

ambitions

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Offshore

Construction in the sky

Guess which is the remotest wind farm in the world? It is actually also Germany's first commercial wind farm – Bard Offshore 1, located 125 km off the German coast in international waters. This high-sea wind power plant with 80 windmills has a nominal capacity of 400 MW, which is enough to cover the energy requirements of about 400,000 four-person households. The energy produced is transported through a 125 km long direct current sea cable to the mainland and then another 75 km inland.

Who are the brave and highly skilled workers who install and maintain these wind parks at such high altitudes? Rope Access Sverige AB (IRATA-member) specializes in methods of safe working at high and confined spaces that were originally developed from techniques used in caving. The company works on the BorWin Alpha platform, which was built by ABB and is owned by TenneT B.V. The platform connects the wind farm to the grid by HVDC cables.

“Doing high-quality work in this extreme environment means that from the very beginning you need the right partner and the right durable products which are strong enough to withstand the great strains induced by the corrosive and exposed environment” states Petter Gellerstam, CEO of Rope Access, “That is why we chose Sika Sweden as our partner and why we are using Sika products.”

But inspection, installation and maintenance at a high altitude are very sensitive work processes, which are very dependent on environmental factors not only because helicopters are used for transport from the mainland to the platforms. The weather has to be moderate, the wind shouldn't be too strong, and the waves not too high, because rescue boats are also always on standby when those expert climbers are working in the sky.



What about Japan?

The whole world was shocked in March 2011 by the utterly devastating earthquakes that hit Japan. In the meantime, the media have grown quiet. Eight months after the tragic events, we wanted to know how Japan has overcome the crisis, how the country is recovering and how people have been coping. We spoke with the President of Sika Japan and General Manager of Dyflex Co. Ltd. Mr. Koichi Oba in Tokyo.

How has Sika Japan adapted in the aftermath of the earthquakes?

Due to the shutdown of the Fukushima nuclear plant, everyone in the Greater Tokyo Area was forced to scale back peak electricity consumption by 15% vs last year. Sika Japan was required to reduce electric consumption drastically this summer by introducing a new production shift schedule. We have increased the night shift workload by 5 times by changing to a 6-hour day shift and a 12-hour night shift and working Saturday/Sunday instead of Thursday/Friday. We were able to keep production running without any major problems. Luckily, our Dyflex factory does not come under the Greater Tokyo Area.

Has Japan returned to normal life? How are the events still affecting the country?

Yes, life is normal except within a 20 km radius of the Fukushima nuclear plant. Unfortunately, the Japanese economy will end up with slightly negative GDP growth this year due to the earthquake disaster. What is more, the Japanese economy is currently under threat from the strong JPY and many globally operating Japanese companies are losing profits as a result.

Sika employees worldwide gave donations to help their Japanese colleagues. How has this helped to overcome the damage?

First of all, it was more spiritual support than financial. Because the homes of more than 50 employees were damaged, we passed on the donations to everybody. All those who sustained minor damage, for instance roof tiles



Mr. Koichi Oba, President of Sika Japan and General Manager of Dyflex Co. Ltd.

falling off or cracks in the walls, could repair their houses. But in the case of the two to three people who suffered major damage, such as soil liquefaction or house tilting, it is virtually impossible to repair their homes. We are very proud to be a member of the Sika family.

What do you personally wish for your country for the future?

For many years, Japan has been a country with a strong economy driven by the private sector. However, since the bubble economy collapsed in 1997, the private sector has not been able to shake off the traditional management styles. On top of that, the world financial crisis in 2008 and the recent JPY rally have led to a decrease in profits for many global companies. However, I still believe it is possible for many Japanese companies to achieve excellent profit results through focused management and technology leadership. Sika Japan and Dyflex are good examples of this. I hope that medium-sized Japanese companies will build up Japan's strengths in order to restore the country to its status as a world leader in technology and innovation.



Sika Dyflex employees saying "Thank you to our Colleagues of all Sika companies"



An employee receiving the Sika donation by Mr. Jan Jenisch, CEO of Sika AG

Security while the world is shaking

Earthquakes strike suddenly, violently and without warning. We all have in our heads the images of disastrous earthquakes. For many people in parts of the world which are considered to be safe these catastrophes seem so far away. As human beings we naturally tend to have a constant feeling of physical and psychological integrity. But in fact quakes regularly threaten a population of around 1 billion living in seismically active regions all around the world. Indeed this natural phenomenon occurs over a million times annually. When the ground starts shaking – where would you hide? What would be the most secure place for you to find protection?

Still the best way to protect yourself when you are inside a house during an earthquake is to stand in the doorway or crouch under a desk or table. To provide security for residential houses and buildings, the wall and ceiling structure should be solidly built. But even after resisting a strong earthquake, many buildings are still seriously damaged because of the lack of a strong building structure. Sika provides a tried and tested range of products to reinforce walls, columns and ceilings. After an earthquake, however, fast and cost-effective repair techniques are required to restore the buildings to service within a short space of time. To achieve this, cracked concrete can be injected with epoxy resin-based **Sikadur®-52** and reinforced with externally bonded **SikaWrap®** carbon fibre fabric. Heavily damaged concrete might be replaced by **Sika® MonoTop®** repair mortar or **SikaGrout®** pouring mortar, while additional reinforcement is bonded to existing concrete using **Sika AnchorFix®** anchoring adhesive.



Earthquake-damaged, cracked masonry walls in typical apartment buildings present a serious risk to inhabitants even during small aftershocks. The Slovenian National Building and Civil Engineering Institute (ZAG) has performed a series of tests with large scale masonry walls subjected to a simulated earthquake. Following the serious damage sustained, a layer of **SikaWrap®-350 G Grid** textile reinforcement embedded in **Sika® MonoTop®-722 Mur** mortar was applied to the walls. Compared to the original walls, damaged walls that were subsequently repaired are able to resist earthquakes over 2.5 times more powerful. This shows that substantial protection is possible even before any damage is suffered.



Usage of SikaWrap®-600 C and Sikadur®-300



After an earthquake in L'Aquila, Italy: Fixing procedure with Sika® MonoTop®-722 Mur and SikaWrap®-350 G Grid

Learning by Training

Safe automotive glass replacement

While driving on the highway, a small stone is suddenly flicked up by the wheels of the car in front of us, causing our windshield to crack: that's generally what has happened when we have to go to a garage or we call the auto glass specialist for a windshield replacement. But to feel safe in our car afterwards, we want to be sure that the windshield replacement is done by experienced technicians. In England approx. 80% of all car owners have fully comprehensive insurance for their cars or additional coverage of glass breakage, which means that 80% of the glass damages are paid by insurance companies. These companies also want to be sure that the vehicle glass replacement is done by qualified personnel. But how do technicians become sufficiently qualified to provide quality and safety?



In this context, Sika UK recently launched an Automotive Glass Replacement initiative to deliver specialist product training for technicians. With this training Sika aims to help technicians understand all aspects of the vehicle glass replacement process, including health and safety, traceability and customer care. The training provides a mix of practical work and theory centered on live vehicle glass replacement. It has been approved by the Glass Qualifications Authority and is based on the UK's National Occupational Standards. After the successful completion of a questionnaire, all technicians are provided with a Skills Card which is valid for two years and indicates precisely in which adhesives system the technician has received the specified training. The training is delivered by qualified and authorized trainers with a wealth of experience in vehicle glass replacement.



Our Employees

Product Management



Illán Alvarez, Head Product Management & Head Packaging and Layouting, Corporate Marketing

What is your job about?

As Head of the Product Management Team for Corporate Distribution, my target is to define the overall product management strategy, to follow up the existing product portfolio throughout the entire product life cycle and to develop and launch new products. This includes the associated marketing package. As Head of the Packaging & Layouting Team, my target is to develop and implement new product packaging and layouts.

What fascinates you and what is your biggest motivation?

It's fascinating when you see a product that you together with a lot of people from different departments have launched become a success in the

market. My biggest motivation is to see how these "children" of ours grow in the market despite the major responsibility this involves.

What makes Sika's Distribution business sustainable?

Well, it's not only Distribution's, but Sika's business that is sustainable. Our products help society develop in this direction. One can find Sika products in dams, tunnels, highways, airports... in other words, in infrastructure that makes life easier for human beings. The high quality of Sika products guarantees the extremely high durability of any work done with them, from the simplest repair work at home to the complex waterproofing of a roof in a residential building.

What would you change if you could change the world of 2012?

Of course I would change the way business is done all around the world in order to avoid the sort of financial crisis we are living through today. I would help non-developed countries to develop themselves; it's terrible what is happening in the Horn of Africa, for instance.





Melting pot of nature and design

How many hours did you work last month? When was the last time you really felt totally relaxed and at ease for several days in a row? When you close your eyes – which place do you imagine? From time to time we all like to transport ourselves away to a place of peace and relaxation out in the wilds of nature... This is a feeling typically associated with a vacation or a resort experience.

Anyone who stays at the Saffire Resort in Coles Bay on the Island of Tasmania (Australia) will take away a truly unforgettable experience. The overall design was such as to create a unique sanctuary that is both soothing and healing, bringing an overall feeling of wellness and calmness. The resort incorporates some of Sika's top products to cater for the building's reverse fall roofs and 3D stingray shaped main lodge. The unusually designed resort consists of 22 luxury villas surrounded by the beauty and depths of nature. Saffire Resort's inspirational design is intended to enrich and uplift, lending a new perspective to the unique setting. The architect required a solution that would protect the valuable environmental assets

while at the same time fit aesthetically with the whole design. The buildings are conceptually organic, reflecting the surroundings.

The architect chose Sika Australia as partner and Sika's high performing **Sarnafil® PVC** roofing membrane in blue grey with Sika's adhesives **Sarnacol® 606** and **Sarnacol® 808** to create what is now one of the resort's most iconic features: the roofing membrane system affixed directly onto the building's plywood substrate. To achieve durable and beautiful detail, the planter boxes in the resort's suites were also fully lined with the **Sarnafil®** system to provide a long term waterproofing solution. Sika's roofing membranes are BBA certified for a life expectancy of more than 30 years and can be installed by a range of methods.

Since the opening, Saffire has won several design awards, including US Magazine Interior Design naming Saffire "Best of Year 2010". And now – what about your personal "Best of Year 2012"? Feel like escaping the day-to-day routine? Maybe now is the time to talk to your boss about your next vacations...





A great learning adventure for prizewinning students – Sika Concrete Experience

It was with great curiosity that Sika's concrete team awaited the three winners of Sika's Concrete Experience on the morning of Monday, October 17, 2011. Who are they, did they all arrive safe and sound and in time after their long journeys? What are they going to be like? One person just about to finish his Bachelor's in Civil Engineering, a PhD candidate in the field of geotechnical engineering investigating dynamic analyses of underground structures and a Bachelor of Civil & Construction Engineering whose final year thesis was entitled "Performance of offshore concrete structures". The three candidates from Mexico, Malaysia and Turkey easily found some common ground and immediately engaged in a vivid exchange not only about the different construction solutions used on their continents, but about their differing cultural backgrounds. The program promised a tough week, but also an interesting one. The three prizewinning students readily proved their capability to grasp complex situations. The Sika Concrete Experience not only consisted of listening and learning, the three winners were also asked to put theory into practice by creating their own concrete recipe. In the concrete trial gallery they witnessed the enormous complexity of shotcrete used in tunnel construction. The Sika Experience ended with a trip to the heart of the Swiss Alps, where the icing on the cake was a splendid and impressive view from a mountain top against a backdrop of bright sunshine. The experiences and lessons taken away from this week will come back to Alex, Serkan and Enrique whenever they face concrete challenges in their future lives.



Sunset at Lake Zurich: the three winners enjoying Switzerland

Serkan creating his own concrete recipe Enrique, Serkan and Alex going down into Weinberg tunnel



Who were the winners? Guess who has which profile!

Find the answer on:

<http://experience.sika.com/>

Blogs of the three prizewinning students:

<http://experience.sika.com/author/serkan/>

<http://experience.sika.com/author/alex/>

<http://experience.sika.com/author/enrique/>



The Tube gets reinforced

The London Tube is the oldest underground railway in the world. The first section was opened in 1863 and in 1890 there was the introduction of electric trains. The entire network is commonly referred to by Londoners and in official publicity as the Tube. Though that term originally applied only to the deep-level bored lines, which trains of a smaller and more circular cross-section run along, to distinguish them from the sub-surface “cut and cover” lines that were built first. Today London Underground serves 270 stations and has 402 kilometres of track, making it the second largest metro system in the world in terms of route miles, after the Shanghai Metro. In 2007, more than one billion passenger journeys were recorded, which qualifies it as Europe’s third busiest metro system, behind Moscow and Paris. The Tube has become an international icon for London, and the Tube map is considered a design classic, having influenced many other transport maps worldwide.

But how can the Tube be maintained to endure the tremendous constant loads it has to bear? Let us take a closer look north of the River Thames, where Embankment Gardens are supported by iron beams above the covered ways. Though found to be adequate under normal load conditions, they were considered in need of strengthening to accommodate any unforeseen future loadings. Covered ways either side of Embankment Tube station have been strengthened using **Sika® CarboDur® UHM** plates provided by Sika UK. London Underground had to ensure the chosen repair solution would have minimal impact on the tunnel headroom and could be installed overnight, with the service’s passengers entirely unaware of the vital work being undertaken. Since a reinforced steel element was deemed too thick to be a viable option, a system that was thin yet extremely tough was required.

An ultrahigh modulus carbon fibre reinforced polymer (CFRP) system, **Sika® CarboDur® UHM** is designed for high performance and demanding reinforcement applications. With over 1,300 metres of **Sika® CarboDur® UHM** plates applied, it has marked the UK’s largest ever project to use ultrahigh modulus composite. Delivered over a six-month period, the project was successfully finished to the highest standard with the contractors reinforcing an average of two beams per night on-site.



Protecting mangroves

It was marine biologists who made the discovery that an endangered area had developed on the south side of South Africa's most modern premier bulk port, Richards Bay Harbour, 160 km northeast of Durban on the way to the Mozambique border. Erosion of beach sand and soil was affecting the natural habitat of Mangrove trees which thrive in salty water and have the ability to grow where no other trees can. Mangrove swamps form the basis of a complex marine food chain and their coverage of coastal shorelines and wetlands provides a unique habitat for many diverse species of birds, mammals, crustaceans and fish. What made this particular region so rare was the fact that three different species of Mangrove were growing there.

To facilitate restoration of this natural habitat for plant and animal life, a two-year conservation project was launched. The solution was to build a breakwater 100 metres out to sea so that the destructive action of waves would occur further away from the affected shoreline. The breakwater was to consist of forty-four polystyrene pontoons, each measuring 15 metres long x 5 metres wide. In order to provide excellent corrosion protection and crack-bridging properties, the 3 mm thick polyurea high-quality **Sikalastic®-841 ST** came to the fore. It is a two-part, 100% solid, extremely fast-curing pure polyurea membrane that can be applied at temperatures from 15°C to 70°C. This highly versatile product can be machine sprayed onto concrete, steel and many other substrates.

Marine biologists specified black waterproofing for the polystyrene to ensure the pontoons blended in with their underwater surroundings and became part of the environment where various species of coral and marine plant life could eventually grow on the undersides. Sika South Africa supplied 28,000 litres of **Sikalastic®-841 ST** in the specified colour. The completed pontoons, weighing a total of 60 tons, were transported about 350 metres to the water's edge from where they were carried 100 metres out to sea using an anchor block and pulley system. The pontoons were secured in place by anchoring them to the seabed on concrete blocks positioned parallel to the shoreline.



Transporting the pontoons to the coastline



Solar

Natural power plant

The photovoltaic market in the EU has rapidly developed over the last few years, currently representing around 50% of the aggregate global capacity. Decreased costs, high investor interest, and continuing political support have all contributed to the market increase. In Spain, policies implemented by the government fostered the growth of the photovoltaic market through 2008, securing the country second position among European markets. Spain topped the European market for new installations in 2008. In that year alone, the Spanish photovoltaic market installed 2.51 GW, which is about half of the total installations worldwide for that year.

For this fast growing and sustainable market Sika Spain supports roof solar power installations with the high-quality roof sealing **Sarnafil® TS 77-20**, which has outstanding durability properties. When German photovoltaics specialists SUNOVA AG and Integra Renovables were installing a high-capacity power plant located in the city of Les Franqueses del Valles in the Province of Barcelona,



Sarnafil® TS 77-20 was used on a flat-roof area of several thousand square meters with a capacity of more than 800 kWp. Of the 11,400 square meters available, nearly 85 percent were covered with thin-layer photovoltaic modules that were laid parallel to the roof. Combined with the vast hours of intense sunshine in the Mediterranean area, the almost seamless coverage with thin-layer photovoltaic cells results in an average annual reduction in emissions of more than 780 tons of CO₂.



Investments

Global expansion

New company facilities are the key to increasing capacity and resources to enhance both product range and quantity. In order to satisfy customers' needs in all markets, it is crucially important to maintain high standards of production and service offering, which is why Sika is strengthening its position worldwide and building new production facilities in all mature and emerging markets.

In Scandinavia, in the far north of Sweden in the iron ore mines of Kiruna, where Sika provides a wide range of products for shotcrete applications, a sharp and rapid increase in the volume of accelerators sold brought the old production facilities to the brink of their capacity. To address this situation, Sika Sweden established new production plants with more effective powder dosing and mixing systems, enabling the manufacture of larger volumes. A new management and administration headquarters was also built next to the facilities just 30 minutes from the center of Stockholm.

In order to meet the needs of a country with fast growing economic demands, Sika Russia has opened its first major production facility and new headquarters, both essential milestones. The new plants in Lobnya, located north of Moscow, comprise innovative production facilities as well as new office buildings, warehouses, technical service facilities, concrete and chemical laboratories and water clarification plants. 120 Sika employees now have their new workplaces in this modern complex.

If we head out to the Arabian Peninsula and Rabigh, which is situated on the coast of the Red Sea near the city of Jeddah (population 3 million), we will see where Sika Saudi Arabia has opened a new production plant for concrete admixtures and dry mortar. Sika had been a regional market leader in the 1970s and 1980s, but had long since relocated to Bahrain. The new plant makes Sika's position in Saudi Arabia even stronger as well as offering customers yet more competitive solutions to overcome the challenges they are facing.

New production plant in Saudi Arabia



Strengthening Distribution Business

Sika AG has recently acquired Technokolla S.p.A., a leader in tile adhesive systems in Southern Europe. Based in the northern Italian town of Sassuolo, the company generated sales of around CHF 37 million in 2010 and enjoys a solid presence in neighbouring countries and a global network of sales channels with its own modern pro-



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Sika' international newsletter to customers

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duction sites. Technokolla was a subsidiary of the privately owned Fincea Group, which leading European ceramic tile manufacturer Iris Ceramica is also part of.

With Technokolla's products on board, Sika will have even greater access to a highly developed distribution network. The new partnership will mean that Sika can expand its market position by adding a new distribution channel and so be able to supply the regional construction industry with an even wider range of products and technologies. The Technokolla universe is made up of a comprehensive range of mutually compatible complementary products which have been explicitly formu-

lated for fixing ceramic tiles, mosaic, marble, natural stone and lots more besides, ranging from substrates to waterproofing substances, from bonding agents and adhesives to sealants and grouting, and from bio-ecological materials to refurbishing solutions, as well as tools and accessories.

Stringent quality controls plus Technokolla's vast experience, acquired during a decade of application activity in all parts of the world, allow designers and interior decorators to give full vent to their creative flair, confident of the results of their work and certain of being able to trust in safe and tested products.

