

# Feedback

THE PANOLIN MAGAZINE – ISSUE 01/2019

## Climate change demands infrastructure programs

Environmentally friendly lubricants in use



# «We need to raise awareness of climate change issues»



**Silvan Lämmle**, CEO PANOLIN AG

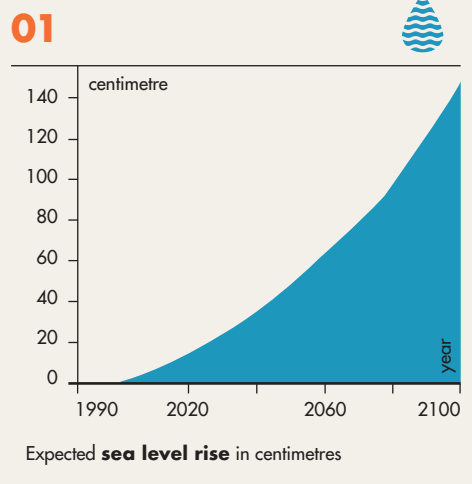
**Daniel Zimmermann**, CEO PANOLIN International Inc.

**D**ear reader, Several studies show that the global construction industry is booming and will continue to grow until 2030 (Table 02). The USA, Europe, China and India are all on course for growth. China remains the world's largest market for the construction industry (chart 06), according to the study «Global Construction 2030». This study expects global construction volumes to grow by 85 percent by 2030, reaching 15.5 trillion US dollars. One of the reasons for this is population growth. In addition, the consequences of climate change are becoming increasingly clear, and this requires immense construction investments. Figure 01 shows that sea levels will rise 55 in. by 2100. Miami alone will have to spend 278 billion US dollars on protective structures. Megacities such as Guangzhou and Tianjin in China, New York, Calcutta, Shanghai, Mumbai, Tokyo, Hong Kong and

Bangkok will have to invest heavily in their infrastructure, or they will literally drown. Climate change demands infrastructure programs. We are proud that leading companies such as Weeks Marine (p. 4/5) and Great Lakes (p. 6/7) in this segment (Table 03) use environmentally friendly lubricants from PANOLIN in their daily work. PANOLIN offers its customers «Private Labeling» as a specialized service. Two Swiss companies are already successfully using this service: Montana Sport International (p. 8/9), the world's leading manufacturer of ski service machines, and Hutter Dynamics (p. 10/11), a major Swiss BMW and MINI representative. The summer heat last year led to around the clock production for the company Resilux from Biltzen (p. 12/13). The manufacturer of PET preforms and bottles produced more than a billion molded parts. Tafag AG, manufacturer of vehicles for rail and road (p. 14/15), which with its clear values and customer-oriented strategy is a successful and important PANOLIN partner. Without exaggeration, a French «diamond» is «La Machine» (p. 16/17) from Nantes, France. One man who thinks «out of the box» is Martin Brielmaier. He relies on PANOLIN because he only uses the absolute best in his mowers (p. 18/19). Anyone who sells high-quality products for motorcycles must also be able to rely on high-performance engines on race tracks.

Our partner in Japan, Okada Corporation, has been supporting the successful racing driver Daisaku Sakai for many years. He tested PANOLIN on the racetrack. (p. 20/21). In this issue we go to Latvia and introduce the Rigas HES factory to you. Our latest masterpiece is Mont-Saint-Michel. The French monastery island attracts millions of visitors. Enjoy the view into the world of PANOLIN.

With kind regards,  
Silvan Lämmle, Daniel Zimmermann



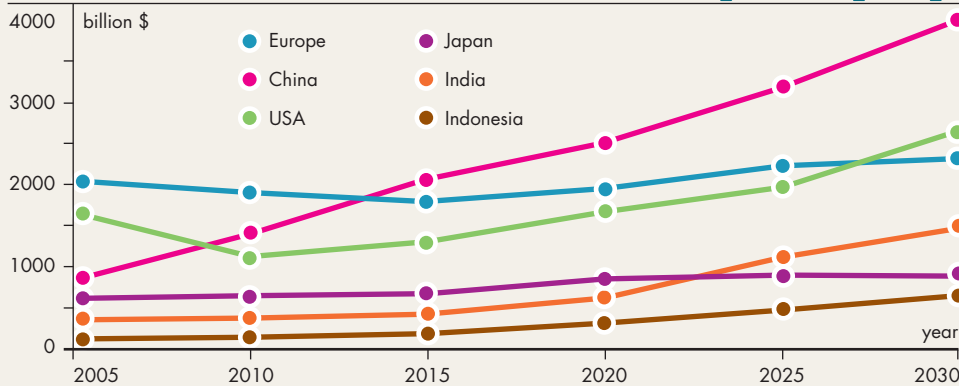
#### Imprint

Publisher: PANOLIN Swiss Oil Technology, Bläsümühle 2–6, CH-8322 Madetswil, Switzerland, Telephone +41 44 956 65 65, [www.panolin.com](http://www.panolin.com), [info@panolin.com](mailto:info@panolin.com),  
Responsible: Silvan Lämmle, Editor: Huber Media Consulting GmbH, Layout and concept: Pittalis New Media Design, Proofreading: E. Baschek, Printing: Koprint AG,  
Translation: PANOLIN International Inc., Photo sources: Cover Photo: iStock by Getty Images, Photo S. 24: gettyimages, Kari Siren.

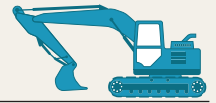
Scan the QR code and read Feedback online!

## Construction until 2030

02



05



1.	USA	Caterpillar	28.28
2.	Japan	Komatsu	16.88
3.	Sweden	Volvo Construction	7.79
4.	Japan	Hitachi Construction	7.79
5.	China	TEREX	7.31
6.	Switzerland	Liebherr	7.18
7.	USA	John Deere	6.58
8.	China	XCMG	6.15
9.	China	Sany	5.42
10.	South Korea	Doosan Infracore	5.41

**Top 10** construction machinery manufactures (billion \$)

**Construction boom:** According to Global Construction Perspectives and Oxford Economics, the global construction volume will grow by 85% to 15.5 trillion US dollars by 2030. This is significantly better growth than other sectors of the global economy. China, India and the USA account for 57% of this increase. India's construction population is expected to rise by 165 million by 2030. The focus of US growth is based on pent-up demand and population growth. In Europe, the UK and Germany remain strong construction markets.

03

1.	The Netherlands	Royal Boskalis Westminster
2.	China	CHEC (China Harbour Engineering Company)
3.	The Netherlands	Van Oord
4.	Belgium	DEME
5.	Belgium	Jan de Nul
6.	USA	Great Lakes Dredge and Dock
7.	USA	Weeks Marine Inc.
8.	Malaysia	Inai Kiara
9.	UAE	National Marine Dredging Company
10.	South Korea	Hyundai Engineering and Construction

The **10** largest dredging companies of the world

04



1.	China	China State Construction Engineering Corporation	124.7
2.	China	China Railway Engineering Group	114.2
3.	China	China Railway Construction Corporation Ltd.	94.0
4.	China	China Communications Construction Company	70.8
5.	France	Vinci SA	42.7
6.	Spain	Grupo Actividades de Construcción y Servicios	37.3
7.	France	Bouygues SA	26.4
8.	China	China Energy Engineering Corporation	25.0
9.	USA	Bechtel Corporation	24.3
10.	Germany	Hochtief AG	24.0

The **10** largest construction companies in the world (2016/turnover in billion US \$)

06



1.	China	1849
2.	USA	599
3.	Japan	569
4.	India	333
5.	France	147
6.	Germany	143
7.	Singapore	131
8.	Canada	131
9.	Australia	115
10.	Russia	111
11.	Brazil	109
12.	Italy	107
13.	Spain	104
14.	Indonesia	93
15.	Mexico	92
16.	South Korea	58
17.	Turkey	35
18.	United Arab Emirates	34
19.	Venezuela	34
20.	The Netherlands	34
21.	Poland	34
22.	Switzerland	33
23.	Saudi-Arabia	32
24.	Iran	29
25.	Colombia	29

Construction industry by **country** 2015 (in billion US \$)





**Great Lakes Dredge & Dock Company, LLC** provides domestic and international capital, coastal protection, and restoration dredging services that help shape the environment by maintaining and deepening America's ports, protecting its shorelines, and creating barrier islands and land reclamations.

## «We use PANOLIN as our preferred EAL product»

**G**reat Lakes Dredge & Dock Company, LLC (GLDD) is North America's dredging industry leader, the largest provider of marine dredging, and the only U.S. company with substantial overseas operations primarily in the Middle East (Bahrain, Qatar) with additional project work in Europe, Africa, Mexico and South America. Based in Oak Brook, Illinois, the company has its origins in the Great Lakes, where it built most of the maritime infrastructure at the end of the 18th century and beginning of the 19th century. The company was founded in 1890 as a partnership between William A. Lydon & Fred C. Drews. In 2017, GLDD had \$703M in sales and employed 1,500 people. Today, GLDD operates the most diverse fleet of dredges in the U.S., including the most powerful trailing suction hopper dredge, the largest barge mounted excavator, and the largest cutter suction dredges. GLDD's specialty is large, complex projects in which state-of-the-art equipment and expertly qualified GLDD engineering teams are used. The company employs people from the fields of civil engineering, marine technology and mechanical engineering, investing heavily in the training and continuing education of its personnel. «This enables us to carry out projects that would not have been possible without innovative thinking», explains Steve Becker, Senior Vice President, Plant & Equipment. Safety is also paramount at GLDD and enormous effort is made by every employee to achieve safety excellence. «We want our employees to return home safely every day», explains Becker.

In addition to personnel and safety, GLDD also invests in hardware, owning and operating over 200 specialty vessels. In 2018, two new vessels were added to the fleet, the tug «Douglas B. Mackie», and the largest hopper dredge in the U.S., the «Ellis Island». David Simonelli,

President Dredging Division, commented: «We are excited to take delivery of this advanced vessel which improves the competitiveness of our hopper group. The Ellis Island significantly increases the United States commercial Jones Act hopper fleet capacity as the largest hopper dredge, with a carrying capacity of 15,000 cubic yards.»

Steve Becker told Feedback: «Since we work in a sensitive marine environment every day, we know our present and future require that we operate in a manner that provides minimal impact to the waters and biology around us. While much of our work is governed by strict environmental oversight, we provide the tools and methods to make sure we exceed the environmental requirements to assure sustainability of the world around us.»

This is where the partnership between PANOLIN and GLDD has grown. This innovative company uses different PANOLIN products such as HLP SYNTH 46, MARGREASE EP2, STELLA MARIS 100, and EP GEAR SYNTH on its dredges including the Ellis Island, Douglas B. Mackie, New York, Texas, Illinois, and Carolina to name a few. PANOLIN products are being relied upon by GLDD in applications including hydraulic systems, lubrication systems, cutter gear boxes and hydraulic closing devices. Steve Becker explains: «GLDD has been pleased with PANOLIN's products and services to date and continues to expand its use in our fleet. Since 2015, 15 machines have been converted to PANOLIN. GLDD is applying PANOLIN as our EAL of choice in many of our interfaces with the sea. In instances where unfortunate spills have occurred, regulatory cooperation and approval has been positive once the product was identified as PANOLIN.»

**Weeks Marine:** As a market leader in dredging and maritime construction, Weeks Marine, Inc. is a pioneer in efficiency, technology and environmental sensitivity, and is focused on customer service and a long-standing commitment to safety.

## «PANOLIN products exceed our expectations»

If you read up on the American company Weeks Marine, you will quickly discover that, despite its impressive history and size, the company is still based on a unique family culture, longevity and trust. Weeks Marine is a collection of talented employees and motivated individuals supported by shared goals and sustainable values. Values that are shared by their partner from Switzerland, PANOLIN.

Weeks Marine is divided into three key areas which include construction, dredging and marine services. As a market leader in maritime construction and dredging, Weeks Marine has successfully completed projects in North and South America, from inland waterway projects to offshore work in the Pacific and Atlantic. Founded in 1919, Francis H. Weeks and his son, Richard B. Weeks, started the company with two floating cranes in the Port of New York. At the beginning of the Second World War, they had expanded their fleet to seven cranes, and in the years that followed, the fleet grew rapidly, creating the current infrastructure for its operations. Through acquisitions and upgrades to the fleet, the company became one of today's leading providers in this field with over 1,600 employees working across North America. Today, the company operates more than 1,200 cranes, tugs, excavators, barges and dredges.

The company has also become a pioneer in efficiency, technology and environmental protection. «Considering the sensitive water-based environments in which we operate, Weeks Marine has made it a requirement to use environmentally approved lubricants (EALs) on our vessels», Hans B. Blomberg Technical Manager/Hopper Dredges at Weeks Marine, told Feedback. «The use of EALs is part of our company's initiative for environmental

accountability and sustainability to ensure both present and future generations can enjoy the resources found on our lands, along our coastlines, and at sea.» After she had passed her sea trials, the newest and most environmentally friendly ship of the Weeks fleet, M/V Magdalen, was put into service in 2017. The seaworthy trailing suction hopper dredge is the company's largest single investment in its history to date, costing around US\$100 million. The vessel has a length of 356 ft, a beam of 79.6 ft and a shallow draft of 25.3 ft, which will allow it to operate in a wide range of areas, including coastal zones and inland waterways.

One of the reasons might also be the use of environmentally friendly PANOLIN products on the M/V Magdalen. PANOLIN HLP SYNTH 68 is used for hydraulics, PANOLIN STELLA MARIS 100 for the stern tube and environmentally friendly universal greases such as the MARGREASE EP2 for other equipment on board. According to Blomberg, the PANOLIN products on board Magdalen have exceeded the company's expectations. «PANOLIN products are used in any application where direct oil-to-sea contact is possible in the event of a seal failure», explains Blomberg. Weeks Marine uses PANOLIN oils in its stern tubes and several hydraulic systems on board M/V Magdalen. «We also use PANOLIN grease products for our deck equipment such as gantries and windlasses», explains Blomberg. «These greases are particularly durable in washing areas on board the ship.» The long-term use of these PANOLIN products will bring the company significant cost savings, Blomberg explains. «At the same time, we know that in the unlikely event of an accidental spill, the environment will continue to be protected.» Since 2017, Weeks Marine has converted four ships to PANOLIN.





PANOLIN HLP SYNTH 68





Private Labeling by **PANOLIN®**

MONTANA pump oil  
MONTANA bed track oil



**Pascal Arnold**, Marketing Director, Montana Sport International AG



**MONTANA SPORT INTERNATIONAL:** Leading full-service provider for service workshops, rental stations and depots – Private labeling as a service for PANOLIN customers.

# MONTANA SPORT INTERNATIONAL – the summit in the ski service area

**A**t a time when it is becoming increasingly difficult for suppliers to stand out from the competition, PANOLIN reacted by introducing the «Private Labeling» service. Together with its customers, PANOLIN designs individualized labels for the various containers. «With their 'own' oil, companies can create a unique selling point and further strengthen customer loyalty», explains CEO Silvan Lämmle. ««Private Labeling by PANOLIN'» has established itself as a service, and many customers are already benefiting from it.» On the following pages we introduce MONTANA SPORT INTERNATIONAL and Hutter Dynamics, two PANOLIN customers who are already successfully using this service. One of these Swiss partners who successfully use the labeling service is the Stans-based company MONTANA SPORT INTERNATIONAL, a global supplier in the ski service sector. An international network of sales companies ensures that skiers and snowboarders worldwide can enjoy MONTANA ski preparation - more than 1,200 robots in the leading snow resorts around the globe take care of this. MONTANA is a globally recognized industry leader in the world of ski service workshops and continues to set new standards with its products, services and complete solutions. MONTANA's services range from ski and snowboard service, binding testers, storage and depot systems to climbing skins. Since the development of the first ski service machines in 1965, the company from the canton of Nidwalden has been the technological leader in the world of ski service workshops and system components required for the successful operation of ski rental. «This enables us to work together with our customers to implement the most economical solution for the support of winter sports enthusiasts», explains Pascal Arnold of MONTANA SPORT INTERNATIONAL. «We are counting on a long and successful partnership with our custom-

ers. 24-hour service and a high level of commitment are a matter of course for us.» The entry into ski service came in 1965 with the GM series. In 1976 MONTANA launched the world's first stone grinding machine Monty for ski service, which set the world standard for many years. Over the years, MONTANA has developed into the leading full-service provider for service workshops, rental stations and depots. Today, the most modern solutions for the storage of sports equipment are just as much a part of the product range as binding measurement technology. «This puts us in a position to supply competent and tested solutions from a single source, including the associated planning», explains Marketing Manager Arnold. With the products Crystal Onyx, Crystal Magic, Crystal Rock and Crystal One, MONTANA offers the optimum solution for every workshop size and also includes the respective PANOLIN product with the product when it is shipped. «Today, the rental business in particular requires efficient and fast service», explains Pascal Arnold. «The devices that are delivered in the evening must be ready for the customer the next morning.» PANOLIN supplies the company with extremely high-performance products in this area, such as MONTANA bed track oil and MONTANA pump oil. With a subsidiary in the USA and more than 30 representatives worldwide, MONTANA products are used wherever there is skiing. Lubricated with PANOLIN. According to current statistics, there are 5,539 ski resorts worldwide with 36,000 miles of ski slopes, which are served by 22,749 ski lifts. Most ski resorts are in China with 703, Japan with 547 and Germany with 498. The ski association Les Trois Vallées is located in the heart of the French Alps and describes itself as the largest contiguous ski area in the world with a total of 370 miles of slopes and 159 ski lifts. According to the Credit Suisse study, around 2 % of the world's population, i.e. 125 million people, ski.



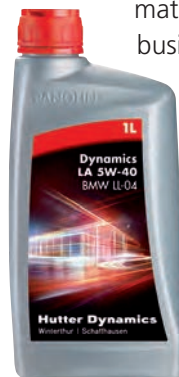
**Hutter Dynamics AG:** An eventful company history with beginnings in the Spanish Civil War under the motto «Tradition with a future».

## «We inspire mobile humans» – whom the hour strikes

**H**utter Dynamics AG is an independent family-owned company rich in tradition. It was founded in 1962 by Hans Hutter-Brunner and his brothers Arthur and Erwin and has been the official BMW representative in the greater Winterthur area since 1966. The car brands at that time were of English origin and bore names such as Morris, MG, Austin, Wolseley and Mini. The family business sold around 100 new cars in 1966. In 2018 there were over 1,300 at both locations. Today, Hutter Dynamics represents the BMW and Mini brands, and there are over 250 new and used automobiles, a customer service and a modern body shop with a plumbing shop and paint shop. With over 110 employees at the Winterthur and Schaffhausen locations, Hutter Dynamics is the market leader in the region. As owner Markus Hutter has been responsible for the quality, success and continuity of his company for over 30 years. He also represents the interests of motorists in various institutions in Switzerland - for example 11 years as National Politician of the political party FDP. A glance at the company chronicles shows an eventful history that took its course during the Spanish Civil War. The 24-year-old Hans Hutter decided to found an «ideal garage» together with his brother Max. The two Swiss brothers were in the middle of the Spanish Civil War and fought on the side of the Republic against the fascist troops of General Franco. From the beginning, the brothers dreamed of founding a car business. In their repair shop, the employees were to work together in partnership, with functional workplaces, fair working conditions and flat hierarchies. Thus the Hutter brothers wanted their ideals for a free society, which led them to Spain, to live on even in peacetime. They promised themselves: if one of the two brothers should fall, the other would continue the common dream on his

behalf. In July 1937, Max was killed by a shell splinter in his heart. So it was up to Hans to fulfill his promise to his brother. But in Switzerland, the police waited for him first, arresting him and depriving him of his civil rights. In 1947, however, the time had come. The Hutter brothers - Hans, Arthur and Erwin - founded the Riedbach garage in Oberwinterthur in 1947. In the following year the brothers took over the Renault agency. In the 1960s, when the first motorways were built and the number of vehicles in Switzerland reached the 1 million mark, Renault decided not to tolerate multi-brand garages any more. In 1962, the brothers founded a second company, Oberi Auto AG. On 1 July 1966, it took over the representation of BMW. Even the company founder, Hans Hutter was anything but a typical car dealership owner. His son Markus developed the idea further - and with Hutter Dynamics designed one of the leading car dealerships in northeastern Switzerland. His father's conviction was regarded by him as a role model and incentive: «The only alternative to the car is the better car, better coordination with the environment and the better car trade». The two family companies Hutter Dynamics and PANOLIN have been friends for many years and work closely together. Since autumn 2017, Hutter Dynamics has relied entirely on Swiss oil. «PANOLIN is a perfect match for our values. We are an innovative Swiss family business with sustainable quality products», says Hutter.

«These shared values result in a strong partnership and make PANOLIN an efficient partner when it comes to lubricants», explains Hutter. His company offers its customers 1-liter oil bottles - with official BMW approval - under the Hutter Dynamics label. «This ensures that the right oil - the so-called refill liter is always on the spot and ensures optimum lubrication.»





Private Labeling by **PANOLIN®**

DYNAMICS LA 5W-40



**Markus Hutter**, Managing Director, Hutter Dynamics AG



**Roland Rinderer**, Plant Manager, Resilux Switzerland AG



**PANOLIN ORCON®**

Various H1 lubricants  
for the food industry in use



**Resilux:** European market leader in PET bottles, the most important material in the packaging and textile industry, produces over one billion PET bottles in Bilen Switzerland alone.

## Resilux brings cooling

Last summer was perfect for the company Resilux in Bilen. Temperatures in Europe rose daily to over 90 degrees and everyone was looking to cool down. High temperatures, events like the soccer world cup in Russia, countless public events caused the sales figures of chilled drinks to soar. In the past year 977 million liters of mineral water were sold in Switzerland alone, most of it in PET bottles. Each inhabitant of Switzerland drinks an average of more than 30 gallons of mineral water per year. It's no wonder, Resilux AG in Bilen had to produce around the clock in three shifts last year as well. «We produce over 900 million preforms and PET bottles in various sizes, colors and designs every year», explains Roland Rinderer, plant manager at Resilux in Bilen. «Our 110 employees process more than 22,000 tons of granulate, more than 90 percent of which consists of recycled material.» This makes Resilux the largest customer for recycled PET in Switzerland. The globally active Resilux Group is a Belgian family-owned company headquartered in Wetteren/Flanders and operates production facilities in many countries. In total, the company produces over five billion small PET blanks and 500 million finished bottles annually. At the Bilen site, the company produces PET blanks, which are usually blown into bottles at the bottling plant. «This is not only more efficient but also more environmentally friendly than transporting the bottles in their original size», explains Rinderer. 90 percent of Swiss production is preforms, and around 10 percent is bottles that are delivered directly to bottlers. More than 50 percent of the deliveries are destined for Switzerland. The machinery is also made in Switzerland. «The automated machines are purchased from Netstal and the high-precision casting tools from Hofstetter in Uznach simply because of the short distances and maintenance response time»,

he says. «This is also one of the reasons why we cooperate with PANOLIN, because many PANOLIN lubricants are recommended by Netstal and have their approval; of course also those that are in use here», says Rinderer. «For a company that produces around the clock, we need a one hundred percent reliable, customer-oriented and flexible partner who can immediately help us with a problem», says Rinderer. «And it is also clear that the products supplied, such as the mineral oil-based hydraulic oil PANOLIN HLP PLUS or the H1 food grade PANOLIN ORCON HYD, also meet the very high requirements of our injection moulding machines in 24-hour continuous operation. And this over a very long service life.» PANOLIN offers a wide range of H1 food grade lubricants for the food industry. These lubricants are part of ORCON® line. PET beverage bottles are light, unbreakable and, thanks to these advantages, widely used. Consumers today bring around 90 percent of empty bottles to the collection points. Compared to new production, recycling reduces the environmental impact by half. Resilux supplies a wide range of PET preforms with a wide selection of weights, colors and sizes for a wide variety of applications. «The weight of the preforms varies between 10.5 grams and 121 grams. The preforms are used in the food, cosmetics and chemical industries. The packaging is filled with mineral water, carbonated beverages, edible oils, sauces, detergents, milk, beer and juices», says Rinderer. There is even a trend towards bottling wine in PET bottles. Several Swiss producers offer their products in PET bottles. The PET industry continues to optimize bottles today - for example, in terms of weight. 1.5 liter lightweight bottles for mineral water made from PET weigh just 30 grams today.



**Tafag AG:** An independent production company in the fields of rail and road vehicles, mechanical engineering and electromechanics. Winning and retaining satisfied customers as active references is Tafag's most important task.

## «We want the customer to come back, not the product»

**T**he visit to Alex Müri, owner and managing director of Tafag AG in Goldau, Switzerland begins hectically. After a brief greeting, Müri hears his telephone ring, hurries to his office, receives a call from a customer, briefly discusses a problem and then calls an employee internally. In the workshop, two employees are busy working on a new vehicle, while two other technicians are working on a special vehicle. Peace comes in many forms.

In the meantime, the visitor can study the pictures on the wall. A Tafag installation train in the Gotthard Base Tunnel. The 35 mile long railway tunnel is the longest tunnel in the world after the 37 mile long underground tunnel in Guangzhou. Tafag container modules or self-propelled working vehicles were in continuous use during pre-assembly and final assembly. «These Tafag products are used for various maintenance tasks around overhead contact lines, track systems and tunnel installations», explains Müri. The man from Central Switzerland explains that Tafag cars played an important role in this project. «More than 2,800 suspension columns and outriggers for the power system were installed in the two Gotthard tunnel tubes. The assembly parts, which weigh up to 330 lbs., were lifted to the correct positions with a high-performance magnet». Müri hurries back to his office and is just as proud of the cooperation of Tafag machines in many other construction projects, including the Lötschberg Tunnel, another very ambitious project in Switzerland.

Another Tafag product is self-propelled work vehicles, so-called VTms. The railway infrastructure requires numerous aids for the maintenance of overhead contact lines, track systems and tunnel installations. These working vehicles are adapted for each customer and equipped

with exchangeable platforms and various maintenance aids such as cranes, working platforms, cable laying equipment or inspection equipment. Tafag also offers two-way vehicles - pickups, transporters, Unimog, construction machines or trucks - of all weight classes in various sizes. Tafag combines basic vehicles, superstructures, working equipment and rail travel equipment into a tailor-made Tafag unit with all the necessary approvals. What is Tafag today, existing since 1968? Müri can summarise this in a few words: «We are an independent production company in the fields of rail and road vehicles, mechanical engineering and electromechanics. We are a lean, flexible and customer-oriented company. We provide top performance on a daily basis and continuously improve it. This secures our future.»

Tafag's customers are primarily Switzerland based. «We keep receiving enquiries from all over Europe, but the majority are Swiss customers. Because here we offer a service that promises the highest standard. We can be reached around the clock and are on site in Switzerland within one to three hours.» Tafag's motto is: «We want the customer to come back, not the product.» Attracting and retaining satisfied customers as active references is seen as the most important task.

Müri also has clear ideas when it comes to its suppliers such as PANOLIN. «Our suppliers are competent partners. We place the same high demands on them as we do on ourselves. We appreciate not only the high quality and environmentally friendly products of PANOLIN, such as the HLP SYNTH 46, but also the very customer-oriented service - a partnership that has existed for many years. This is why we also recommend the use of PANOLIN products to our customers.»



GREENMACHINE®

PANOLIN HLP SYNTH 46



Alex Müri, Managing Director, Tafag AG



GREENMACHINE®

PANOLIN HLP SYNTH 46





**La Machine:** Wingflapping Birds, Spiders and Dragon-Horses – the enchanting world of La Machine.

## «To build a moving object means to create living architecture»

In the 1920s, when more and more machine factories and shipyards in the harbor district of Nantes were forced to close, a unique project took shape: huge mechanical objects were created, linking the ideas and visions of Jules Verne, Leonardo da Vinci, the appearance of the Victorian era and mechanical engineering. The two brilliant artists François Delarozière and Pierre Orefice have created ideas in a retro look, inspired by Jules Verne. Since then, their creations have been brought to life in the workshops in Nantes and one in Tournefeuille. Many different professionals, artisans and craftsmen work here, from theatre and art to industry and cutting-edge technology. People and their skills are the essence of the creative process. «La Machine» - an incomparable collective of artists, engineers and craftsmen - build mechanical creatures out of wood and metal, reminiscent of the imaginary worlds of Jules Verne. Outside, you walk past a 40 feet tall elephant, on which you can even ride through the area, behind the entrance you look giant spiders and ants in the eye. The two designers decided to show the entire process, starting with the first designs by Delarozière, who explains: «To build a moving object means to create living architecture. Movement is the expression of life». From the outside, the guests can see at any time what exactly is happening technically with the «animals». The machines produced have become cult objects and today attract thousands of visitors to the exhibition sites. Since 2007, more than 5 million visitors have discovered the special world of machines. Inspired by Verne and da Vinci, a new artistic project has emerged. Like the «Big Elephant», the «Carousel of the Moon Marins» and the «Gallery of Machines», the «Arbre aux Hérons» is a project born of the imagination of François Delarozière and

Pierre Orefice. It will be completed in spring 2022 in the beautiful Carrière Chantenay, on the banks of the Loire River. Jules Verne! Who knows that Bretone, who was born in Nantes, was certainly inspired by his enthusiasm for technical progress and by many ideas and visions of future novels in the world of sailing ships, stomping steam engines and busy construction in the shipyard and port district of his hometown? The man, considered one of the founders of science fiction literature, spent the first twenty years of his life in Nantes. That was formative for his imagination and adventures. For example, Long Ma Jing Shen, this more recent creation, stages a «Dragon Horse» in Beijing to mark the 50th anniversary of French-Chinese diplomacy. Long Ma Jing Shen, accompanied by sounds and special effects, meets a giant spider. Delarozière created this extraordinary work, inspired by the Chinese legend of the goddess Nüwa. According to early Chinese mythology and after the creation of the world, she is the creator goddess of the human race. As the climate changed, she worried about the men she had created. She decides to send the spirit of the dragon horse to her envoys. With this she helps them to repair the sky. But the giant spider, the instigator of chaos, crosses the path of Long Ma and lays traps that Long Ma has to avoid. An incredible spectacle. La Machine and its characters and ideas are now perceived all over the world as an explosive, always surprising mixture that cannot be classified. So that the readers can get a picture: The Dragon Horse weighs 45 tons, is 12 meters high and 16 meters long and fights against a 33 ton giant spider. PANOLIN supplies the hydraulic, transmission and engine oil for the extremely technically demanding mythical creature. PANOLIN is proud to be able to accompany La Machine on its fantastic journey into the future.

**Brielmaier:** Where others stop, it really starts for a Brielmaier. Whether on an extreme steep slope, on a highway embankment that is difficult to maintain or in sensitive wet grassland – Brielmaier machines make work easier, safer and more efficient. And sometimes only possible at all.

## «Our products need a hydraulic oil that can withstand high loads»

In 1992 Martin Brielmaier faced a big decision. Should he take over a machine factory? He said yes and took over production and suddenly became a motor mower manufacturer. With a product that was good, but already aging. What next? He decided on a radical new development. «How would I build such a machine if I started from scratch», he asked himself, what was technically possible and sensible, and created a first mower that replaced almost all mechanical components with hydraulic components. The number of farmers and municipalities who deliberately bought a Brielmaier mower grew steadily because the advantages in operation and safety convinced them.

The Brielmaier mowers are optimized for use on steep slopes and in difficult terrain. One of the most important aspects of these machines is the low center of gravity. Comparable products rely on a mechanical gearbox beneath the engine. From the beginning, Brielmaier located its hydraulic pump and the associated hydraulic control block next to the engine. Due to this arrangement and the resulting lower center of gravity, its more difficult for this mower to tip over on a slope and considerably less force is required to hold the machine. It was a great success, but Martin Brielmaier never took a rest. The tireless inventor always saw further possibilities for improvement. The first Brielmaier machines were optimized for mountain use. There were various tires that were supposed to offer a little more grip, but for the steep slope technicians were always looking for better solutions. Grid wheels or metal rollers with welded-on pins seemed to be an advance, but what was gained in grip was lost with simultaneous damage to the ground. In 2005, Brielmaier introduced its patented spiked rollers with exchangeable spikes, which for the first time combined both desired characteristics: maximum grip on

the slope with minimum pressure to the ground. Today, Brielmaier aluminium wheels are regarded as the most mature and recognized first choice when it comes to working on slopes. In different widths and diameters, there is a suitable dimension for every application. Brielmaier develops the existing product range further: the impressive 12-meter duo machines are being tested. What helps mountain farmers, whose areas of application are extended and made safer, also helps wherever steep slopes or embankments still need to be processed. New areas such as landscape conservation and wetlands were added via the spiked rollers. Brielmaier products drive with wide to ultra-wide spiked rollers and reduce the ground pressure to fractions when compared to previous vehicles. Seven-row and nine-row rollers distribute the weight over a considerably larger area than any tire and, thanks to the rounded contact surface they are more gentle on the ground than any other technology. Brielmaier explains briefly why his company uses PANOLIN products. «Our machines need a hydraulic oil that can withstand very high loads during operation. We have tried out many products and have been very happy with PANOLIN for many years now», he explains, adding: «In addition, the product must be environmentally friendly and of high quality, so that it always works in every situation and every field of application.» PANOLIN has been in use at Brielmaier for 15 years. «We've never, ever had any problems with it.» The company uses PANOLIN engine oil 15W-40 as its factory oil and the high performance, biodegradable PANOLIN HLP SYNTH 46 as its hydraulic oil.

Due to constant growth, a lot of word-of-mouth propaganda and in the end, of course, mainly satisfied and convinced customers, Brielmaier has become the market and technology leader in its market segment.



GREENMACHINE®

PANOLIN HLP SYNTH 46



Martin Brielmaier, Managing Director, Brielmaier Motormäher GmbH



**The world champion** and PANOLIN ambassador in the motorcycle world uses PANOLIN not only on the race track, but also in his private life.

## «PANOLIN is an excellent product»

One of the great PANOLIN ambassadors in the world of motorcycling is World Champion Daisaku Sakai (FIM EWC Championship 2009). Born in 1982 in Osaka, Japan, Daisaku Sakai has been in the motorcycle business for a long time and has been riding his BMW S 1000 RR for the BMW Motorrad39 team for several years. In the 2018 season, Sakai raced in the FIM Endurance World Championship (FIM EWC). It is the world's highest long-distance motorcycle racing series and takes place under the umbrella of the Fédération Internationale de Motocyclisme. The World Championship consists of a series of races on permanent circuits and is an extremely exciting event that is broadcast worldwide on Eurosport. In this championship, both the motorcycles and the riders are put to the test in races from 8 to 24 hours. The FIM-EWCR has some features that set it apart from other motorsport events. Some of the races take place at night, including the 8-hour races. Another special feature is the spectacular standing start in the Le Mans Quadrant: The riders sprint across the track to jump on their motorcycles. These endurance races are a strain on both the riders and the machines. The teams consist of two to three riders, each driving a leg of the race before handing the bike over to one of their teammates. The season ended with the famous and prestigious «Suzuka 8 Hours» in the FIM Endurance World Championship. The long distance classic, which was held for the 40th time, is the most important race of the year for the Japanese manufacturers. Accordingly, they bring purebred factory teams to the start, with well-known drivers from international championships. Seven private BMW teams, including Daisaku Sakai with BMW Motorrad39, also took up the challenge on the Suzuka Circuit, supported by BMW Motorrad Motorsport experts. With an exceptional performance, PANOLIN Ambassador Sakai in Suzuka with his colleagues Damian and Alexander

Cudlin became the best placed BMW team. «I didn't have PANOLIN on the radar for a long time, but when we came into contact with our sponsor Okada (distributor of PANOLIN in Japan), we immediately used PANOLIN in tests and then also in races», explains Sakai. And what were the experiences like? «With a racing machine and a race as long as in Suzuka, the demands on the motorcycle oil are extremely high», explains the 36-year-old racer. «Unlike car engines, the oil circuit in motorcycles also runs through the gearbox and the oil bath clutch. Therefore, the demands on the oil are immense. This is because the engine oil is supposed to lubricate the oil running on top of each other, reduce friction, prevent premature mechanical abrasion and wear, have the right viscosity and ensure a constant and strong lubricating film», explains Sakai. And that for hours in the high-speed range. «I am enthusiastic about the performance of the PANOLIN product», says Sakai. «The temperature of the engine didn't get too high and the performance remained stable over the long distance. So we were able to be in the front of the field in the race. What I particularly like is that many PANOLIN products are sustainable and biologically quickly degradable», says Sakai. «We in racing also have to be careful about sustainable use, so that we can leave an intact nature to the next generation. That's why PANOLIN is an excellent product.» The fact that Sakai also uses PANOLIN privately shows that he really favors the PANOLIN engine oil performance. «Next to the race track I drive a BMW GS1200. At the last oil change I changed to PANOLIN and I am very satisfied with it». His mechanic told him that PANOLIN was like a gym for the bike. And tells the interviewer: «Write in the magazine that I advise everyone to use this «majestic» engine oil from PANOLIN. It fulfils all the conditions necessary for safe driving - including mine - and I am a professional racer!»



LoveYourBike

PANOLIN RACE 10W-50



Daisaku Sakai, World Champion FIM Endurance World Championship



GREENMACHINE®

PANOLIN TURWADA SYNTH 46



**Riga HES:** Six generators, each weighing 150 tons – renovation during operation.

# Alstom modernizes Riga HES plant in Latvia

In recent years, Feedback has already shown various impressive hydroelectric power plants that operate reliably with lubricants from PANOLIN. This issue goes to the north of Europe, to Latvia, on the Daugava River. The focus is on the Riga HES plant (Rīgas hidroelektrostacija). It was put into operation under the Soviet Union in 1974 and is now being completely modernized. Rīgas HES is located just within the southern border of Riga, in the city of Salaspils. The total installed power generation capacity is 402 MW. It's comprised of six generators, two transformers and two 330 kV power lines. To build Riga HES, a dam was constructed across the Daugava River through the center of the Doles Sala peninsula, half of which was flooded to make way for the Riga reservoir. In addition to its main purpose of maintaining the reservoir, it is also used for a motorway. Rīgas HES is an important part of the development of the Riga infrastructure. It is the city's main source of electricity, while the Riga reservoir is also a source of tap water for the majority of the city's inhabitants. In addition, the power plant serves as compensation for the thermal power plant TEC2 for voltage regulation in electrical networks and to compensate for undercapacity. The power plant is located 22 miles from the Daugava estuary. The French company Alstom, which became GE Hydro France, received an order from Latvenergo, the leading energy supplier in Latvia, for the modernization of 6 Kaplan blocks with a capacity of 69 MW each for the Riga hydropower plant on the 634 mile long Daugava River in Latvia. A new turbine, consisting of a turbine wheel hub and five turbine shafts, weighs around 150 tons. Although the installed capacity of the three Daugava plants is high, their ability to generate electricity depends on the water flow in the Daugava River. In years with normal inflow, the Daugava hydroworks are fully producing during the spring flooding period, which lasts about one to two months. During the flood period, the volume of water can increase more than 10 times compared with the low water periods.

During the spring tide, the Latvenergo Group can cover all its electricity needs and feed the surplus into the European grid. In 2017, the Daugava plants generated 4270 GWh of electricity. The Latvenergo Group continues the gradual overhaul of its hydroelectric power plants. The main objective of the conversion project is to replace the obsolete water turbines and increase output, efficiency and the amount of electricity generated. The conversion of the HES hydropower plant is expected to be completed by 2022. The total cost of the conversion of the hydropower plant is expected to exceed 200 million euros. The refurbishment will extend its lifetime by at least 40 years and increase its efficiency. The order of GE Hydro France includes the replacement of the 6 Kaplan turbines (axial flow water turbines with adjustable impellers), the two generators, a new control system and the ancillary equipment. With an installed base that accounts for a quarter of the world's hydropower plants, Alstom has extensive experience in the assessment and maintenance, retrofitting and upgrading of power plants in operation. Alstom Hydro helps plant operators, owners and investors reduce cost. The timetable for hydroelectric plant conversion is complicated: Repairs are only possible in the meantime, and it is important that only one plant per year can be upgraded. The work should be completed by April 1, 2022. The hydraulic and turbine oils of the PANOLIN HLP SYNTH and TURWADA SYNTH series have been used in many plants for over 30 years and are also used in Riga HES. 6 x 17,000 liters TURWADA SYNTH 46 (total 102,000 liters) and 6 x 12,700 liters TURWADA 46 (76,200 liters) will be used in the modernized plant. PANOLIN lubricants are used worldwide for the lubrication of turbines, generators and hydraulic steel structures and must meet high requirements. Longevity and safe operation even under adverse conditions are also a prerequisite for the conversion project on the Daugava River in Latvia.



# Masterpieces.



## **Locks at Mont-Saint-Michel with PANOLIN HLP SYNTH 46 – The mountain becomes an island again.**

The lock at the river Couesnon was replaced by a weir filled with PANOLIN in order to avoid siltation of the bay. Mont-Saint-Michel thus remains an island. The lock project was part of the plan to restore the Unesco World Heritage Site to its natural ambience. The French monastery island attracts 3.5 million visitors every year.

**[www.panolin.com](http://www.panolin.com)**

PANOLIN – CH-8322 Madetswil – Tel. +41 44 956 65 65 – [info@panolin.com](mailto:info@panolin.com)

**PANOLIN®** +  
Swiss Oil Technology