the load on the concrete does not change. This load will change when the top cut is completed and the weight of the opening

is placed on the wedge. Ultimately, all operators should be aware that an opening held in place by wedges is never secure and can move at any time. The only way to secure an opening is to strap it in place.

Another common misconception is that a 10-inch-thick, or greater, wall opening cannot tip out. This idea has been around for a long time and is based on sound geometric conditions. Geometry shows that there is not enough room between the concrete surrounding an opening as a result of saw kerf, and the concrete of the opening to pivot on a bottom edge and tip out. This is true, as long as the pivot edge of the opening does not spall; the outside top edge of the opening does not spall; the top inside edge of the opening does not spall; or that the opening does not shift in or out and stays perfectly parallel and in line with the remainder of the wall.

Assuming that the aforementioned conditions do not occur, the opening when pivoting about a bottom edge will jam at the top of the opening cut after pivoting approximately 3 degrees, causing the top edge of the opening to be about 4 inches out of the cut. However, the weight of the opening is now being supported by the bottom edge of the opening, and the top edge of the opening opposite from the bottom pivot edge. For the wall opening to completely tip out, the bottom edge or opposite top edge must either spall or move either inside or outside

of the space relative to the remaining wall section. The amount of the spall would have to be 0.194 inches in total, or by the bottom or top portion of the opening shifting towards the inside or outside by 0.375 inches. As discussed, changes in air pressure, wind or other induced vibration can easily overcome the static weight of a wall opening and cause it to move or shift, allowing the opening to fall. Shifting the opening 0.375 inches towards the outside of the wall will allow a 10-inch-thick concrete opening to pivot out approximately 8 inches at the top of the opening. This will load the top edge of the opening that remains within the wall to 532 psi tension, which is 1.9 times greater than the maximum tension load for 3,500-psi concrete.

The only positive method for securing a wall opening is by strapping. Strapping is a method in which a metal plate or angle iron (or unistrut) is attached to both the opening and the remaining wall section by drop-in or wedge-type anchors. This may take extra time, but it is time well spent to guarantee the safety of the operator. It is important to remember and implement safe practices when cutting openings,

while being vigilant towards changes in environmental conditions. Air pressure

“The only positive method for securing a wall opening is by strapping”

or, more importantly, a change in air pressure encountered while cutting an opening can present a danger not

always appreciated. Understanding the issues discussed in this article and applying these practices on the job site will reduce the risk of injury to everyone on a job site. ■

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إن إنشاء فتحات في الجدران الخرسانية يشكل خطراً حقيقياً قد لا يخطر على بال معظم المشغلين. ففي معظم الأحيان، يفكر المشغلون في إحداث فتحات دقيقة. ولكن يكمن الخطر في ضغط الهواء ووزن قطعة الخرسانة التي سيتم إزالتها لإحداث الفتحة في الجدار. إن أحد الأسباب التي تجعل العديد من المشغلين غير متأكدين من النهج السليم والأمن لقطع فتحات في الجدران هو سبل التدريب القديمة أو غير الصحيحة عن كيفية الحفاظ على سلامة قطعة الخرسانة التي يتم قطعها. في الماضي، تم تدريب معظم المشغلين على استخدام أوتاد طويلة ورفيعة ومدببة وغالباً ما تكون مصممة خصيصاً لهذا الغرض لحمل قطعة الخرسانة التي يتم قطعها. ودرب المشغلون على استخدام الجانب المدبب من الأوتاد في مواجهة الفتحة في الجدار بحيث لا تظهر قطعة الخرسانة المقطوعة في الجانب المنجز من فتحة الجدار. لهذه اللحظة لم يترك أحد إلى فكرة أن قطعة الجدار تخرج من مكانها لأنه تم تجاوز الحد الأقصى لقوة ضغط الخرسانة، ويحدث هذا قبل نزول الثقل الكامل لفتحة الجدار على الوتد. كذلك، لم يبحث أحد في فكرة أنه عند قطع الخرسانة، قد تتحرك القطعة المقطوعة من مكانها دافعة الوتد إلى الخارج. السبب الأخير في اتباع نهج غير آمن لقطع فتحات الجدران هو عقلية "أسرعوا وانجزوا هذه المهمة". ومعظم المشغلين الذين رأوا الجدران التي يجب إحداث فتحات فيها قرروا، مرة واحدة على الأقل، لاستخدام وتد واحد أو اثنين على الأكثر، للحفاظ على سلامة القطعة المقطوعة بدلاً من لصق شريط لوضع الفتحة في مكانها بشكل مؤقت ولتوفير الوقت. وفي معظم الحالات، فإن الحظ وحده حال دون سقوط قطعة الخرسانة المقطوعة من فتحة الجدار.



Feature

Facades & Claddings

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Global Façade Market on the Rise

The global facades market size is expected to reach USD339.46 billion by 2024, according to a new study by **Grand View Research, Inc.** The surge in the adoption of advanced eco-friendly facades across North America and Europe is anticipated to fuel the market growth in the coming years. Furthermore, the increasing number of new building constructions, along with the rise in the number of renovation projects, is also anticipated to catapult the product demand by 2024.

The availability of raw materials in abundance, such as aluminum, is anticipated to lower the product price by 2024. In addition to these market drivers, the development of solar panels that provide usable electric energy and its integration in the building skin is also anticipated to catalyze the industry growth by 2024.

Moreover, the development of sustainable facades materials offering the capability of shielding buildings from environmental conditions such as heat, wind and rain is a primary factor expected to drive ventilated facades growth. Thus, the product demand in commercial buildings is expected to remain high over the next eight years owing to the growing need for better safety measures and ambiance in corporate and the hospitality industry.

It is worth noting that according to **Research and Markets**, the global aluminum market for building and construction sector to grow at a CAGR of 6.31 percent during the period 2016-2020. A trend helping to boost market growth is the increased use of aluminum in BIPV systems. BIPV systems are considered as green initiatives. BIPV systems are aluminum-framed photovoltaic systems. These systems are used in facades and roofs of buildings. In BIPV systems, a thin solar cell is integrated into flat roofs made of polymer roofing membrane. Instead of conventional construction materials, these systems are used as a source of energy in



buildings and help reduce the overall cost of construction. Aluminum facades can be installed on old buildings giving them a new look as well as a functional advantage as these materials help in generating renewable energy.

RnR Market Research forecasts a 15.4 percent CAGR for BIPV market to 2019. The global BIPV market has been

"BIPV installation enables considerable energy conservation"

segmented based on: Panel types, End-user, and Geography. One key trend upcoming in this market is increased focus on energy efficiency in buildings. BIPV installation enables considerable energy conservation, which will generate more revenue for the market. Moreover, installation of BIPV systems can also help

in attracting incentives from governments to encourage use of alternative sources of energy.

The report adds that solar energy consumption worldwide has increased and thus has led to a corresponding increase in BIPV installations, which is expected to continue during 2015-2019. Increased awareness about BIPV capabilities and use of solar energy has increased the demand for BIPV installations worldwide. Further, the report states that seasonal fluctuations in availability of solar power are hindering market growth. Solar power generation depends heavily on energy derived from the sun during off-seasonal periods. Consequently, buildings using BIPV technology are compelled to find an alternative source for power generation. This will be an additional expenditure for consumers. ■

ACW Staff ■

وفقاً لدراسة جديدة قامت بها شركة جرانند فيو ريسيرش للأبحاث (Grand View Research)، من المتوقع أن يصل حجم سوق واجهات الأبنية العالمي إلى ٣٣٩,٤٦ مليار دولار أمريكي بحلول العام ٢٠٢٤. ومن المتوقع أن يؤدي ازدياد الاعتماد على واجهات الأبنية المتقدمة الصديقة للبيئة في جميع أنحاء أمريكا الشمالية وأوروبا إلى ازدياد نمو السوق في السنوات المقبلة. وعلاوة على ذلك، فإن العدد المتزايد من إنشاءات المباني الجديدة وارتفاع عدد مشاريع تجديد البناء من المتوقع أيضاً أن يزيد الطلب على المنتج بشكل كبير بحلول العام ٢٠٢٤. ومن المتوقع أن يؤدي توافر المواد الخام بوفرة، مثل الألومنيوم، إلى تخفيض سعر المنتج بحلول العام ٢٠٢٤. وبالإضافة إلى هذه العوامل المحركة للسوق، يتوقع أن يؤدي تطوير الألواح الشمسية التي توفر الطاقة الكهربائية والتي يمكن دمجها بطبقة البناء إلى تحفيز نمو الصناعة بحلول العام ٢٠٢٤.

Herzog & De Meuron Break the Brick

With their restructuring and expansion of the Musée d'Unterlinden, the Basel-based architects **Herzog & de Meuron** not only provided the town of Colmar in the Alsace region with a new cultural and civic centerpiece but in the execution of the competition design also demonstrate a sensitive yet contemporary approach

to the listed structure of the former Dominican monastery. The planners combine the Gothic building with an art nouveau swimming pool, adding a new structure with an unusual façade solution, creating a natural, single entity spanning three eras that strikes just the right note for the small town. In 2012 the

Basel-based architects began work on the restructuring of the existing building and expansion of the Museum by adding a new three-story building, with a gallery tunnel linking the two exhibition areas. The so-called "small house," reminiscent of the houses in Colmar's old town, is the source of the daylight for the below-ground area and at the same time houses three of the Museum's most important works. The cautious yet contemporary treatment of the existing and new buildings by the planners is reflected in the façade and roof design of the new Museum building and the small house. Large areas of the rough-finished building envelope, comprising faced brickwork and hand-broken bricks, have no openings. The narrow windows in the shape of pointed arches, used sparingly, are highly reminiscent of the Gothic origins of the former monastery building. A striking, copper skin forms the roof of the "small house." ■



Musée d'Unterlinden in Colmar, France

OKATECH Façade Glazing Lightens Kungsängen's Cultural Center

In daylight, the new Cultural Center in the Swedish city of Kungsängen presents itself as a clearly structured cube-shaped building with a reflecting, homogenous copper-colored façade. The surprise is the light flooded vastness of the generous interior of the new building that unfolds to the visitor upon entry. It is then that

it becomes clear that the metallic gleaming and seemingly opaque outer areas are actually transparent glass facades which offer a clear view of the surrounding city. When night falls, on the other hand, the exterior of the illuminated building resembles a delicate light sculpture and allows a myriad of

views deep into the rooms. This changes the homogenous façade appearance at daylight into a very vivid structure at night when the illuminated rooms contrast with the dark partial surfaces of the bracing walls and staircase core. These different visual perceptions and axis are achieved with **OKALUX** façade glazing consisting of OKATECH insulating glass with functional copper expanded metal inserts. The effect of the copper insert intrigues in several ways: Fundamentally, the asymmetrically flared metal perforation functions as effective sun protection as well as a direction selective daylight system giving the character of the diffused light in the interior a unique softness. The combination of transparency and visual protection is an especially good design: While OKATECH offers clear views from the inside to the outside, it protects views from the outside during the day, thus emphasizing the private sphere of the interior. ■



The Cultural Center in Kungsängen, Sweden



Industry Spotlights

Cables & Electrical Fittings

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Middle East Cable Market: Set for Rapid Growth

Escalating industrial and construction activities is likely to catalyze cable market demand from 2016 to 2023. Considerable infrastructure activity expectations and extensive national development plans by Gulf Cooperation Council (GCC) government to expand the economies gradually is anticipated to reduce their reliance on oil and gas reserves, and also be recognized on the world stage.

Large number of construction and infrastructure programs will need to be undertaken in order to deliver these targets. More than 200 major projects are planned for completion by 2023, costing around USD1 trillion. These projects mainly involve a combination of real estate, health, retail, leisure, and education asset developments along with communication, transport, as well as supporting social infrastructure systems. Smart city development around the region such as Lusail City (Qatar), Mohammad Bin Rashid City (UAE), Basra New City (Iraq) and King Abdullah Economic City (KSA) and the infrastructure upgrading is expected to be the vital factors for Middle East cable market growth. Favorable regulatory norms and abundant availability of cheap labor is forecast to fuel the industry over the forecast timeframe. Rapidly growing tourism and transportation in countries such as Qatar as well as Dubai will fuel growth through 2023. Increasing electricity consumption in the residential and commercial sector is projected to drive revenue. In addition, rising focus on energy generation owing to increasing need to address the electricity requirement is expected to catalyze demand over the next seven years. Energy and power generation projects are likely to account for significant share of the total regional spending. Power projects in Saudi Arabia, such as 2000 MW Shagaya Solar Farm in Kuwait and other conventional power plants along with the required power



grids and transmission lines are projected to fuel Middle East cable market size. Furthermore, surging replacement of aging transmission lines to avoid accidents is expected to have a positive impact on the industry. This product requires combination of numerous raw materials such as copper,

“Saudi Arabia cable market was the largest regional segment”

rubber, aluminum and thermoplastic. High price instability associated with raw materials along with ever-increasing energy cost is expected to negatively impact Middle East cable market price trend. For instance, dynamic aluminum as well as copper prices is likely to have substantial negative impacts on wiring and electricity cables industry. Middle East low voltage cable market size was valued at USD1.84 billion in 2015, and is estimated to be worth around USD3 billion by 2023. These are majorly used for low power transmission

applications in buildings, for internal wiring purposes and electric rooms. Surging automation due to mounting purchase power is forecast to propel growth from 2016 to 2023. Medium voltage cable market share was the largest in 2015 and is likely to continue its dominance from 2016 to 2023. It is predicted to grow at over 8 percent CAGR. These are principally insulated with oil and paper and are then run into rigid steel pipe. Formation of voids allows partial discharges within the cable insulation and this is avoided by keeping oil under pressure. Increased adoption across the railway industry is also expected to drive revenue. Saudi Arabia cable market was the largest regional segment and is expected to exhibit high growth prospects at 9 percent CAGR from 2016 to 2023. Booming infrastructure and construction projects across the region is predicated to augment growth over the next seven years. ■

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من المرجح أن يحفز تصاعد الأنشطة الصناعية والإنشائية الطلب على سوق الكابلات بين عامي ٢٠١٦ و ٢٠٢٣. فمن المتوقع أن يؤدي النشاط الكبير المرتقب في البنية التحتية وخطط التنمية الوطنية الواسعة النطاق من قبل دول مجلس التعاون الخليجي (GCC) الهادفة إلى توسيع الإقتصاد تدريجياً إلى الحد من اعتماد هذه الدول على النفط والغاز والاعتراف بها على الساحة العالمية أيضاً. إن تحقيق هذه الأهداف يتطلب إعداد عدد كبير من برامج البناء والبنية التحتية، ومن المقرر الانتهاء من أكثر من ٢٠٠ مشروع كبير بحلول العام ٢٠٢٣. تقدر تكلفة هذه المشاريع بنحو ١ تريليون دولار أمريكي. وتشتمل هذه المشاريع أساساً على مجموعة من مشاريع العقارات والصحة وتجارة التجزئة والترفيه والتعليم وتطوير الأصول والاتصالات والنقل، فضلاً عن دعم أنظمة البنية التحتية الإجتماعية. ومن المتوقع أن يشكل تطوير المدن الذكية في جميع أنحاء المنطقة، مثل مدينة لوسيل (قطر) ومدينة محمد بن راشد (الإمارات العربية المتحدة) ومدينة البصرة الجديدة (العراق) ومدينة الملك عبد الله الاقتصادية (المملكة العربية السعودية)، بالإضافة إلى تحديث البنية التحتية عواملاً حيوية لنمو سوق الكابلات في الشرق الأوسط.

Ducab Unveils State-Of-The-Art Fire Performance Cable Testing Lab

Ducab, the UAE-based specialized manufacturer of high-quality cables and cabling products, owned equally by **Investment Corporation Dubai (ICD)** and **Abu Dhabi's Senaat**, announced the opening of a newly built state of the art fire testing laboratory specifically built for the Ducab FlamBICC range of Fire Performance cables, according to BS EN/IEC standard and Ducab NuBICC nuclear cables tested in accordance with IEEE International standards. According to Civil Defense authorities and Ducab, major loss of property and life can be avoided by eliminating substandard and non-certified cables, which produce poisonous gases with black smoke obscuring visibility in the event of a fire. Ducab is committed to working closely with the construction industry to ensure cables and accessories are certified to



The Ducab FlamBICC testing lab

meet strict International codes of practice thereby reducing the risk to life and property and pride itself on producing and achieving independent **UAE Civil Defense, HongKong Fire Authority** and other International approvals with LPCB & BASEC Accreditation. Ducab cable manufacturing ensures all cables are subject to extensive testing during

each phase of production, certified by independent **LPCB & BASEC UK** to meet the latest BS EN, IEC and IEEE standards and current Code of Practice. These standards provide recommendations and guidelines to the industry for the selection and installation of fire resistant power and control systems. ■

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Volvo Gives Super-Fast Access to Broadband in Sweden

Residents in northern Sweden now have access to fast and reliable internet thanks to **Volvo CE**-equipped contracting company **Aspåsnašets Gräv AB**. In fact, when it comes to broadband coverage, Sweden has the fifth highest number of wireless broadband subscriptions in the world. Capital city Stockholm has at least 95 percent coverage or more, but unexpectedly, the most northern territories of the country are even higher at 98 percent coverage. Helping make this super-fast dream a reality is Aspåsnašets Gräv AB. Established in 1989 by *Karl-Erik Karlsson*, the Krokombased company has won a good reputation as a broadband installation specialist, along with excavation, urban landfilling and ditching services. The company has a fleet of eight machines, seven of which are Volvo. The equipment has been supplied by *Ulf Engström*, a salesman



Worker installing underground cables

at Volvo dealer **Swecon Östersund**, located just 21 km (13 mi) away. The fleet includes an ECR58 compact excavator, EW160 wheeled excavator, EC145 and EC300 crawler excavators, and an L120E wheel loader. The company also has its own transport trucks. Joining the machine line-up is the EW60E compact wheeled excavator, which was purchased

in 2016. The latest addition to the fleet packs a powerful punch, boasting a host of features that make it the ideal partner to serve customers in remote regions. As the new machine is predominantly carrying out small-scale, intricate tasks in harsh and remote rural regions – often with miles between houses – these features are ideal for Aspåsnašets Gräv. ■

Index Fixing Systems Launches 2 New Catalogues

INDEX Fixing Systems based in Logroño (Spain) has become an expert provider of a wide range of global fixing solutions, which are adapted to the needs of the customers. Logroño's facilities cover an area of 12.000 m² including a warehousing for more than 22.000 pallets. There

are 2 new catalogues available; the General Catalogue and the Plumbing & Hvac Catalogue, which replace the previous versions, launched in 2015, and features new EASYKits format, the restyling of the blister range and the new products launched by INDEX Fixing Systems. These catalogues, have a

more attractive and an upgraded visual design which improves older issues, and includes the great novelty of being launched by language, nurturing user's experience. The General Catalogue 2017 includes a wide range of products, featuring the latest additions available at the company, in addition to the format available for each article. Besides, the 2017 Plumbing & Hvac Catalogue contains a specific range of products in the supply channel for plumbing and heating fixings and accessories. Both catalogues have technical information in detail for each product, allowing the user make the most accurate choice for their needs. All the products featured in the new catalogue are available on the new INDEX Fixing Systems website, where customers can also find out more about the enterprise's activity, latest news, detailed information about all products as well download the new catalogues. ■



Index Fixing Systems Catalogue

Energy Efficiency Drives Insulated Concrete Form Market

With developing concerns, consumer consciousness about wellbeing, quality of life, vitality energy costs and natural resources quickly being exhausted, an expanding number of homebuilders are turning to "green buildings." This natural way to homebuilding emphasizes energy efficiency, quality construction, great indoor air quality and livable neighborhoods which is likely to favor global insulated concrete form market size growth over the forecast timeframe.

These materials are transforming the commercial, residential, and industrial building industries, with implementation growing at 10 percent to 12 percent on a yearly basis in recent times. Rising demand for natural disaster resistant construction, stringent energy efficiency, lightweight materials especially across developed regions, is expected to drive the insulated concrete form market size. APAC and MEA have been witnessing sizeable growth in infrastructure & construction spending and offer attractive prospects for these products.

ICFs give around 25 percent to 50 percent energy investment funds when contrasted with traditional houses built of wood or steel. According to industry analysis, the homes made from these save around 7.5 percent of energy in correlation with the routine homes. High product cost compared to wood is expected to restrain growth and can add up to 3 percent to 5 percent building costs, compared to wood. For a typical 232.25 square meter house (sale price of USD180,000), the additional cost amounts around USD6,900, which mainly depends on the cost of concrete available and used.

A survey conducted by **NAHB Research Center**, in 2004 shows that, for the below grade walls construction, ICF construction costs are 38 percent higher than the costs for wood foundations. Based on various studies, the added cost is USD2 to USD4 per square feet area for a typical home. This is a key challenge for industry participants, however, these buildings are generally cost-saving over a period of time, with low heating & cooling energy requirements compared to other methods. Additionally, increased



Cover Photo Courtesy of PASCHAL-Group

awareness among builders as well as new buildings codes across the U.S. and EU, over construction parts is expected to boost ICF industry growth in the coming years.

“ICF construction costs are 38 percent higher than the costs for wood foundations”

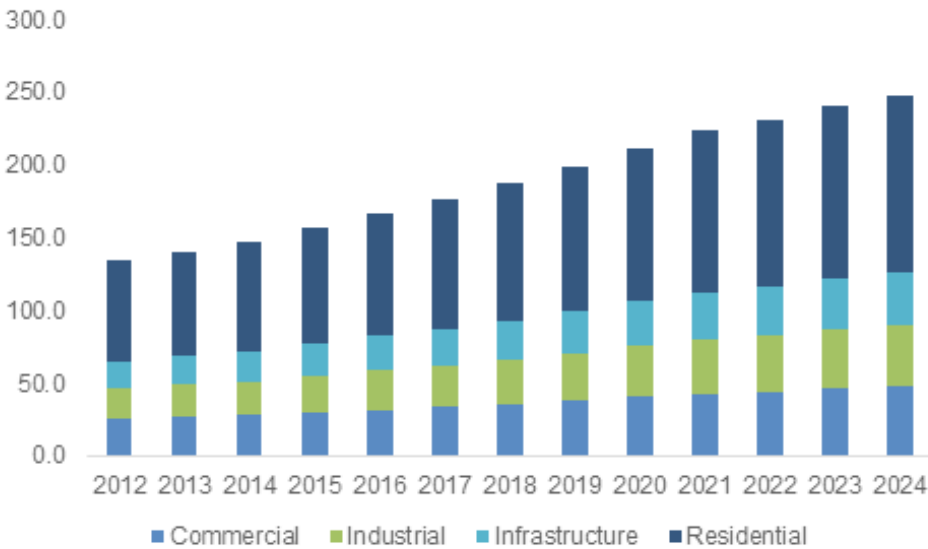
Based on application area, residential usage is expected to remain the leading segment and accounted for over 55 percent of the global insulated concrete form market share in 2015 and may surpass 13.93 million square meter by 2024. Additionally, global population is expected to increase from 7 billion in 2011

to 8.9 billion by 2024, further escalating residential construction demand.

Industrial applications are expected to grow at the fastest rate during the forecast period followed by infrastructure due to a dynamic regulatory landscape. Overall, around USD80 trillion is expected to be spent globally between 2016 to 2024, which will also drive demand.

Polystyrene foam represents the largest product segment by material and accounted for 69 percent of insulated concrete form market share in 2015; owing to consumer preferences such as structural safety, comfort, energy efficiency, durability and low maintenance costs.

Figure 1: Insulated concrete form market



Also, these buildings contain no wood, which is vulnerable to deterioration, is expected to aid demand.

Major part of the ICFs are made of polystyrene, basically EPS or XPS. Extended Polystyrene (EPS) is a magnificent material for bundling and development as it is light, yet unbending froth with better warm protection and high effect resistance. Besides, it can easily be recycled after its essential use.

Polyurethane foam market has witnessed fastest adoption in ICF construction, with current revenue was estimated at over USD100 million in 2015. China will continue to remain the largest producer as well as regional consumer for polyurethane foams.

Asia Pacific, with the world's largest

construction and materials industry, continues to be an attractive regional industry, driven by China and India insulated concrete form market share, set to grow at over 10 percent. ICF penetration remains an issue, with low consumer awareness, weak regulatory push and cost issues.

“Polyurethane foam market has witnessed fastest adoption in ICF construction”

Strong consumer awareness and regulatory compliance mandates will drive the U.S. insulated concrete form market growth. Canada is a large, stable construction industry with a robust green building segment driven by industry forces and government policies. Approximately 40,000 ICF

homes have been built since the early 90s. Currently about 100 distributors and manufacturers of ICF systems serve the Canadian industry. Regional growth looks a fraction more attractive than that in the U.S.

Europe insulated concrete form market size, with over USD120 million in revenue for 2015. Latin America and MEA ICF markets are relative new and the industry is presently striving for generating awareness and penetration.

Prominent players with global insulated concrete form market share include **Quad-Lock Building Systems Ltd., IntegraSpec, Airlite (Fox Blocks), Nudura Corporation, Superform Products Ltd., Logix Insulated Concrete Forms Ltd., Amvic, BuildBlock Building Systems** and **Plasti-Fab**. Since these products are mainly used in North America, major manufacturers are concentrated in this region.

Global construction sector would grow by 85 percent to reach USD15 trillion by 2030. India, China and the U.S. accounts for 57 percent of the total share in overall construction spending. Asian business sector represents the biggest offer in worldwide development, the driving force behind this development is the Asian construction sector. The region accounts for the largest share in the global construction industry, as governments anticipate creating base that has seen years of underinvestment, with an end goal to open more reasonable financial development. ■

Global Market Insights
E-mail: www.gminsights.com

يعمل نظام قوالب الخرسانة المسلحة العازلة على تغيير صناعات البناء التجارية والسكنية والصناعية، حيث يزداد تطبيقه بنسبة ١٠ في المئة إلى ١٢ في المئة سنوياً في الآونة الأخيرة. ومن المتوقع أن يدفع الطلب المتزايد على البناء المقاوم للكوارث الطبيعية وكفاءة الطاقة المكثفة والمواد الخفيفة الوزن حجم سوق قوالب الخرسانة المسلحة العازلة، وخصوصاً في المناطق المتقدمة. وتشهد مناطق آسيا والمحيط الهادئ والشرق الأوسط وأفريقيا نمواً كبيراً في البنية التحتية و الإنفاق على الإنشاءات، كما توفر آفاق مغرية لهذه المنتجات. توفر قوالب الخرسانة المسلحة العازلة حوالي ٢٥ في المئة إلى ٥٠ في المئة من استثمارات الطاقة إذا ما قورنت بالمنازل التقليدية المبنية من الخشب أو الصلب. ووفقاً للتحليلات في المجال الصناعي، توفر المنازل المصنوعة من هذه المادة حوالي ٧,٥ في المئة من الطاقة المرتبطة بالمنازل العادية. ومن المتوقع أن يعوق ارتفاع كلفة هذه المادة مقارنة بالخشب النمو في السوق. وقد يزيد استخدام هذه المادة من كلفة البناء بنسبة ٣ إلى ٥ في المئة مقارنة بكلفة البناء المصنوع من الخشب.

Beele Engineering's Earthquake-Resistant Sealing System

Almost 40 years have gone by since **Beele Engineering** developed a sealing plug for use in the sinking ground around Maassluis, The Netherlands. This plug made the gas pipes for residential buildings gas-tight, thus guaranteeing safety. Some four decades later and the company is still ahead of the rest, developing innovative systems for optimum sealing processes. This time it's not for leaking gas pipes but for the reliable sealing of transits which are exposed to earthquakes and severe landslides. This new system ensures that pipes in and under buildings are better able to withstand the effects of earthquakes and land displacement. Similar to the sealing plug, the NOFIRNO system that is used for this purpose is easy to install. The sealing

plug which was developed in the '70s was just one of the propellants behind Beele Engineering's foray into the international market. Today, as then, demand from the market was behind the development of this product. Beele Engineering's NOFIRNO system has already been on the market for some time as a quick workable solution for cable and pipe penetrations that have to be fire-, gas-, water- and smoke-tight. The continuous development of existing products and systems is typical of the company's approach. Under the motto 'No to foot-dragging, yes to innovation,' the company constantly responds to market demands and implements a non-stop testing program. As with other Beele systems and products, these elements form the basis for the continued



Beele's Earthquake-Resistant Sealing System

improvement of product features and optimization of the NOFIRNO system. ■

Delmon Ulma, the Winning Partnership

Delmon has been awarded the formwork contract for two new bridge structures this year, located in Bani Hajar Interchange in Doha Qatar. Delmon's involvement in the Infrastructure sector has been growing for a number of years now and 2017 is expected to be no different. This

latest project secured in Q1 of 2017 follows a very busy 2016, where the company completed a number of major infra projects and structures such as the Lusail Boulevard Tunnel, Luasail, (Qatar), the Parallel Roads Project in Business Bay UAE, Interchange 8 Sheik Zayed Road

Dubai, (UAE), Mafraq to Ghweifat Interchange 4B, Abu Dhabi (UAE), Interchange structures J1 & J2 Mohammad Bin Zayed Road Abu Dhabi, (UAE). Delmon success can be attributed two main factors: the right equipment and the right service. As both a local manufacturing company and as regional distributor for **Ulma** the company can offer the contractor an unrivaled choice; from state of the art Ulma T60 shoring towers to the more traditional Cuplock for example. Contractors in this sector are under pressure with tight margins and even tighter deadlines so, it is imperative that Delmon can deliver cost effective solutions that can save time. It is a mark of Delmon's strength and the ingenuity of the team, that a locally owned formwork company has grown to the extent that it is now competing with, and regularly beating, the big multinational players for contracts across the gulf. ■



Nad Al Sheebah

Profitable Trenchless Solutions for Sustainable Water Pipe Renewal

Especially with regards to the problems of water loss and/or inadequate pipe capacity with ageing urban supply and sewer networks, pipe bursting is a favorable method to replace pipes having typical damages such as cracks, incrustation, root infestation, misalignment, positional displacement, split sleeves, drain blockage and mechanical wear in the existing pipe route without surface disruption. Re-instatement costs due to ground settlement, groundwater interferences and road damage are almost omitted. Moreover, the network capacity can be adapted as new pipes of smaller, equal or even larger diameter of up to 1 - 2 nominal sizes can be installed.

Pipe bursting is a safe and approved method for replacing pipes underground in the existing route which has been in use all over the world for the past 30 years. Old long or short pipes up to ND 1,200 of almost any material (plastic, metal, GFRP or stoneware) can be replaced with new pipes from the coil or pipe segments having identical, smaller or larger diameters. Daily capacities of 150 - 300 m are possible. Different models allow for application out of pits and/or manholes into pits and/or manholes. The result is a new pipe with a service life of 80 - 100 years in perfect static conditions at 50 percent cost saving compared to open trench methods.

There are two different pipe bursting methods for trenchless pipe renewal. The dynamic pipe cracking technique is favorable for replacing gas or sewer pipes made of brittle materials

and especially suitable for manhole to manhole applications. The static pipe bursting method is favorable for replacing all kinds of utility pipes made of any brittle or ductile material. Pipes made of PE, GFRP or pipes with inner lining can be cut as well.

Static pipe bursting systems like GRUNDOBURST make pipe

“Pipe bursting is a safe and approved method for replacing pipes underground”

replacement even along slight bends quick and easy. In addition to completely renewing pipes using the static pipe bursting method, the QuickLock rods along with a special latching finger allow for pipe repair and renovation. The main decisive factors for choosing the appropriate method are degree and type

of damage, sustainability of the method and the resulting rehabilitation cost.

Pipe bursting systems have proven their reliability and versatility throughout the past decades. They are the perfect choice for the trenchless rehabilitation of gas, water, sewage lines in sensitive grounds or near neighboring pipes, cables or close to buildings. The following practical examples document that rigs like GRUNDOBURST provide profitable and sustainable solutions to remedy the problem of water loss and/or inadequate pipe capacity with ageing urban networks.

As part of the renovation of the water supply system at Miodowa street in the historic city of Warsaw an old steel pipe was replaced with a cast iron pipe of the same diameter. A major requirement was minimal interference of the traffic along the busy Miodowa road, so the project called for a trenchless replacement method. The compact GRUNDOBURST 800G was chosen as the ideal bursting rig for this project. All work associated with the renovation took place with constant foot traffic and cycling. Thanks to their fast click-shut connection the QuickLock rods were pushed through this 100 m section in only 45 minutes. ■

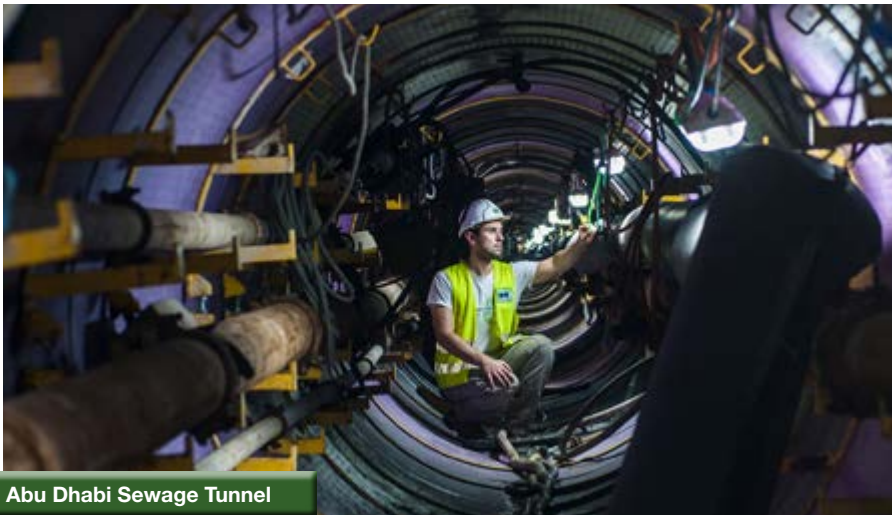


Pipe bursting systems

TRACTO-TECHNIK GmbH & Co. KG
E-mail: www.tracto-technik.com

لقد أثبتت أنظمة تفجير الأنابيب موثوقيتها وتعدد استخداماتها طوال العقود الماضية. فهي الخيار الأمثل لإعادة تأهيل خطوط أنابيب الغاز والمياه والصرف الصحي في الأراضي الحساسة أو بالقرب من الأنابيب المجاورة أو الكابلات أو المباني باستخدام تقنية الحفر من دون شق. وقد أثبتت الأمثلة العملية أن أجهزة مثل جرنودبرست (GRUNDOBURST) توفر حلولاً مربحة ومستدامة لمعالجة مشكلة فقدان المياه أو ضعف كفاءة الأنابيب في الشبكات الحضرية القديمة. وكجزء من مشروع تجديد نظام شبكة المياه في شارع ميودوا في مدينة وارسو التاريخية، تم استبدال أنبوب قديم من الصلب بأنبوب مصبوب من الحديد ذو القطر نفسه. وكان الشرط الأساسي للمشروع هو تجنب عرقلة حركة المرور على طول شارع ميودوا، وبالتالي احتاج المشروع إلى تطبيق طريقة استبدال الأنابيب بواسطة تقنية الحفر من دون شق. وتم اختيار GRUNDOBURST 800G كجهاز تفجير الأنابيب الأمثل لهذا المشروع.

Abu Dhabi STEP 70 Kilometers of Sewage Tunnel



Abu Dhabi Sewage Tunnel

On the basis of the Abu Dhabi Master Plan 2030, a drainage network is being constructed for the urban area and the industrial districts. The Strategic Tunnel Enhancement Program (STEP) encompasses a 40-kilometer-long main sewer, together with supply tunnels (link sewer) and pump stations. The tunnel starts in the city and runs out into the desert (from Abu Dhabi island to the mainland and then onto Al Mafraq). Around 550 million liters of sewage are produced daily in Abu Dhabi, most of which is treated and used for irrigation. With the STEP project, Abu Dhabi is laying the foundation stone for future urban development to ensure that it will be able to meet the needs of the anticipated population growth. Five **Herrenknecht** EPB Shields (6,310 mm and 6,950 mm diameter) are being used for the construction of approx. 25 kilometers of the main sewer (Lots T-02 and T-03). The TBMs are the first of this size in Abu Dhabi. The first three Earth Pressure Balance Shields started tunneling in April, July and August 2011. As early as December 18, 2012, the last of the five machines arrived in the target shaft after best weekly performances of up to 214 meters. An additional EPB Shield (diameter 3,745 mm) and 8 AVN Machines (diameters 975 – 3,395 mm) are in charge of tunneling a total of approx. 43 kilometers of the supply tunnels (Lots LS-01 and LS-02). From January 2013 tunneling went at full speed. The cutting wheels are exactly adapted to the geology. With the machines 'extensions kits, they can be adapted to the changing tunnel diameters on some sections. With the last breakthrough in summer 2016, all drives are completed successfully. Herrenknecht is the leading provider of holistic technical solutions in mechanized tunnelling, building on the experience of more than 3,100 projects worldwide. For all diameters, in all geologies and in all areas of application - railway, metro, road, utility, pipelines, hydropower, mining and exploration. Herrenknecht offers its customers a complete portfolio of mechanized tunneling technology, additional equipment and services and therefore project-specific complete solutions. The Group, with its headquarters in Schwanaue, consists of Herrenknecht AG - which acts as the parent company and conducts the operating business - and numerous subsidiaries and associated companies working in related fields in Germany and abroad. ■

Concrete finishing solutions



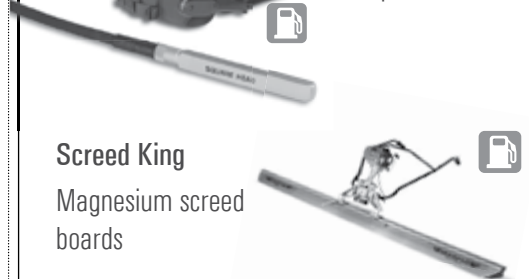
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Arab Construction World

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عالم الإنشاءات العربي



Arab Construction World (ACW)

March 2017 / Vol. XXXV Issue 3

Serving the Building, Machinery, Roads & Power Sectors in MENA - Since 1983



Metso Lokotrack® Urban™ series mobile crushing plant revolutionizes crushing in densely populated environments, such as city centers. The new solution simplifies crushing operations, incorporates significant noise protection and cuts dust emissions remarkably, minimizing the impact for people living and working around construction sites. "We developed this new solution to make it possible to run crushing operations in the most heavily regulated urban environments. Obtaining environmental permits is very tough when crushing in densely populated areas. The new Lokotrack Urban series, however, provides robust crushing power while minimizing the impact for people and communities around the site," says *Jouni Hulttinen*, Product Manager, Lokotrack mobile crushing plants, at Metso.

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Bahrain Real Estate Market Shows Resilience

Despite slowing economic conditions, which continue to hamper the property market in the Kingdom, there has been a marked stabilization across most real estate sectors in H2 2016 that is expected to carry into 2017, according to the Bahrain 2016/2017 Winter Property Market Outlook.

The report highlights the resilience of rental budgets in the residential market which, in the face of economic fallout and rising inflation, continue to outperform expectations. In the office market, the stability borders on stagnation with **Cluttons** finding largely no change in rents during the first nine months of 2016. The same can be said for a remarkably sluggish retail real estate market, with rents in this sector expected to hold steady for another six to twelve months. *Harry Goodson-Wickes*, head of Cluttons Bahrain said, "The stabilization in rents across the sector is reflective of weaker underlying fundamentals in the market. Economic fragility and the ongoing impact of the low oil price environment have curtailed job creation levels and dampened overall sentiment and this continued to hamper the Kingdom's property market during the fourth quarter, continuing into H1 2017. The few exceptions where we have seen growth include developments such as Amwaj Islands for the residential market, the Financial Harbour for the office market and Isa Town for the retail market."



continue to drive interest in newly launched schemes, suggesting that tenants are very much in the driving seat and can cherry pick from a range of options on the market. At Segaya Views and Cebarco Tower for instance, we have recorded a steady level of enquiries for the 140 furnished one-, two- and three-bedroom apartments on offer, with rents starting from as little as BD 650 per month." *Faisal Durrani*, Cluttons' Head of Research added "Households in Bahrain have been faced with some very

but we have now revised up our forecasts for the residential rental market, with little to no declines now anticipated as we head toward the end of 2016."

Office Market

Similar to the residential market, office rents across the Kingdom's key submarkets remained largely unchanged during the first nine months of the year. The only exception was a BD 0.50 psm rise in Financial Harbour (BD 8 psm) and Amwaj Islands (BD 5.50 psm) for fitted office space. *Goodson-Wickes* explained: "The limited activity in the market continues to be largely driven by internal relocation activity, although renewed stability across the Kingdom has also helped the market settle. Landlords however, remain reluctant to adjust rent downwards as they are already at levels not seen in over four years. We have already seen concessions made on lease terms and expect this trend to intensify. ■

"The limited activity in the market continues to be largely driven by internal relocation activity"

Residential Market

Cluttons' research shows that with the exception of Amwaj Islands, where there was a marginal BD 50 per month rise in rents for four-bedroom villas, no other submarket in the Kingdom registered any change in rents during Q3. *Goodson-Wickes*, explains, "Our experience shows that quality and perceived value for money

challenging headwinds over the past 12-18 months, with subsidy removals and job security fears denting confidence and driving down budgets, but we appear to be entering a period of stability with the market flattening out. We had previously expected to see rents decline by 5 percent on average through the course of the year,

Cluttons Bahrain
Web: www.cluttons.com/bh

على الرغم من تباطؤ وتيرة الأوضاع الاقتصادية التي لا تزال تعيق سوق العقارات في مملكة البحرين، كان هناك استقرار ملحوظ في معظم القطاعات العقارية في النصف الثاني من العام ٢٠١٦ الذي يتوقع أن يستمر حتى العام ٢٠١٧، وذلك وفقاً لتقرير سوق عقارات البحرين لشتاء ٢٠١٦/٢٠١٧. قال هاري جودسون-ويكز رئيس كلاونز البحرين: "إن الإستقرار في الإيجارات في جميع أنحاء القطاع يعكس ضعف الأسس الكامنة للسوق. فهشاشة الاقتصاد واستمرار تأثير البيئة المنخفضة لأسعار النفط أدى على تقليص مستويات خلق فرص العمل وفتور الشعور العام، وقد أدى ذلك إلى عرقلة سوق العقارات في المملكة خلال الربع الرابع من العام ٢٠١٦، وسوف يستمر حتى النصف الأول من العام ٢٠١٧. ولكن هناك استثناءات قليلة شهدنا فيها نمواً وتشمل تطورات مثل جزر الأمواج لسوق العقارات السكنية ومرفأ البحرين المالي لسوق المكاتب ومدينة عيسى لسوق التجزئة". ويوضح جودسون-ويكز قائلاً: "ندل تجربتنا على أن الجودة والقيمة الفعلية للمال لا تزال تحفز الاهتمام بالمخططات التي أطلقت حديثاً، مما يشير إلى أن المستأجرين يملكون زمام الأمور ويمكنهم اختيار ما يحلو لهم من بين مجموعة من الخيارات في السوق".

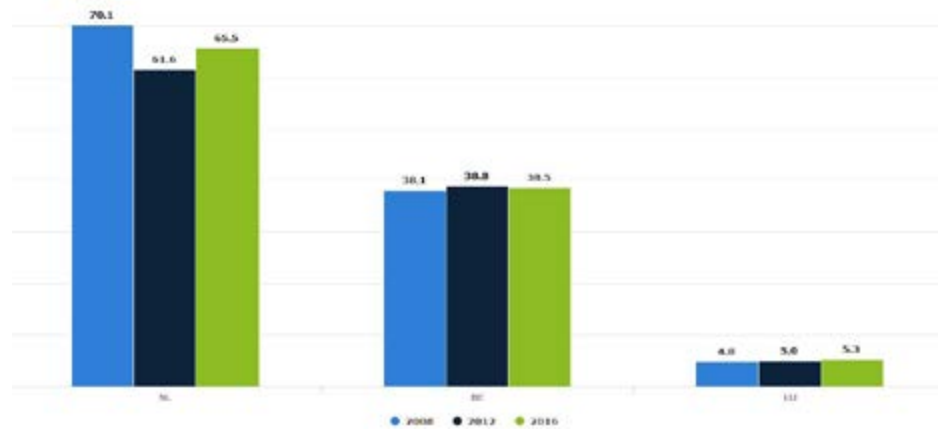


Benelux Construction Industry Set for Growth

What does Benelux have in common with the Arab countries? Like with the Arab countries, when comparing the Benelux countries, the developments in the construction industries do not necessarily agree with one another. **B+L Marktdaten** offers differentiated data for Benelux in its *GlobalBuildingMonitor* and provides forecasts for the development of the construction industry until 2021. B+L Marktdaten has analyzed the construction industry and related products such as insulation, facades or roofing in Belgium, Luxembourg and the Netherlands for many years, but there are not many similarities in the three countries when it comes to the building activity that go beyond the name Benelux.

While Luxembourg is facing overall growth rates around 3 percent, the economic development is less dynamic in Belgium and the Netherlands. Nonetheless, Luxembourg is not the country with the most dynamic development of building permits for residential and non-residential buildings. Permits for residential buildings have consistently risen in the Netherlands since 2013. With 46.000 dwellings permitted in 2016 and 52.000 dwellings expected to be permitted in 2017, the Dutch numbers for residential buildings are expected to supersede the Belgian numbers. As for non-residential building the permitted area has been higher in the Netherlands than in Belgium for a very long time. In 2013, after a decline in the Dutch building activity, the floor space for the two countries was nearly on the same level. But since then, the permitted floor space saw steeper growth in the Netherlands. In comparison to Belgium and the Netherlands, residential and non-residential building in Luxembourg is rather small with 4.300 dwellings completed in residential buildings and 131.000 m² completed in non-residential building in 2016. For B+L Marktdaten's international analysis of the construction supplier industry, the share of single family and multi-family buildings is an important indicator, which it uses to assess any resulting implications on the construction supplier industry. Due to demographic reasons and urbanization, the share of dwellings permitted in multi-family houses

Figure 1: Benelux Construction Industry



is rising in many European countries. But, once again, the trends in Benelux do not completely correspond with one another. Around 60 percent of all permitted dwellings in Belgium and 78 percent in Luxembourg

“The Netherlands experienced the biggest overall construction investments in 2016”

are multi-family houses. Conversely, in the Netherlands, single family houses are dominating the market with a share of 61 percent. Dwellings permitted in both building types are growing at the same pace in Belgium and the Netherlands. However, in Luxembourg dwellings in multi-family houses are facing a more positive development than those in single family houses. As expected from comparing the numbers of permits for the three countries,

the Netherlands experienced the biggest overall construction investments in 2016 in the sectors of residential building, non-residential building and civil engineering. The calculations shown in Figure 1 include not only new buildings, but also investments in renovations and restorations. With respect to per capita investments, the largest investments are seen in Luxembourg where building costs are much higher than in its neighboring countries. Ultimately, at least one main analogy exists: B+L expects the construction industry to develop positively in all three countries over the next few years. Nonetheless, the differences outlined above have to be considered when discussing construction in Benelux. ■

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في حين تواجه لوكسمبورغ معدلات نمو اجمالية تساوي حوالي ٣ في المئة، فإن التنمية الاقتصادية هي أقل دينامية في كل من بلجيكا وهولندا. ومع ذلك، لوكسمبورغ هي ليست البلد ذو التطور الأكثر ديناميكياً فيما يختص بمجال تصاريح البناء للمباني السكنية وغير السكنية. فعدد تصاريح المباني السكنية لا يزال في تزايد في هولندا منذ عام ٢٠١٣. وبلغ عدد المباني السكنية المسموح بها فيها هولندا في العام ٢٠١٦ ٤٦٠٠٠ مسكن، ويتوقع أن يبلغ عدد المساكن المسموح بها في العام ٢٠١٧ ٥٢٠٠٠ مسكن. لذلك، فمن المتوقع أن يتخطى عدد المباني السكنية في هولندا عدد المباني السكنية في بلجيكا. أما بالنسبة للمباني غير السكنية، فإن المنطقة التي يسمح بالبناء فيها في هولندا هي أكبر مساحة من تلك الموجودة في بلجيكا منذ فترة طويلة جداً.



Hypertherm Ships Flushcut Consumables for Air Plasma Systems

Hypertherm, manufacturer of plasma, laser, and waterjet cutting systems, today announced the release of FlushCut™ consumables for select Powermax® air plasma systems. Available for Powermax105, and 125 systems, the consumables provide users with the ability to cut closer to base materials than ever before. FlushCut consumables feature an angled nozzle bore that delivers the plasma arc at a 45 degree angle ideal for challenging removal applications. Instead of locating the nozzle opening at the tip as is typically done, the FlushCut nozzle orifice is located on the side. This essentially bends the plasma arc, causing it to exit the torch at an angle nearly parallel to the work piece. As a result, Powermax users can cut closer, or more flush, to the base metal than ever before, significantly reducing grinding work and increasing the opportunity to reuse lugs and attachments. The new flush



Hypertherm's FlushCut™

cutting process is helpful for a number of applications including jobs that require the separation of two metals. The consumables allow users to more easily remove lugs, temporary weld supports, and pad eyes without damaging the base material holding the piece in place. In addition, the flush cutting process simplifies the cutting of weld access holes in I-beams, and also makes

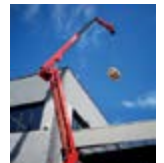
it easier to remove bolts or other parts from metal plate. "Strong investment in research and development along with a drive to continuously innovate has led our engineering team to develop a truly groundbreaking consumable design," said *Brenda Mahoney*, a product manager for Hypertherm torch and consumable products. ■



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US Construction Growth Fuels Demand for Terracotta Cladding

Rainscreen cladding is an attachment of an outer skin with a ventilated and drained cavity provided to a new or existing building, according to **Decision Databases**. The key purpose of rainscreen cladding is to protect a building's exterior wall from rainwater and prevent it from penetrating into the interior of the property. It also helps to check the deterioration of materials that are exposed to the exterior elements of the building thereby extending the life of buildings. As terracotta is one of the main raw materials used in rainscreen cladding, the US Terracotta market is expected to grow by 2022.

Rainscreen cladding provides advantages such as thermal insulation, lightweight material, improved external appearance and acoustic performance of the buildings. The global rainscreen cladding market is driven by factors such as increase in energy efficient buildings construction, exterior wall protection and increase in construction of nonresidential buildings such as offices and institutions in both developed and emerging markets. Increasing demand of eco-friendly buildings owing to stringent government regulations and rising awareness regarding environmental degradation will also help to increase the demand by 2021.

Urbanization, rise in standard of living and high disposable income is expected to drive the construction of offices, residential buildings and industries in the developing nations which will fuel the growth of rainscreen cladding market. The key constraints of this market are high installation costs and complex maintenance. The rainscreen cladding market is segmented on the basis of raw materials as fiber cements, composites, metal, high-pressure laminates, terracotta, ceramic and others. Terracotta is one of the principle raw materials used in rainscreen cladding owing to its long lasting natural color, durability, sustainability and reputation for moisture resistance in various construction applications. The U.S. terracotta cladding market is expected to reach USD711.1 million by 2022, according to a recent report



by **Grand View Research**. Increasing refurbishment and renovation projects in both the residential & commercial sectors are a vital determinant for industry growth. In addition, economic recovery & technological advancements have ushered in innovative panels that insulate buildings, while retaining heat & ambient conditions as required. This lowers the amount of energy spent on heating, cooling or air conditioning (HVAC),

“The U.S. terracotta cladding market is expected to reach USD711.1 million by 2022”

and fosters building compliance with energy standards, which is crucial to terracotta market growth.

The U.S. terracotta cladding market demand is expected to reach 17010.92 sq. meter by 2022, growing at a CAGR of 6 percent from 2015 to 2022. The increasing employment

rate in the U.S., coupled with the expansion of existing company buildings to improve their regional presence is expected to drive terracotta cladding demand for office construction. Terracotta cladding in office applications is anticipated to grow at a CAGR of over 6 percent in terms of revenue from 2015 to 2022.

West South Central is anticipated to emerge as the fastest growing region with a CAGR of 7.3 percent over the forecast period. Increasing non-residential construction such as offices, hospitals, industrial and commercial construction in the region owing to escalated investments is anticipated to drive the industry. Meanwhile, high demand for ‘vertical homes’ and increasing construction spending in states such as Iowa, Kansas and Minnesota is anticipated to be the key driving factor for growth in West North Central region. ■

ACW Staff ■

توفر أغلفة البناء العازلة للمطر عدة مزايا مثل العزل الحراري وتحسين المظهر الخارجي والأداء الصوتي للمباني، بالإضافة إلى كونها مواد خفيفة الوزن. هناك عدة عوامل تؤثر في نمو السوق العالمي لأغلفة البناء العازلة للمطر مثل ازدياد كفاءة الطاقة في إنشاء المباني والحماية الخارجية للجدران وازدياد تشييد المباني غير السكنية مثل المكاتب والمؤسسات في كل من الأسواق المتقدمة والناشئة. كما أن ازدياد الطلب على المباني الصديقة للبيئة بفضل السياسات الحكومية الصارمة وازدياد الوعي بشأن التدهور البيئي سيساعد أيضاً على ازدياد الطلب على أغلفة البناء العازلة للمطر بحلول العام ٢٠٢١. ومن المتوقع أن يصل الطلب على أغلفة البناء المصنوعة من التراكوتا في الولايات المتحدة الأمريكية إلى ١٧٠١٠,٩٢ متر مربع بحلول عام ٢٠٢٢، وأن يتزايد بمعدل سنوي مركب نسبته ٦ في المئة من العام ٢٠١٥ إلى ٢٠٢٢.



New Cat® 980L Medium Wheel Loader

The new Cat® 980L medium wheel loader applies proven technologies systematically and strategically to meet customers' high expectations for reliability, productivity, fuel efficiency, and long service life. The new 980L medium wheel loader is more powerful and fuel-efficient than its predecessor, featuring significant drive-train and hydraulic-system refinement, operator safety and convenience enhancements, proven Z-bar linkage, Cat Performance Series buckets, and options such as automatic traction control, enhanced ride control system, and Cat Connect Technologies. Rigorous design and machine validation processes have delivered unmatched reliability, durability and high uptime for generations. Components used to build Cat wheel loaders are designed and manufactured to Caterpillar quality standards to ensure maximum performance even in extreme operating conditions. Heavy duty components,



Cat® 980L medium wheel loader

such as Caterpillar designed ACERT™ engines, transmissions and axles, reduce the risk of premature wear resulting in increased uptime and reduced operating costs over the lifetime of the machine. The 980L uses a productive and fuel-efficient Cat C13 ACERT engine with a maximum gross power rating of 303 kW (412 metric horsepower) and approximate operating weight of 30 090 kg. The power-dense engine uses

a combination of proven electronic, fuel-injection and air-systems. The 980L's updated and refined Cat ACERT engine offers increased engine power by 5 percent compared to the 980H, greatly improving machine performance and response. The 980L uses a 4F/4R power-shift transmission. A high-capacity torque converter uses a lock-up clutch for efficient grade and high-speed performance. ■

Terex Trucks Shows Concrete Performance in Northern Ireland

The UK's largest manufacturer and supplier of precast concrete solutions, **FP McCann**, has put **Terex Trucks'** 38-ton capacity articulated hauler, the TA400, to work at a quarry in Knockloughrim, Northern Ireland. Matching its equipment to its ethos, FP McCann recently purchased the 38-tonne capacity Terex Trucks TA400

to transport blasted rock around one of its Northern Ireland quarries. Showcasing its reliability, the robust articulated hauler has been piling up the hours moving material through the arduous environment of the quarry. "There's very little downtime when you have a Terex Trucks machine, and for the busy quarry

environment that FP McCann operates it can't afford any downtime, which is why it chose such a reliable truck," says *Jonathan Campbell*, general manager at equipment distributor, **Sleator Plant**. The machine, which was delivered straight from the **Motherwell**, Scotland factory to the Knockloughrim site, is the fifth Terex Trucks model to join FP McCann's fleet and was provided by Sleator Plant, itself one of Northern Ireland's top equipment dealers. "We were happy to go with Terex Trucks once again; the TA400 is an excellent truck that 'does what it says on the tin' – it fits the requirements of the quarry," adds Mark McCann, civil engineer at FP McCann. "We've noticed an increase in productivity as the machine has been performing well, and the operators have also commented on the comfortable and ergonomic cab." ■



Terex Trucks' TA400 articulated hauler

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GTE Is the New Palazzani Dealer for Saudi Arabia

Established in 1976, **General Trading and Equipment Company (GTE)** is a well-known provider of construction equipment and building systems solutions, which contributed importantly in the development of Saudi Arabia's infrastructure. The business relationship between the companies officially started on July 2016 with the first RAGNO TSJ 35 supplied, followed by another two units of RAGNO TSJ 23.1. The company is now the **Palazzani Dealer** for Spider Lifts distribution in K.S.A. and Bahrain. "We are very proud that such an important Company decides to represent our brand of Spider lifts," says *Laura Gasparini*, the Export Manager of **Palazzani Industrie**, "the determinant factors which lead us to propose the representation to them are first of all their long experience and technical know-how in promoting access equipment and in supporting the after-sale service. Secondly, their capillary organization



Wheel loaders Paload branded

covering all the territory in terms of both sales and service activities." Saudi market is not new to Palazzani Industrie; some units of Palazzani Spider Lifts are already used by important customers, such as **Saudi Bin Ladin**, mainly for the maintenance of the Holy Mecca, some

universities and important construction companies, used for various projects. "We had some difficulties in the past for missing a skilled Company providing service to the units we supplied to KSA. The company is now also the service reference for the units formerly delivered," she added. ■

Peikko Group Started Using Revised Management Systems

Peikko Group has started to use revised ISO 9001:2015 (quality) and ISO 14001:2015 (environment) management system standards. The structure of the revised standards has changed to better support business and leadership. The revision of the quality management system accentuates quality orientated business as a whole. The revision of the environment management system corresponds to the needs of standard users, to increasing environmental challenges, and to social expectations. Certification body DNV GL performed audits at the company's production units during autumn 2016. The company was among the first companies to take the revised standards into use. Its production units in China, Finland, Germany, Lithuania, Slovakia, and the United Arab Emirates are now within EN ISO 9001:2015 and EN ISO 14001:2015 multi-site certification. The



Quality environment safety

Russian production unit is included in the revised multi-site certificate with regard to quality certification, and the environmental certification will be carried out during this year. Work safety (OHSAS 18001:2007) and welding (ISO 3834-2:2005) certifications are an integral part of Peikko's multi-site certification. "The certification proves that Peikko Group takes better into consideration the needs

and expectations of customers and other stakeholder groups with regard to high quality. Our annual process-specific continuous improvement action plans base on together evaluated risks and possibilities for further improvement our operations and product quality in order to guarantee better customer satisfaction," states *Topi Paananen*, CEO of Peikko Group Corporation. ■

PERI DUO Continues To Garner Additional Awards

The **PERI** DUO Universal Formwork system continues to attract a very positive response: two more bodies – one in Angola, another in India – have awarded the new techno polymer-based formwork with corresponding innovation prizes. The company presented the PERI DUO Universal Formwork to the international public for the first time at bauma 2016 in Munich. Already at its premiere, the response of industry professionals was incredibly positive. Since then, numerous PERI country subsidiaries have introduced the lightweight formwork for the walls, columns, foundations and slabs into their respective markets. In the process, the formwork system has also been awarded various prizes – most recently in South-West Africa and India. “Best Innovation Product Award” for DUO in Angola. The company has been active in Angola for 10 years now and has already supported a range of major civil



PERI exhibited at the bauma CONEXPO in New Delhi

engineering projects such as bridges or dams. With the very easy to handle DUO Universal Formwork, the local PERI sales engineers and management team see further growth potential. Therefore, the opportunity was taken to present the innovation during the “Konstroi Angola”

construction fair. A jury of representatives from the fair organization, trade press and construction associations evaluated a range of new products and developments showcased at the fair and awarded the “Best Innovation Product Award” to PERI’s universal formwork. ■

Siemens & Bentley Agree to Offer Planning Solutions

Building on the strategic alliance between **Siemens** and **Bentley Systems** that was made public in November 2016, Siemens’ Energy Management Division and Bentley Systems have announced an agreement to jointly develop solutions to accelerate digitalization of planning, design, and operations for power utilities and industrial power customers. Bentley Systems is a global specialist in software solutions for advancing the design, construction, and operations of infrastructure. The first of the new offerings will integrate

the company’s utility design and geographic information systems (GIS) capabilities with Siemens’ Power System Simulation (PSS) Suite, with specific solutions for power transmission, power distribution, and industrial facilities. Combining these two platforms provides customers with Bentley’s expertise in 3D infrastructure asset modeling and GIS with Siemens’ knowledge and renowned experience in energy system planning and simulation. “The energy industry trend toward decentralization represents a significant challenge as well as a great

opportunity for power producers and consumers alike, and our strategic alliance with Bentley Systems will help our customers better leverage this changing landscape through the combination of our powerful solutions,” said *Ralf Christian*, CEO of the Siemens Energy Management Division. “Siemens and Bentley share a commitment to openness, interoperability, and the common goal of helping our customers drive the digital enterprise across their supply chains.” Bentley Systems Chief Product Officer *Bhupinder Singh* said: “We are excited to collaborate with Siemens to help our power utilities users advance in ‘going digital.’ Siemens’ expertise in electrical power systems planning and simulation are the perfect complement to our GIS and infrastructure engineering solutions, and we will work together to bring new innovations and tangible business benefits to our users around the world,” he added. ■

SIEMENS

State-Of-The-Art Bauer Technology Deployed in the Persian Gulf

Artificial islands, gigantic shopping malls and ever new record heights of skyscrapers testify to the construction boom in the United Arab Emirates. But the time of superlatives on the Gulf is by no means over yet. On the contrary, in the capital of Abu Dhabi, for example, a completely new district is currently being developed which, after completion of the construction works, is to provide new homes for 22,000 people. Apart from 2,700 apartments and 13 schools, restaurants and parks will also offer people an attractive space to while the time away in this new development with an overall area of 570 hectares. To ensure that the ground can accommodate the loads imposed on it by the planned structures, it must be compacted and its load bearing capacity improved. For carrying out this work, **Menard Vibro Middle East (Dubai)**, a customer of **Bauer**



BAUER dynamic compaction

Maschinen, relies on the performance capacity of the innovative and technically advanced BAUER MC 96 duty-cycle crane. The MC duty-cycle crane series by Bauer has been developed and rigorously expanded specifically for use as a base carrier for BC trench cutters

as well as diaphragm wall grabs, with the result that Bauer machines of this type are now available for all specialist foundation engineering processes. A precondition for the deployment of the MC machines for dynamic compaction is the state-of-the-art winch system with fully automatic control. ■

Full Array of Bobcat Equipment on Display at Conexpo

There will be a full array of **Bobcat** equipment at the CONEXPO-CON/AGG Exhibition. Bobcat will exhibit a variety of equipment including skid-steer, compact tracked and all-wheel steer loaders; compact excavators, telescopic handlers and attachments for use with these machines. The company offers 12 skid-steer loader models and the

A770 all-wheel steer loader covering operating weights from 1268 to 4643 kg and rated operating capacities from 343 to 1850 kg. Complementing these wheeled machines, the company also offers the MT55 mini-track loader and a comprehensive range of compact tracked loaders comprising six models from the T110 to the top-of-the-range

T870 model. The Bobcat compact loader range appeals to customers in many sectors from construction, demolition, landscaping, agriculture, and horticulture, equipment rental to recycling and general industry. The Bobcat compact excavator range comprises 15 models with operating weights from 1.1 to 8.5 ton, designed for a wide variety of digging and trenching applications such as cable laying, foundations and footings for buildings and installation of drainage and sewerage systems. Bobcat has just launched a new range of rigid frame telehandlers for applications in construction, rental, agriculture, recycling and industry, covering maximum lifting capacities between 2.6 and 4.1 ton with lifting heights from 6 to 18 m. The company also offers a range of four rotary telescopic handlers, providing maximum lifting heights of 15.7, 18.7, 20.5 and 24.1 m, respectively. ■



Bobcat's grab bucket

Potain Cranes Bring New Egyptian Mall to Life

The first Potain MDT 389 cranes in the Middle East are being used to construct one of the largest retail malls ever built in Egypt—the Almaza City Centre project in the capital city, Cairo. A joint venture between **Hassan Allam Sons** and **Consolidated Contractors Company (CCC)** is managing all construction work. Hassan Allam Sons purchased the four Potain MDT 389 cranes for the job after the model was launched globally at the bauma 2016 show in Germany. The cranes were purchased from **International Development Programs (IDP)**, the exclusive dealer for Potain in Egypt and one of the country's well-known suppliers of heavy construction and industrial equipment. IDP managed the assembly of the cranes on site with assistance from the local Potain technical support team. The first crane was erected in June 2016, while the fourth was completed in August of



Potain MDT 389 cranes

that year. For the project, the MDT 389 cranes are lifting concrete and steel to heights of up to 40 m, with loads weighing up to 3.5 t. Engineer *Atef Ramzy*, plant, machinery and vehicles manager for the joint-venture organization, said the company was especially pleased with how

the cranes have been performing. "Compared to other tower cranes we used in the past, the MDT 389 is much easier for our operators to control, because it has the Crane Control System (CCS) technology," he said. "We are very pleased with the performance of the cranes." ■

Metso Introduces a Community-Friendly Lokotrack® Urban™ Series

Metso Lokotrack® Urban™ series mobile crushing plant revolutionizes crushing in densely populated environments, such as city centers. The new solution simplifies crushing operations, incorporates significant noise protection and cuts dust emissions remarkably, minimizing the impact for people living and working around

construction sites. "We developed this new solution to make it possible to run crushing operations in the most heavily regulated urban environments. Obtaining environmental permits is very tough when crushing in densely populated areas. The new Lokotrack Urban series, however, provides robust crushing power while minimizing the

impact for people and communities around the site," says *Jouni Hulttinen*, Product Manager, Lokotrack mobile crushing plants, at Metso. Environmental permits usually regulate the noise level caused by the crushing operations. From occupational health and safety perspective, 85 decibels is the most common level defined that requires ear protection, although even much lower levels can be disturbing for people living or working around crushing sites. With the noise-protected Lokotrack Urban LT106, the required protection distance drops up to 60 percent from 23-25 meters to 9-11 meters (from 75'-82' to 30'-36'). Outside this area, the sensory impact on the human ear can be even more significant. "The test results are impressive. Naturally, we need to keep in mind that process noise is also highly dependent on other equipment used on site," Hulttinen adds. ■



Lokotrack Urban LT106

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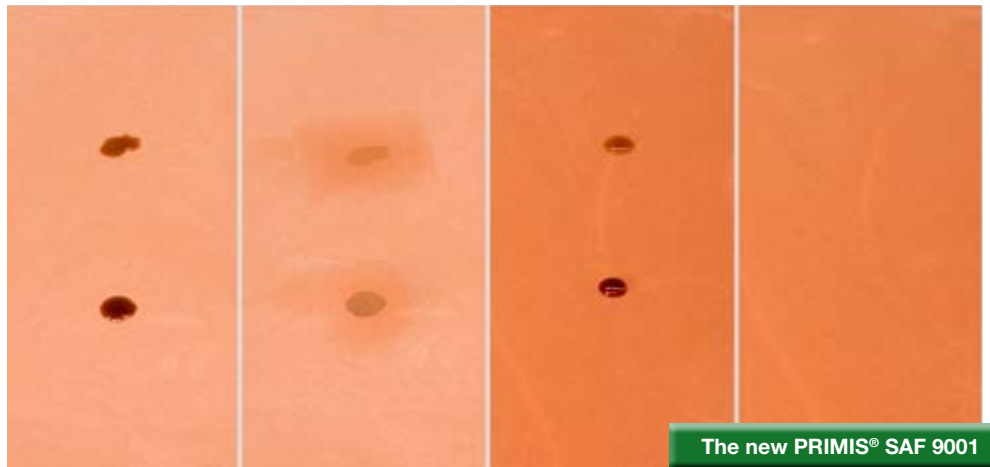


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WACKER Presents Oil & Water Repellent Dispersions

At the European Coatings Show (ECS) 2017 in Nuremberg, **WACKER** will be showcasing the new PRIMIS® SAF 9000 series dispersions for dirt-repellent treatment of walls, and concrete and stone floors. The copolymers have a special composition that is both oleophobic and hydrophobic, making the end products resistant to many different types of stains, from coffee and red wine to colored pencils. The dispersions of the new series are extremely fine particulate and therefore distribute evenly into the micro- and sub-micropores of the treated surfaces. As the dispersions are absorbed quickly, floors are accessible after only a short time. The first two products of the series, PRIMIS® SAF 9000 and 9001 are therefore ideal for treating mineral surfaces. In addition, PRIMIS® SAF 9000 is useful as an additive in easy-to-clean interior wall paints, as well as for the reduction of emulsifier leaching



in exterior wall paints. Thanks to their special composition, the dispersions of the new PRIMIS® SAF 9000 series are both water and oil repellent. The highly resistant polymer base ensures that the end products have good mechanical processing properties, such as abrasion resistance and durability. The dispersions also contain extremely

fine particles with diameters of less than 0.1 micrometers, which therefore penetrate into even the tiniest pores. This opens up a spectrum of innovative applications, both dispersions can be used in dilute form for dirt-repellent treatment of decorative mineral surfaces, such as self-leveling flooring compounds and concrete floors. ■

Easier and Safer Access to Cast Iron Pipes

For almost as long as can be remembered the best way (probably the only way) to break into an existing cast iron main has been to expose it from surface in a pit and then hit it hard with something until it breaks.

Whichever part of the utility industry you might be in, in today's world this this would never be seen as a safe option. Now, after many discussions, the development of prototypes for industry testing and final successful

trials, **Utility Innovation Solutions Ltd (UIS Ltd)** has provided the safe answer that the industry has been searching for, the Click Stick. UIS has designed the Click Stick for breaking into cast iron mains pipes safely without the need for brute force from the site crew. This manually operated tool, designed with the best of British engineering behind it, is quick and easy to use. Once the pipe to be accessed is exposed, the lightweight Click Stick is manually lowered into the excavation and using its innovative 'C' section construction is easily positioned around the pipe. There is even a guide/location arrow to show precisely where the center of the unit should be placed in relation to the pipe to ensure the breaking action is applied to best advantage. When in the right position, the operator then activates the battery powered hydraulic pump which engages the Click Stick's vertical ram to simply grip the pipe. ■



The Click Stick with its battery powered hydraulic pump

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Crawler Crane
80-300 t



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SENNEBOGEN

Al Futtaim Begins Construction of 'My City Centre Sur'

Majid Al Futtaim properties, the well-known shopping mall, retail and leisure pioneer across the Middle East, Africa and Asia—has broken ground on its newest community mall: My City Centre Sur, following the appointment of **Oman Shapoorji Company LLC (OSCO)** & **Shapoorji Pallonji Mideast LLC (SPML)** as the project's main contractor. Located in one of Oman's growing coastal cities in the eastern province, My City Centre Sur is set to become a key destination for both residents and the increasing number of tourists visiting nearby attractions. Aimed to be completed by 2018, My City Centre Sur—an USD39.48 million investment—will offer 16,500 square meters of gross leasable area with a tailored mix of practical and lifestyle-oriented stores and services, making it an ideal location for the community to shop, and socialize. The shopping center will



My City Centre Sur

feature a 6800 m² Carrefour Hypermarket as well as 50 select stores including food and beverage outlets. "The appointment of the contractor and groundbreaking of My City Centre Sur means that we are several key steps closer to creating great moments for everyone, every day, in that community," said *Ghaith Shocair*, Chief

Executive Officer Shopping Malls, Majid Al Futtaim Properties. Majid Al Futtaim's planned investments are anticipated to create more than 42,000 direct and indirect job opportunities in the Sultanate in the next five years, including a significant percentage of Omani nationals seeking career development. ■

Perfect Circles with the TTR Circular Formwork

A circular water tank with a capacity of 3,000 m³ was constructed as part of the renovation of the fresh water system in the Algerian Province of Chlef. **Chiali SERVICES Spa**, a 100 percent subsidiary of the **Chiali GROUP**,

that has also been carrying out public infrastructure construction projects for several years, used formwork systems from **PASCHAL** for the construction of the concrete tank. The long-term and cooperative partnership that has existed

since 2008 is characterized by regular training courses both on site and at PASCHAL's headquarters. In this way, it is ensured that the product upgrades and optimizations for the formwork and shoring systems are put to the best possible use in Algeria. Formwork experts from **Steinach** accompanied their Algerian colleagues during the first formwork processes for the fresh water tank, so that the subsequent formwork and concreting work could be coordinated independently by the Algerian formwork experts. The circular reinforced concrete base plate covers a surface area of 531 m². The circular reinforced concrete wall based on this plate rises 7.50 meters into the air and is realized with a wall thickness of 40 cm with an interior diameter of 25 meters. For the formwork materials, Chiali SERVICES Spa is using 310 m² of the TTR circular formwork system, extended with 204 m² of the Modular universal formwork system. ■



The TTR formwork units for the concreting

Qatar Is the Fastest Growing Construction Market in Gulf

The **International Monetary Fund (IMF)** is expecting Qatar to reach an annual growth rate of 3.4 percent, the highest forecast growth in the GCC region. The country's budget for 2017 has earmarked USD26 billion for major projects in key sectors: transportation and infrastructure alone have been allocated USD12 billion, representing 21.2 percent of the total budgeted expenditure. Qatar's construction industry is further fueled by the Qatar National Vision 2030 (QNV 2030). The country's transformation into a knowledge-based economy is well underway and is expected to gather pace as Qatar moves toward diversifying its economy, achieving sustainable development, and providing high standards of living for its population through its 2030 vision. Welcoming national governmental entities as well as regional and international decision-



Project Qatar 2016

makers, Project Qatar 2017 is the unique arena of construction opportunities in Qatar. Now in its 14th edition, the exhibition is a peerless platform for establishing regional and international construction networks. In 2016, Project Qatar gathered more than 440 regional and international exhibitors – representing more than 1050 companies, from 38 countries across 32,000 m² of exhibition

space. The four-day business platform included 17 National Pavilions and was supported by 18 international official bodies. This year's edition of Project Qatar will be held concurrently with Heavy Max 2017, The 14th International Exhibition for Heavy Machinery; Qatar Stone Tech 2017, The 6th International Stone and Stone Technology Show, in addition to Hospital Build, Qatar Sports. ■

The Big 5 Set To Support the Moroccan Construction Industry

Construction, one of Morocco's most dynamic and strategic sectors employing 1 million people, is soon to receive a powerful boost. From April 25 to 27 at the Parc Des Expositions de l'Office des Changes, Moroccan construction professionals will be able to delve into key industry influencing trends and

discover the latest solutions for the built environment at the world-renowned The Big 5 show, which finally opens in Casablanca. "The Big 5 Construct North Africa in Morocco will promote the long term growth opportunities, and development of the Moroccan construction industry, along with

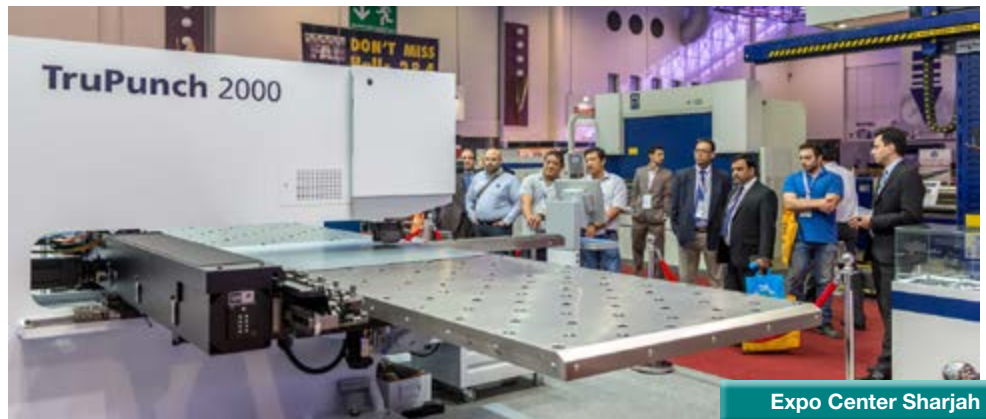
creating new export partnerships for local Moroccan companies," Portfolio Exhibitions Director, *Andy Pert*, said. "By sharing global best practices and innovative ideas, beyond providing networking, business and learning opportunities through our internationally recognized Continued Professional Development (CPD) workshops, we are confident The Big 5 will support the Moroccan economy catering to the needs of the local manufactures and construction professionals." Organized by dmg events Middle East, Asia and Africa with its network of over 300,000 suppliers and buyers of construction products from 120 countries, the exhibition is the most influential and renowned portfolio of construction industry events spanning the Middle East, India, South East Asia and Africa. In 2016, it connected over 35,600 exhibitors, 195,500 visitors, 1000 speakers and 20,000 conference and summit attendees. ■



The Big 5 2016

Expo Center Sharjah Hosted the 13th Annual SteelFab Exhibition

The 13th SteelFab 2017, which was held at Expo Centre Sharjah from January 16 to 19, featured more than 322 exhibitors who were representing more than 1000 brands during its four-day exhibition. The region's well-known show for the metal working industry – SteelFab 2017 – has got off to an excellent start with trade visitor preregistration crossing the key 5,000-mark for the first time. An impressive rise in the number of preregistered visitors automatically gives the show a good head start from the opening day itself, and sets the trend for the rest of the days and helps in improving overall visitor footfalls and business generation. SteelFab managed to do well despite the challenging conditions. Though the footfalls remained constant, the exhibitors reported better 'buying intentions' by trade visitors. They were able to secure good enquiries with several of the machines displayed



Expo Center Sharjah

being sold well before the show wound up. With a series of special segments such as stainless steel, wear resistant & hard facing cladding, welding & cutting, machine tools and pipe & tube machinery, SteelFab 2017 became an exclusive gathering point where fabricators could shop for innovative tools and machinery

from well-known global brands, manufacturers and discover new solutions for all of their metal forming, fabricating, welding, and finishing needs. The exhibition also had a large international country pavilions from Germany & Taiwan and followed by large country participation from Turkey, China & India and more. ■

Property Developers Optimistic About 2017 UAE Real Estate

Record investment deals on the show floor of Cityscape Abu Dhabi in 2016 have resulted in more than 90 percent of show floor space already sold for this year's event, the organizers have announced today. With sales permitted directly from exhibitor stands for the third year running, in accordance with the rules and regulations administered by the **Abu Dhabi Urban Planning Council**

(UPC), a host of new property developers have confirmed their participation at the three-day event, amid numerous reports that the UAE real estate market will witness positive sentiment in 2017.

Aabar Investments PJS, Abu Dhabi Capital Group, Hydra Properties LLC, Tiger Properties and **Ras Al Khaimah Properties** will all have a major presence for the first time at the 11th edition of the

UAE capital's largest property showcase, which returns from 18-20 April at the Abu Dhabi National Exhibition Centre. They will be joining the major property powerhouses returning to the show, including **Platinum Sponsor Manazel Real Estate, Aldar Properties, Eagle Hills Properties, Tourism Development & Investment Company (TDIC), Bloom Properties, Eshraq Properties, Wahat al Zaweya** and **Azizi Developers**.

Dispelling concerns over the property market slowdown witnessed in 2016, and with the help of the new property law introduced last year which improved transparency and security when buying properties in the UAE, Bloom Properties reported that by the close of Cityscape Abu Dhabi 2016, 70 percent of units in its newly launched project, Faya, were sold from the stand; some 20 percent increase on the company's forecasted sales ahead of its participation. ■



Cityscape Abu Dhabi 2017

2017

March

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TUYAP Fair and Congress Center
Istanbul - Turkey
23 – 27

Info:

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Web: www.big5kuwait.com

October

 Oman**Oman's International Exhibition for Infrastructure & Industrial Projects**

09 – 11
Sultanate of Oman

Info:

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Web: www.infraoman.com

November

 United Arab Emirates**The Big 5 Show**

The International Building and Construction Show
26 – 29
Dubai World Trade Center
Dubai – UAE

Info:

Vicky Wilcox
dmg events
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Email: victoriawilcox@dmgeventsme.com
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Arab Construction World (ACW) (ISSN 1015-8316) published monthly by:

CPH World Media s.a.r.l.

Courier Address: Hamra, Commodore, barouk St., Chatila Bldg (Above Commodore Laundry), 2nd Fl. Beirut-Lebanon,

Postal Address: P.O.Box: 13-5121 Chouran - Postal Code: 1102-2802 Beirut-Lebanon

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Printed by **Chamas Printing & Publishing**

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عالم الإنشاءات العربي (ISSN 1990-3936) تصدر شهرياً عن:

سي بي أتش ورلد ميديا ش.م.م.

عنوان البريد السريع: الحمرا، الكومودور، شارع الباروك، بناية شاتلنا (فوق مصبغة الكومودور)، الطابق الثاني

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تمت الطباعة عند شمس للطباعة والنشر

جميع حقوق النشر محفوظة لسي بي أتش ورلد ميديا، لا يسمح بإعادة نشر المعلومات الإلكترونية أو المطبوعة في مجلة "عالم الإنشاءات العربي" إلا بإذن مسبق من سي بي أتش ورلد ميديا

Future Cities Show to kick off in Dubai World Trade Centre



انطلاق معرض مدن المستقبل في مركز دبي التجاري العالمي

The UAE Minister of Infrastructure Development, Dr. *Abdullah bin Mohammed Belhaif Al Nuaimi*, announced on 7 February 2017 at a press conference held in the ministry's offices in Dubai debut show on sustainability, innovation and happiness under the name of 'Future Cities Show' from 2 to 4 April 2017. "We aim to build future cities powered by latest technology as well as renewable energy solutions. Building these cities can help make the societies more advanced, civilized and sustainable. They can also achieve sustainable and economic growth that is based on strong foundations, making people happier," added Dr. Abdullah bin Mohammed Belhaif Al Nuaimi.

"Future Cities Show is a global platform for companies and organizations engaged in developing an advanced infrastructure all over the world. It will also attract big investors and those who have creative and innovative ideas to build the future cities from the economic, technological and environmental aspects. This show can consolidate once more the status of UAE and Dubai as international hub for innovation and creativity as tools for better future," added Dr. Al Nuaimi. "The UAE is witnessing huge developments in various fields. We are committed not only to keep up with the latest developments, but also to foresee the challenges in all vital sectors in the country. We are determined to face these challenges and work on achieving advancements at various levels. To achieve this, we would need to develop the cities to be more energy efficient, and to build modern roads, buildings and facilities, so we can guarantee continued growth and emphasizing at the same time on environmental conservation, added Dr. Al Nuaimi.

Future Cities Show is an international platform where all the companies which services pertain with infrastructure development from all over the world can gather, alongside with investors, and all those who have creative ideas to build the future cities from all the technological, environmental and economic aspects.

Dr. Abdullah bin Mohammed Belhaif Al Nuaimi
Infrastructure Development Minister
United Arab Emirates

أطلق الدكتور المهندس عبدالله بلحيف النعيمي وزير تطوير البنية التحتية رئيس مجلس إدارة برنامج الشيخ زايد للاسكان، رئيس مجلس إدارة الهيئة الاتحادية للمواصلات البرية والبحرية الثلاثاء ٧ فبراير خلال مؤتمر صحفي النقاب عن معرض جديد يعنى بالاستدامة والابتكار والسعادة تحت إسم "معرض مدن المستقبل". والذي يقام خلال الفترة من ٢ ولغاية ٤ نيسان / ابريل القادم في دبي، وينظم بالشراكة مع دائرة الاراضي والاملاك بدبي. وقال معاليه: "إن بناء مدن المستقبل التي تتمتع بأحدث تكنولوجيا المرافق والمباني وحلول توليد الطاقة المتجددة والمحافظة على البيئة، هو أمر من شأنه أن يجعل مستقبل المجتمعات أكثر تطوراً وتحضراً وتحقيقاً للتنمية المستدامة، وبالتالي النمو الاقتصادي المبني على أساس قوي يراعي كافة الأبعاد التي يأتي على رأسها إسعاد أفراد المجتمع".

وأضاف الدكتور: "سيمثل معرض مدن المستقبل منصة عالمية يجتمع حولها كبرى الشركات والمؤسسات المعنية بتطوير البنى التحتية المتطورة من كافة دول العالم، فضلا عن كبار المستثمرين ورواج الأعمال وأصحاب الأفكار الخلاقة والمبدعة الذين يسهمون في رسم ملامح تأسيس مدن المستقبل من الناحية التكنولوجية والبيئية والاقتصادية وغيرها من المجالات ذات الشأن، وهو ما يبرهن على أهمية المعرض الكبيرة ويعكس مكانة دولة الإمارات وإمارة دبي العالميتين كقاعدة للابتكار والتميز والإبداع كونهما نافذة العالم لرؤية المستقبل". ولفت إلى أن الإمارات تشهد تغيرات هائلة وسريعة في مختلف المجالات، ونحن ملتزمون ليس فقط بمواكبة أحدث التطورات وإنما باستشراف التحديات ووضع التصورات لكافة القطاعات الحيوية في الدولة، وتحليلها وتصميم خطط بعيدة المدى من شأنها تحقيق نقلة نوعية على كافة الأصعدة. وهو ما لن يتحقق إلا من خلال تطوير المدن وبنيتها التحتية لتواكب أحدث تطورات العصر وتسمح لنا بالعمل بحرية وبنقطة في كافة المجالات معتمدين على كفاءة التشغيل وكفاءة استهلاك الطاقة وبناء مرافق وطرق وأبنية على أحدث الطرز العالمية التي تضمن استمرار النمو بوتيرة سريعة بشكل لا يغفل المحافظة على البيئة وضمان رفاهية وسعادة المواطنين والمقيمين.

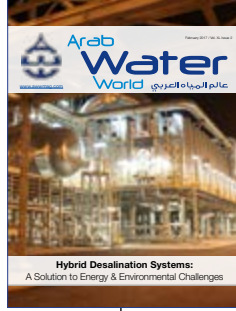
يعد معرض مدن المستقبل في دبي منصة عالمية يجتمع حولها كبرى الشركات والمؤسسات المعنية بتطوير البنى التحتية المتطورة من كافة دول العالم، فضلا عن كبار المستثمرين ورواد الأعمال وأصحاب الأفكار الخلاقة والمبدعة الذين يسهمون في رسم ملامح تأسيس مدن المستقبل من الناحية التكنولوجية والبيئية والاقتصادية وغيرها من المجالات ذات الشأن.

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* *MHW magazine is currently suspended due to restructuring; we will resume publishing it later this year.*

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فوائد الإشتراك

في مجلة "عالم الإنشاءات العربي"

تُعرف مجلة "عالم الإنشاءات العربي" حول العالم بكونها المجلة المتخصصة الأولى في مجال الأعمال في منطقة الشرق الأوسط وشمال أفريقيا لخدمة قطاعات البناء ومعدات الإنشاءات والطرق والطاقة. يتم نشر المجلة من قبل سي بي اتش ورلد ميديا منذ العام ١٩٨٣.

إن اشتراككم في مجلة "عالم الإنشاءات العربي" سيمكّنكم من الاطلاع على الأقسام التي تغطي آخر الأخبار في قطاع الإنشاءات في منطقة الشرق الأوسط وشمال أفريقيا بما فيها أحدث الابتكارات وآخر التقنيات والأحداث بالإضافة إلى أخبار السوق وغيرها الكثير من المواضيع الأخرى.

مجلات متخصصة أخرى

كما يصدر عن "سي بي اتش ورلد ميديا" المجلات المتخصصة التالية التي تتضمن أحدث المعلومات المرتبطة بالقطاع الذي تغطيه:

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- ٢. عالم المياه العربي:** تصدر منذ العام ١٩٧٧ وتغطي قطاعات المياه والصرف الصحي وتحلية المياه والطاقة.
- ٣. عالم الصحة للشرق الأوسط وشمال أفريقيا:** تصدر منذ العام ١٩٨٦ وتغطي قطاعات المستشفيات والآلات الطبية والأدوية والغذاء.

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