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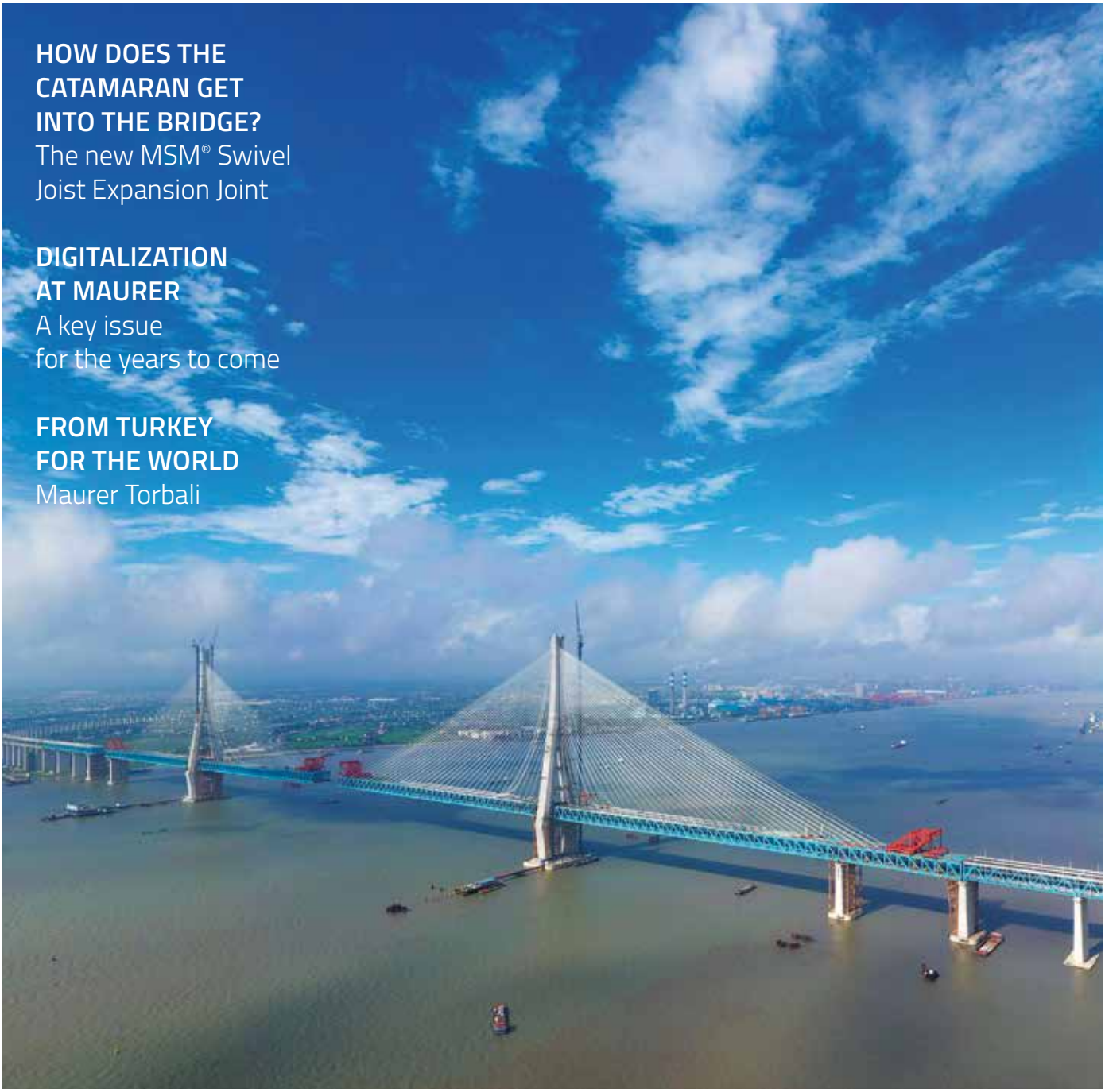

HOW DOES THE CATAMARAN GET INTO THE BRIDGE?
The new MSM® Swivel Joist Expansion Joint

DIGITALIZATION AT MAURER
A key issue for the years to come

FROM TURKEY FOR THE WORLD
Maurer Torbali

forces in motion

Dear readers,

We are glad to present to you the third issue of the MAURER MAGazine.

We all are looking back on difficult months, and the COVID-19 pandemic seemed to cover all other issues. Nonetheless, there were many crucial challenges, one of them being the advancing digitalization. Particularly in Germany, a lot remains to be done regarding this societal problem.

For a medium-sized company, an ERP system and a multi-lingual website are standard instruments by now. That also applies to us. We increasingly use digital networking in some business units to realize increased flexibility, interactivity, and meaningful interlinking of complex information, which is vividly illustrated in the article about our IT department.

For a year now, trade fairs and events have not been taking place with on-site attendance and have been replaced by online formats. This development prompted us to create a virtual showroom to be able to ensure customer proximity worldwide also in the future. Read more on this topic on page 38.

Our company depends on innovation. On pages 18 to 24, we present our most recent product development, the MSM® Swivel Joist Expansion Joint.

With kind regards from Munich,

Dr. Christian Braun

Max Meincke

MAURER || TOPICS

//IMPRINT

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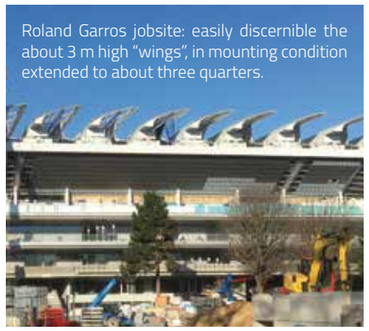
8-TON MASS DAMPERS FOR THE // TENNIS ELITE IN PARIS

New roof above the center court of Roland Garros must not vibrate.

Paris. At the next Grand Slam in Paris, the top matches will take place without breaks due to rain – thanks to a new retractable roof. MAURER equipped the slender steel construction with dampers which immediately respond to vibrations: to enable closing and opening of the roof without noise emission and to prevent material fatigue.

The roof consists of steel box girders, one of them fixed and the others movable. Each of them supports an approx. 3 m high, inclined and slightly curved "wing" serving as a rain shield. These wings make the tennis court rainproof within 15 minutes.



Roland Garros jobsite: easily discernible the about 3 m high "wings", in mounting condition extended to about three quarters.

For this reason, the ten steel girders were equipped with vertical vibration dampers (TMDs – Tuned Mass Dampers). Their mass counteracts phase-delayed the structural vibrations in vertical direction, thus reducing the vibrations by factor 2–8. To this end, each steel girder required a TMD with eight tons of vibrating mass – a master performance in view of the slender steel girder geometry.

The roof girders rest laterally on spherical bearings.

The new Hisingsbron in Gothenburg. Visible in the background: the previous bridge.

NEW CONSTRUCTION OF THE MOST IMPORTANT BRIDGE IN GOTHENBURG // REQUIRES CREATIVITY

Noise-reduced expansion joints with special "tunneling"

Gothenburg. The new Hisingsbron lift bridge in the center of Gothenburg was a real challenge for the development and assembly teams at MAURER. Long ramp constructions lead to the bridge, partly equipped with two roadway levels. The cross sections of the ramp provide up to five car traffic lanes, two streetcar tracks, four bikeways, two pedestrian ways and scenic view platforms. The total length of the bridge including access bridges is 460 m. Moreover, the required expansion joints between the structural sections must be watertight and noise-reduced and they must be usable for all road users in the area of the streetcar tracks.

MAURER developed a customized solution for the roadway expansion joints with a length of up to 43 m. Ten expansion joints from the one-profile XL1 up to the four-profile XL 400 bridge the gaps between the various bridge and ramp sections. The longest one has a length of 43 m. Because of the inner-city urban utilization goals, all expansion joints have been designed noise-reduced by means of welded-on rhomboid elements and ensure watertightness even in places where the streetcar tracks intersect the girder profiles.

The bridge is scheduled to be completed by the 400-year anniversary of Gothenburg in 2021. The corona pandemic caused delays, for instance since qualified technicians were not allowed to travel to Sweden without a quarantine time. Therefore, the first roadway expansion joints were installed in June 2020, additional joints are to be installed by 2021.

RECORD BRIDGE IN SHANGHAI WITH // EXPANSION JOINTS FROM MUNICH

Hutong Bridge on the Yangtze requires 36-m long expansion joints with longitudinal movements of 1,800 mm.

Shanghai, Munich. Once again, China has built a record bridge: since July 1, 2020, the Hutong Bridge with a length of 11 km has been connecting Shanghai at the south bank of the Yangtze delta and Nantong at the north bank. For the main bridge featuring a span width of 1,092 m, swivel joist expansion joints were required that allow for a movement of almost 2 meters in longitudinal direction at both bridge ends. The expansion joints were manufactured at MAURER in Munich.

The "Hutong Yangtze River Bridge" ("Hu" is the abbreviation for Shanghai, "Tong" for Nantong) is a combined railroad/road bridge. The double-decker bridge over the Yangtze delta is 11,076 m in length. The bridge deck consists of a steel framework girder with four embedded rail tracks, two of which are suitable for velocities up to 250 km/h (155 mph). On the upper deck, road traffic is moving on three lanes in each direction.

Two section bridges characterize the total structure: in the north, a 336-m-long steel arch bridge, in the south, the "largest" cable-stayed bridge worldwide. With a main span width of 1,092 m it is only 12 m shorter than the previous record holder, the Russky Bridge (Russia). The two 325-m-high pylons are the second largest bridge piers in the world, surpassed only by the Millau Viaduct (France). Since the road on the Russky Bridge features 4 lanes only, the Hutong Bridge in China has now been declared largest cable-stayed bridge in the world. All of the above-mentioned record bridges – Russky, Millau, and now Hutong – are equipped with expansion joints from MAURER.

Expansion joint with large transverse movements

Expansion joints are installed at the bridge ends to accommodate longitudinal movements of the bridge deck and dynamic structural movements. Long bridges naturally require large expansion joints – the larger the structure, the larger the expansion. In Shanghai, the width required for 6 traffic lanes is an additional challenge. Therefore, the two MAURER Expansion Joints type DS1800 feature 18 profiles and a length of 36.2 m each.

Besides the size of the structure, strong wind and rain loads at the Yangtze delta have to be considered, which is why the expansion joints – besides a transverse movement of ±50 mm – allow for a longitudinal movement of 1,800 mm.

Since the expansion joints could not be transported at full length, they were manufactured in Munich in two parts each, transported by ship to China in fall 2019 and installed and welded on site.

They were designed as so-called swivel joist expansion joints. The special feature of such joints is that they are movable in all dimensions: transversely and longitudinally to the direction of traffic as well as vertically. The eponymous parallel swivel joist expansion joints carry the overhead profiles. They run (except for the edge joist expansion joints) slightly inclined to the direction of traffic, thus ensuring that the tractive and translatory movements of the bridge are evenly allocated to the joint gaps between the lamellae.

Record bridge in China: the Hutong bridge featuring a length of 11 km with the central cable-stayed bridge with a length of 1,092 m

Bridge improves infrastructure

The new Hutong Bridge will considerably change the traffic flows in the regions around Shanghai and Nantong. The nearest road bridges are 40 to 45 km away, the nearest railroad bridge crosses the Yangtze at a distance of 200 km upriver. In this way, some regions could be connected to the railroad network in the first place. Travel time from Nantong to Shanghai is intended to be reduced from two hours to one.

Construction of the bridge started in June 2016. The expansion joints were installed at the end of 2019. The bridge was opened for traffic on July 1, 2020.

STIFTUNG MAURER SÖHNE // HONORS TWO MASTER STUDENTS

Promotion prizes for efficient simulation of ground-structure dynamics and wind excitation in high-rise buildings awarded to two master students at Technical University Munich

Munich. On September 9, 2020, "Stiftung Maurer Söhne" from Munich awarded the promotion prize for outstanding research work in the field of structural dynamics and structural mechanics to Thi Hoa Nguyen and Florian König. Every year, the foundation awards a prize for excellent scientific theses in the field of technical dynamics.

Award ceremony of the prize from Maurer Söhne Stiftung: award winner Thi Hoa Nguyen (center) with supervisor Dr.-Ing. Francesca Taddei (TUM) and Dr. Felix Weber (foundation)

In 2020, the award from Maurer Söhne Stiftung with a prize value of €2,000 was granted for two outstanding master theses. Thi Hoa Nguyen received a prize money of €1,000 for her master thesis "Efficient hybrid time-frequency-area method for non-linear, seismic-induced ground-structure systems". In this thesis, the ground-structure dynamics were examined in a one- and three-dimensional, linear, and non-linear manner by means of efficient algorithms. Prof. Dr.-Ing. Gerhard Müller and Dr.-Ing. Francesca Taddei from Technical University Munich (TUM) supervised the thesis.

Florian König was awarded with the same prize money for his master thesis "Investigation of the effects of structural and load modeling in wind engineering: case study of a generic high rise". He addressed the dynamic simulation of wind-induced vibration of high-rise buildings at model scale of wind tunnel tests and at the scale of the real building.

Professor Dr.-Ing. Kai-Uwe Bletzinger and PD Dr.-Ing. Roland Wüchner from TUM supervised the thesis.

The award winners were designated at the suggestion of the engineering faculty "Bau Geo Umwelt" of Technical University Munich. The Maurer Söhne Stiftung awards are usually presented on the occasion of a ceremonial act in the TUM, which, however had to be cancelled due to the corona pandemic. Instead, MAURER honored the prize winners at its headquarters in Munich during a seminar on their master theses.

Due to small budgets, universities are dependent on project research. Companies usually conduct research only in fields that are likely to result in product developments.

In contrast, basic research is entirely open and unbiased and independent of economic benefit. Today, this basic research comes up short, this being the reason why Stiftung Maurer Söhne promotes this sector.

Award ceremony of the prize from Mauer Söhne Stiftung: award winner Florian König (center left) with mentors PD Dr.-Ing. Roland Wüchner (left) and MSc Máté Péntek (right, both TUM). Dr. Felix Weber (second from right, foundation) presented the prize.

19 MN HORIZONTAL FORCES REQUIRE // VERTICALLY INSTALLED SPECIAL BRIDGE BEARINGS

Springs in the bearing core and special materials ensure long service life despite extreme loads through permanent contact of the sliding surfaces.

Munich, Pelješac. The Pelješac Bridge, situated at the picturesque Croatian coast, will become one of the most impressive cable-stayed bridges, however, it is politically controversial. From 2022, it is supposed to connect Northern Croatia with the south of the country, in particular the region of Dubrovnik. In bridge construction, however, seismic faults are by far more important than political upheaval: the region is an earthquake zone; thus, the bearings must be capable of accommodating large movements and high horizontal forces. For this reason, half of the bearings have been installed vertically. To this end, MAURER developed a special solution to ensure that no gaps can arise between the sliding surfaces. In this way, wear is reduced and a service life of at least 50 years can be achieved.

MAURER installed 32 spherical bearings. The 16 bearings for bridge guidance in longitudinal direction presented a particular technical challenge. They must accommodate high horizontal loads of up to 19 MN in transversal direction and have to be installed vertically. To this end, MAURER developed special bearings featuring disc springs in the core.

As a basic principle, MAURER uses MSM® (MAURER Sliding Material) as high-performance material on all sliding surfaces. Compared to customary Teflon (PTFE), it can stand at least twice the structural load.

September 2020: View onto the Pelješac peninsula. The bridge is scheduled for inauguration in 2022.

The Hospital de Tláhuac shortly before commissioning. Clearly discernible are the three buildings sharing one platform. The seismic isolators are installed underneath the platform.

FIRST HOSPITAL WITH // SEISMIC ISOLATION IN MEXICO CITY

243 isolators from Brazil, Turkey, and Germany protect the Hospital de Tláhuac.

Mexico City. The subsoil underneath Mexico City can be imagined as a giant piece of Jell-O: it magnifies seismic shocks. For this reason, a hospital in the 9-million metropolis was equipped with a special seismic isolation made of elastomeric bearings for the first time. With its extensive know-how, MAURER was already involved in the planning phase and supplied 243 isolators, mainly lead rubber bearings.

The hospital was inserted into a huge rigid concrete trough in order to prevent subsidence of the structure. Inside the trough, 243 seismic isolators were installed. On top of them, a concrete platform was built which forms the base on which the hospital with its three individual buildings was erected.

Considering the specified local seismic accelerations, the calculation showed horizontal displacements of ±1 to 1.2 m inside the seismic isolators – too much for a building.

The solution was a combination of several measures. The isolator system accommodates a large share of the seismic energy through elastic displacement of the isolators, and a further share through plastic deformation of the inner bearing cores. In summer 2020, the Hospital de Tláhuac passed a first test during a 7.5-magnitude earthquake when the structure of the building was already completed. The inspection after the earthquake showed that isolators and building responded precisely as anticipated. There were no damages, neither to the building nor to its interior.

The narrow 3-month timeline presented an additional challenge for production, testing, and delivery of the isolators. Hence, MAURER split the production on three works for parallel manufacture. 162 lead rubber bearings came from Torbali in Turkey, 70 from São Paulo in Brazil, and the 11 spherical bearings from the company headquarters in Munich. The bearings were installed from October to December 2018.

One of the 243 lead rubber bearings between the upper concrete platform and the lower concrete trough. Clearly visible are the ring-shaped deformations of the elastomer due to elastomer-steel plate layering.

THE MAN AT MAURER WHO HAS //SOUND DIGITAL KNOWLEDGE

The binary contrast between Friesland and Upper Bavaria may not be as big as that between 1 and 0; however, Kai Schittko draws sufficient excitement for his diversified job from both of them.

Mr. Schittko, how long have you been working with MAURER?

Kai Schittko: "I've been working as head of IT with MAURER SE in Munich for almost five years. One of my first major tasks was assuming the overall project management for the implementation of a group-wide ERP system.

From a strategic point of view regarding the future digitalization strategy, this project was an ideal first step for me to get to know the company down to the last detail. Since my first day with MAURER, I've been busy with advancing the modernization efforts of the corporate IT regarding applications, processes, and infrastructure."

Please give a short description of your work. What does a typical working day look like?

K. S.: "My working day starts with routine tasks such as checking the monitoring and ticket systems for any system-critical incidents and handling internal and external e-mail inquiries regarding ongoing projects and problems from the daily business of the respective corporate business areas.

Naturally, tasks arise as a result, which I subsequently coordinate and prioritize jointly with my team or, if applicable, with external partners. My working days are very busy with a variety of tasks and new issues, in which I give support as a sparring partner and an expert with a problem-solving approach."

How big is the IT department, what sites and tasks does your team look after, and what are the strengths of your team?

K. S.: "Our IT is centrally located at our Munich site and consists of a small, powerful staff with 9 co-workers and one department manager, split up into two teams. Half of them deal predominantly with our corporate ERP application landscape, and the other half with the classical technical IT infrastructure issues such as networks, servers, desktops, telephony, and IT security.

Each team member has sound all-round knowledge and is therefore capable of managing a variety of different IT systems. From Munich, the IT supports our locations in Lünen and Bernsdorf as well as our locations abroad in certain tasks."

read more >

KAI SCHITTKO
// IT MANAGER DIPL.-ING. (FH), MBA

- Born in Aurich (Eastern Friesland), since 2005 domiciled in Erding/Bavaria
- Secondary school leaving certificate, vocational training as a machine fitter, thereafter studies of systems analysis/business information systems via second-chance education at the University of Bremerhaven, and later MBA studies in England at the University of Gloucestershire
- Since 1995, various IT management positions, domestic and abroad, with a focus on ERP implementation, process optimizations and modernization of complex international IT infrastructures
- In 2016, change of employment to MAURER SE as IT manager
- Overall project management and implementation of a new group-wide ERP solution
- Modernization of the IT infrastructure and reorganization of the IT department towards a process-oriented IT service organization
- My personal motto: I want to advance companies through clever IT solutions.

What captures your imagination in your job and with MAURER?

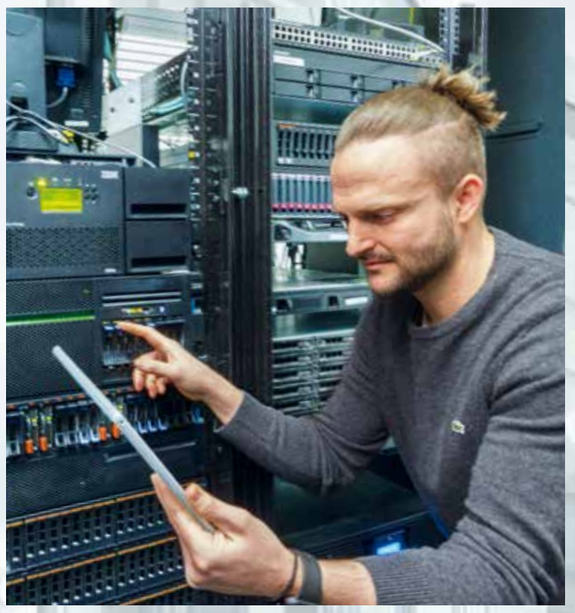
K. S.: "Assuming the overall IT responsibility in a large company such as MAURER is a true dream job. The unlimited variety of topics and the strive for perfection to reframe the IT for such a big company is challenging and requires continuous learning and rethinking of the current situation. Changes related to new IT applications and operating cycles call for a great deal of patience and empathy as well as continuous exchange of ideas with the respective departments within the company. Thanks to the outstanding support given by the corporate management and the good cooperation with the department heads you can really make a difference here."

What are the biggest challenges in your daily work?

K. S.: "I think the biggest challenge is to stay on top of things since many conditions have changed in the IT environment at MAURER in the course of the last years. Especially the integration of the process chains in the most different business applications, across many interfaces and complex ERP functions, requires constant alertness, control, and adaptions to the workflows.

The interaction with external partners and outsourced cloud functions needs continuous support as well. I think that the huge number of tasks partly paralyzes our IT and unfortunately delays a project or two. In any case, the staff in our IT have to meet high demands due to our rather small IT department.

In 2020, the universally known corona pandemic presented another challenge since completely new tasks associated with home office connection, video, telephony, and chat infrastructures had to be dealt with. However, right from the start of the pandemic, we have successfully established all necessary measures."



What does your cooperation with the individual locations and departments look like?

K. S.: "The IT department maintains close contact with the users at all locations. We communicate a lot via e-mail and various video and chat systems. Cloud services such as online tasks lists and project plans support our cross-departmental project teams, partly in cooperation with external business partners.

There are already considerations to harmonize many of these online platforms towards a large MAURER communication platform, in order to improve the cooperation with our locations abroad in the future."

How important is digitalization at MAURER, for instance, with regard to home office and video conferences, and how will the company position itself in this field?

K. S.: "Digitalization is on everyone's lips and surely one of the defining key issues for the MAURER Group in the years to come. Our digitalization strategy commenced five years ago with the implementation of a new group-wide ERP solution.

We have managed to replace many isolated applications and manual data capturing by a uniform system environment with intelligent interfaces to CAD and PDM systems. Manufacturing now reports online to BDE terminals, the drawings are viewed on screen, and the stock rotations as well as the results of quality checks are captured with mobile terminal devices. Meanwhile, communication is often made through video telephony and shared screen content so that we were able to achieve a significant reduction of costly business trips and meetings.

Digitalization will cause many operational workflows to develop in the course of the next years. The urge for digitalization and unrestricted access to corporate data also bears risks which we have to face. Meanwhile, the topic cybersecurity is part of business as usual."

From your point of view: what are the strengths of MAURER?

K. S.: "MAURER is a medium-sized company with a strong tradition, and today is one of the technological world market leaders in its special fields. The traditional informal atmosphere and short decision-making channels are ideal prerequisites for innovative product developments and successful customer projects. Cooperation and mutual understanding surely are a great advantage when it comes to major internal IT projects and enable faster implementation."

What could MAURER do better?

K. S.: "I think that in the near future it will be necessary to boost an integration of the IT processes and systems. Surely, in the past this topic was not addressed as much as it should have been, and we will have to catch up on that shortly. With the help of new communication platforms, on which telephony, video conferences and project file storage can be consistently organized, a growing together of the international locations with the company headquarters will be speeded up considerably."

Can you make time for hobbies, if so, for which ones?

K. S.: "Managing positions in IT demand a lot from you. I've been trying time and again in the course of the years to get sufficient recreation and relaxation to compensate for stress. Besides my family and our family vacations, I try to constantly do sports, like, for example, gravel biking, tennis, running, and fitness training. I realized that endurance sports always contributed to getting my energy back and to counteract stress."

ONE FOR ALL
// ALL FOR ONE

Our three Dutch musketeers accept every challenge and are always good for an optimum MAURER solution, also on the jobsite.

Reconstruction of bearings at Galecopper Bridge

JEROEN MELIEF //OPERATION MANAGER MAURER NL

- Born in Tilburg and raised there, attended secondary school in Tilburg
- Vocational training as an architect at Technical University Eindhoven
- From 2008 to 2012 3D draftsman and construction manager at AaDee Stahlbau
- Since 2012 construction manager at MAURER NL
- Since 2019 operation manager at MAURER NL
- Fascinated by MAURER special solutions for roadway expansion joints and bearings. Standard is standard, but for MAURER, a special solution is standard.
- Motto: "Our added value for the customer is high quality, service, and flexibility. That's how we score!"

Mr. Melief, how long have you been working with MAURER?

Jeroen Melief: "I've been working with MAURER since June 1, 2012."

What are your tasks? What does your working day normally look like?

J. M.: "Since July 1, 2019, I have been plant manager at MAURER NL. Before that, I was construction manager. None of my working days resembles the other. Essentially, my tasks are to issue offers and implement orders in close cooperation with MAURER in Lünen. Since we are a small but really very nice team here at MAURER, I often go to the construction site with my colleagues, and I like it. It is easier to decide what to do when you are on the jobsite, and usually our customers are there, too. For me, this is the best opportunity to meet with the customers. And since these contacts are that important to us, my job is not a typical 7 to 5 job, but rather includes overtime work."

How large is MAURER NL and what are the strengths of your team?

J. M.: "Like I said, we are a small team here in the Netherlands, very small, only three employees. However, we like it very much to work together. Everyone knows what it is all about and where we are standing – with every project, for every customer. If problems arise, I can find a solution, and so can my colleagues. It goes without saying that this requires real flexibility and full trust. We are there for each other, we know from each other what is going on – both at work and in the private sphere."

What captures your imagination in your job and with MAURER?

J. M.: "In the Netherlands, MAURER is the specialist for expansion joints and bearings. By comparison to our competitors, we are a bit more expensive. On the other side, our customers know well what added value we offer. We supply products and solutions with which our customers do not feel unattended and that support them in their daily work.

It's precisely these requirements that motivate me for my work at MAURER. Especially when it comes to the cooperation with Germany, our technical department, and know-how, we know well how to score."

What are the biggest challenges in your daily work?

J. M.: "Every task is a challenge per se. Whether it is about the safety regulation for a workplace, where Germany is really behind the Netherlands, or about new solutions for special requirements, we have a reputation for fast and appropriate action and finding solutions jointly with the customer."

Bart Zieleman, construction manager at MAURER NL and Elise Gijsberts-Bassa, order processing and industrial safety (SCC-ISO) at MAURER NL

What are the differences between the Dutch and the German market, what is particularly Dutch? Are there any differences in terms of corporate culture and working methods?

J. M.: "Astonishingly enough, the differences are really big. Whereas in Germany the process often has a structure in which everyone takes over the part he is assigned to and is responsible for it, we in the Netherlands are responsible for the entire process and all activities when assembling the roadway expansion joints. We do not only install the steel construction but are also responsible for the demolition work, the installation of the reinforcement, the formwork and the concrete. Even if we commission subcontractors for this work, MAURER remains responsible, and we have to supervise the work.

Furthermore, we are accustomed to stepping in if required, and to postpone or adjust work, if necessary. It is normal for us to work simultaneously with several parties in project management. All activities are optimized both in terms of time and work in such a manner that, for instance, road users experience as few inconveniences as possible. With us, there are no road closures causing umpteen kilometers of traffic jam because only a few people are working. That would be impossible in the Netherlands, simply because fines would have to be paid."

From your point of view: what are the strengths of MAURER?

Reconstruction of bearings at Galecopper Bridge

J. M.: "MAURER stands for know-how and experience, for high quality also with standard bearings and expansion joints so that they can meet the high requirements time and again. That also becomes apparent in documentation and after-sales service. In this respect, we are much better than the competition and can gain the customer's trust."

What could MAURER do better?

J. M.: "Our competitors are wide awake. Where we still work with technical drawings, competitors already show their solutions in 3D animations. We rely on our successes while others look under every rock and pursue new paths. What I want to say: we develop many good things, but we have to continue to be progressive and innovative if we want to keep this special rank and promote customer loyalty."

Given all this engagement, can you still make time for hobbies?

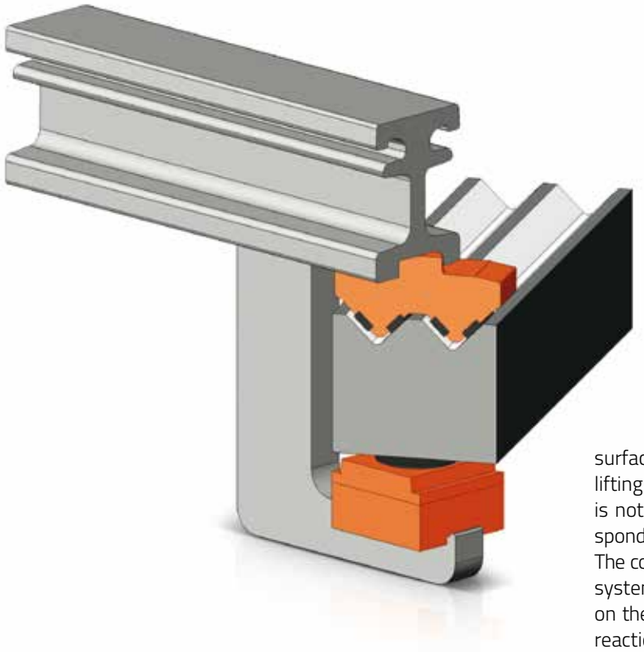
J. M.: "Yes, of course, when I get home, I take a walk with my family in the countryside, work in the garden, or watch a film once in a while. But quite honestly: I can't sit still. I never could, and that's not likely to change."

Subsidiary in Culemborg, MAURER in the Netherlands is still Maurer Söhne.

THE NEW MSM® SWIVEL JOIST EXPANSION JOINT, OR

//HOW DOES THE CATAMARAN GET INTO THE BRIDGE?

It is quite interesting what comes to mind regarding the innovative new development of a MAURER Swivel Joist Expansion Joint when swirling a fine glass of South Tyrolean red wine. Provided one is Christian Braun and the Managing Director of an engineering-driven company.



Dr. Braun, our topic is the new development of the MSM® Swivel Joist Expansion Joint – what is so special about this product?

Christian Braun: "MAURER Swivel Joist Expansion Joints are the international flagship of the company and have been used in road bridges for almost four decades as roadway expansion joints in lamella design. They distinguish by their degrees of freedom and their universal applicability. At medium-scale movements, this construction design is rather expensive in competitive comparison. The special feature is the support of the lamellae via guided elastomeric bearings, in which horizontal and vertical impacts are transferred separated from each other via the load-bearing structure like in a guided bridge bearing. However, in a bridge bearing, the constant vertical loads are very high, and the constant horizontal forces in the guidance devices are low.

It is just the opposite with bearings in roadway expansion joints. Therefore, especially the guidance devices of roadway expansion joints have to be particularly easy-sliding. However, due to lack of space, the geometric options are limited and due to changing loads, the sliding surfaces cannot be prevented from lifting off. Continuous lubrication is not possible, resulting in correspondingly high sliding resistance. The consequences in already known systems are poorer control, wear on the sliding surfaces, and higher reaction forces in the structure. You know the "drawer effect": slightly tilted, a drawer can hardly be moved. Therefore, it is often placed on guide rails that facilitate the use.

In 2019, we have done research on the combined transfer of vertical and horizontal forces via roof-shaped sliding elements for swivel joist expansion joints as an alternative to the previous support. The benefit of this solution is that the sliding surfaces are under constant pressure, like in a bridge bearing, so that no gaps can occur in the sliding surfaces. This is the prerequisite for the use of our proven MSM® Sliding Material with long-term lubrication.

The result of this development is the MAURER MSM® Swivel Joist Expansion Joint offering the following key benefits:

- enhanced control through the use of permanently prestressed MSM® sliding surfaces,
- longer service life,
- facilitated assembly through springs without guidance,
- less space requirement through altered crossbeam position and construction details,
- enhanced corrosion protection through adjustment of crossbeam manufacture;
- cost reduction by up to 20 % through altered manufacturing processes, use of other materials, and larger permissible distance between the boxes;
- shortened manufacturing times."

Are there any similar products on the market?

Ch. B.: "As yet, this type of support of lamellae in expansion joints is not known. Therefore, we have filed a patent application for this new design. In contrast to the MAURER Swivel Joist Expansion Joints, all other roadway expansion joints in lamella design available on the market are controlled by means of series-connected plastic springs. The disadvantage of this solution is that control deteriorates with increasing number of sealing profiles and aging of the springs."

What has a catamaran to do with this type of roadway expansion joints?

Ch. B.: "The catamaran support is the result of a metamorphosis. Proceeding from the existing support in the shape of an upside-down U, the idea emerged to replace it by a roof, that means an upside-down V.

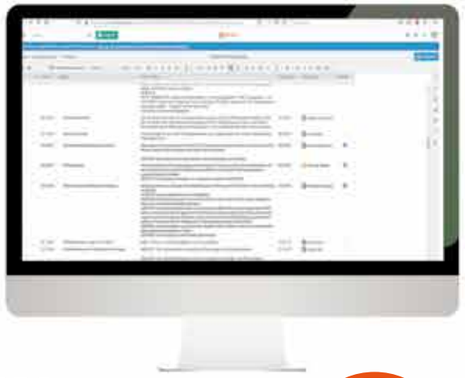
DR. CHRISTIAN BRAUN //MANAGING DIRECTOR MAURER SE

June 30, 1959	born in Brixen (South Tyrol) and raised in Brixen, Bruneck and Meran
1978 to 1987	in Innsbruck
since 1987	in Germany, first in Munich, since 1989 in Holzkirchen
since 1986	married, 2 children
1978	studies of Civil Engineering at Innsbruck University – thereafter doctorate in Technical Sciences at the same faculty
1984 to 1987	university assistant at the Institute for Steel and Wood Construction of the Faculty for Engineering Services at the University of Innsbruck
since 1987	executive at MAURER SE, formerly Maurer Söhne GmbH & Co. KG
until 1991	head of the Technical Office, thereafter sales manager
since end of 2001	Managing Director

Right of the Hirzer in the Passeier Valley. In 1970, I was up there for the first time; since many years, it is obligatory around All Saints' Day. In 1995, the annual Braun Alpin Tours started there with a couple of MAURER colleagues and business friends, for instance, to the Similaun in the Schnals Valley (left) in the footsteps of Ötzi.

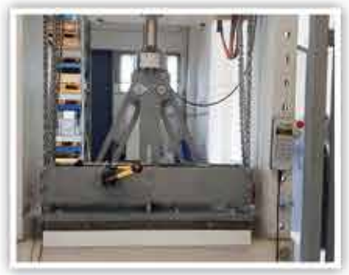
Jan. 22, 2020

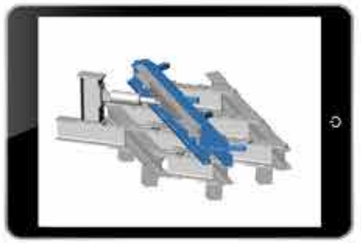
First sketchy representation of the MSM® Prism Guidance



The Smartsheet project planning tool was very helpful in the entire process.

The metamorphosis





SolidWorks representation of the expansion joint design in 3D

The Rio-Andirrio Bridge, or officially Charilaos-Trikoupis Bridge, is a road bridge in Greece across the strait of Rio-Andirrio and a MAURER reference.

For the sake of better force flow, a regular V emerged from that, and then a double V, that means a W, due to better stability and easier installation. This type of support is known from mechanical engineering as prism guidance. However, the perfect features of this type of support are much better described by a pictorial analogy to the catamaran, which likewise slides over the surface with stable guidance, tilt resistance and almost resistance-free."

What is the benefit for the customer or the construction project?

Ch. B.: "The customer receives a roadway expansion joint which enables all movements of the structure almost restraint-free, with a higher service life, at a more favorable price, with lower space requirements and less reaction forces at the structure."

What are the costs for such a design for a medium-sized highway bridge?

Ch. B.: "A road bridge costs approx. 2,000 euros per square meter of traffic surface. The cost of a MAURER MSM® Swivel Joist Expansion Joint amount to approx. 1% of the acquisition costs for the entire structure. A crucial point is that during the assumed service life of a bridge of 100 years, maintenance costs of up to 20% of the acquisition costs mentioned above may arise with roadway expansion joints of poor quality, and that only because maybe 0.3% have been saved in acquisition. We assume that the maintenance costs of a MAURER MSM® Swivel Joist Expansion Joint are about 3% instead of the aforementioned 20% with conventional roadway expansion joints."

What does the development process at MAURER look like in general, how much time does it take from the first idea to the product?

Ch. B.: "That may be months up to many years. This is partly a consequence of the complexity of the problem but is mainly due to a not always consistent processing, which is often caused by the – fortunately – high workload in daily business. The project MSM® Swivel Joist Expansion Joint is, with predicted costs of 1.5 million euros, the largest yet most quickly realized project in my 34 years of company service."

How long did the development process of this structure take?

Ch. B.: "Since the adjustment of the sliding support – quite simple taken by itself – has impacts on all components, adjustments were currently made for the improvement of workplace safety in final assembly of the structure, and pricing pressure on the market strongly required rationalizations, a company-wide project team was founded that – based on the idea of roof support – carefully examined and optimized all components of the MAURER Swivel Joist Expansion Joint.

Generally, 15 experts from all disciplines presented, discussed and improved results every other week over a period of one year. The project was named "Soliman", hopefully the paragon for a future-oriented, successful project for a long time, which all stakeholders from MAURER have enthusiastically backed.

The second half of 2019 was dedicated to discussion of the basics. Our development manager, Mr. Distl, and I first had to get a detailed understanding of the swivel joist expansion joint's system behavior. We gained some surprising insights by challenging in an unbiased manner what has been prevailing for a period of forty years. Throughout the entire year 2020, the project group worked in a targeted manner and made the essential decisions for the adjustments resulting from that. Starting with sample orders, the finishing touch, standardization, introduction in the company, marketing, as well as the elaborate process of building inspectorate approval will take place in 2021. So, we have not yet achieved our goal."

Please permit me to ask: how come that the Managing Director takes over development work? Is that possibly your hobby?

Ch. B.: "As early as at the time I worked at the university, I have dealt with the fatigue strength of roadway expansion joints from MAURER, which means this product has been accompanying my entire professional life.

You might say that I have a penchant for technology and development, in the sense of passion, but it surely is also a strength in the sense of competence. Fortunately, the size of our company permits executives, too, to engage in specialist subjects instead of merely performing administrative work. Yes, indeed, product development is a hobby of mine, the idea of the catamaran was born on a Sunday evening in January 2020 with a glass of red wine in my hand."

Were tests conducted, and, if so, where and what kind of tests?

Ch. B.: "There is a variety of tests to be performed to justify a roadway expansion joint, for example:

- Fatigue tests at all connections of the steel construction
- Load/deformation tests at the support elements
- Sliding and wear tests at the sliding elements
- Rollover tests at installed test joints
- Laboratory tests on systems behavior
- Tightness tests

Tentative experiments are performed in-house, applicability tests at various universities, for instance, in Munich, Stuttgart, and Karlsruhe."

Is there a strong competition for these products and does "made in Germany" influence the decision to purchase worldwide?

Ch. B.: "The competition is manageable, albeit very tough. As a rule, MAURER products are more expensive in comparison, we are the so-called "pharmacists". Since the decision to buy is mostly made by a construction company, it is crucial what the building owner, mostly a public one, requires in the specification.

Therefore, the demand for German or European assessments is more important than 'made in Germany'. This is why a regular test by the Ministry of Transport, 'TL/TP FÜ', or a European Technical Assessment, ETA', is of utmost importance. We are competitive, if the customer demands our technical standard, and this is to be proven by a certificate issued by an independent institution."

Did the last months with the coronavirus have tangible effects on your company and your line of business?

Ch. B.: "When disregarding our Ferris wheel 'umadum', we have managed the crisis quite well so far. In Germany, the tender pile-up at the newly founded highway association is concerning us much more than corona. In some countries, namely in China, the personal contact in order to generate new orders is missing. All in all, we are eating at our capital as far as our business relations are concerned, in the long run, the missing contact options will surely cause damage. On the other hand, we have learned something new. For instance, the online meetings for the Soliman project were more efficient than our meetings in the large conference room. And most likely we will refrain from some business trips, both to the benefit of our own health and the environment."

What captures your imagination in your job and with MAURER?

Ch. B.: "I love to be an engineer, preferably work creatively and independently, and I love to cooperate with people inside and outside the company.

I also have fun in my work in the international standardization bodies. MAURER offers ideal prerequisites for that. As a family-owned company, MAURER has short decision-making channels and flat hierarchies. All disciplines from development to design, manufacture through to assembly are under one roof at MAURER. As an engineer, you think about something, you see it in practical use, and you can propagate it. The actually inconspicuous products bear our name; they are unbelievably versatile and fascinating. They are used in prominent structures all over the world. And MAURER enjoys an outstanding reputation.

When starting my career, I was afraid of the niche. After 34 years with MAURER, I know that I made the right career decision."

After this conversation, we are convinced of that, too.

The Millau Viaduct is the bridge of the autoroute A75 across the river Tarn. Original design by Michel Virlogeux and creatively developed by Norman Foster.

BODIES // IN MOTION

Only what stretches will not break under stress

Lack of space and expandable under high stress. What sounds like the requirements specification for our new swivel joist expansion joint also applies to our MAURER Resistance band. Seriously – it could as well be called the smallest gym in the world. It fits into any bag and is always available when you want to improve your fitness. **By the way: the resistance band is not the only article from our MAURER Active Line.** Already in the past, we have included articles from the sports and leisure area in our portfolio such as the MSM® Stress Ball.

LIFTING A SUITCASE

Stance: Take a shoulder-width stand with slightly bent legs. One foot rests on the resistance band. The hand on the same side holds the other end of the resistance band. The upper body is tilted towards the resistance band side and the resistance band is stretched.

Exercise: Raise the upper body against the tension of the resistance band. The chest is forward-facing (do not twist the upper body!).

VENOUS PUMP

Stance: Sit upright on a chair and step onto the resistance band with one foot. Keep both ends in your hands.

Exercise: Lift and lower the tips of the toes against the resistance of the resistance band (attention: the resistance band must not slip off the foot!).

BLOWING THE BELLOWS

Stance: Take a one-leg stand and step into the resistance band with one foot. If you feel uneasy standing on one leg, you may lean your back against a wall.

Exercise: Bend and stretch the leg in the resistance band as if you were blowing the bellows. Keep the resistance band under tension at any time!

STEP

Stance: Tie the resistance band together and put the loop around your ankles. Stand upright with slightly opened and bent legs and lean towards a table, a chair or the wall to support yourself during the exercise.

Exercise: Move one leg sideways, forward, backwards and let it slide back to the initial position short of the ground. The body weight rests on the supporting leg.

LIFTING TRAINING

Stance: Take a step position with straight upper body bent forward. The foot in front position rests on the resistance band. Hold the resistance band with both hands.

Exercise: Straighten up with the upper body in upright position and bring your hands to the chest.

ARCHERY

Stance: Take a small step position and keep one end of the resistance band in each hand. Straighten the arm on the side of the leg in front forward at shoulder height! Keep the other arm bent at shoulder height.

Exercise: Take the elbow of the bent arm backwards at shoulder height. Take the shoulder slightly along (as if you were bending an arch).

REBECCA LUJANO

//PROJECT MANAGEMENT ASSISTANT CONTRACT PROCESSING

Having a plan is good – surveillance makes it even better. *MAURER is not only a global player; we are also glad to get new employees, like Rebecca Lujano from Mexico City, enthusiastic to join our company headquarters in Germany.*

Ms. Lujano, how long have you been working with MAURER?

Rebecca Lujano: "Not that long, actually, I joined MAURER in September 2020."

In which department do you work and what is your task?

R. L.: "In contract processing, we take care that the products arrive at the customer correctly and on time. After I have received an order from sales, I check all conditions and documentations that have to be issued before project development such as advance payment invoices, letters of credit, and warranties. In parallel, I issue the plan – depending on the conditions and standardizations of the contract or the quotation – in accordance with the deadlines of the individual processes in standard processing time (technical office, preparation of work, manufacture and shipping). Thereafter, I check day by day whether each individual project stage reaches the process flow in due time. In case of deviations, I try to find a solution to make just-in-time delivery possible."

What captures your imagination in your job and with MAURER?

R. L.: "Since my studies, my professional career has been taking place in project control.

What is new and exciting for me with MAURER is the big topic of regulations and documentations for the export business. It is that interesting because this topic has been fascinating me since my diploma thesis about export – import; in this field, I see a future for myself, maybe even a business idea of my own."

What are the biggest challenges in your daily work?

R. L.: "Despite all routine, despite all practiced workflows and quality standards, so many unpredictable things happen that daily control of the processes is mandatory to comply with delivery times."

What are the most important personal attributes that are indispensable for your area of responsibility?

R. L.: "The ability to think beyond check lists and experiences made, and to look for solutions instead of recriminations. To enjoy working in a team, since finally we all are MAURER and pursue a common aim. To achieve that, everyone needs everyone."

Are there any funny situations in your daily work?

R. L.: "Oh yes, many of them; right from the start, I got myself used to begin my e-mails in German with a smiley to forewarn the others."

»Since all of us pursue a common aim, everyone works for everyone here.«

From your point of view: what are the strengths of MAURER?

R. L.: "Aside from the quality of the products I have ascertained that many colleagues have been working for MAURER for a long time. That impresses me since it shows how safe a workplace here actually is."

Can you make time for hobbies, if so, for which ones?

R. L.: "Yes, currently it's just biking and learning German. It might not sound that way, but I do love learning foreign languages. Who knows, maybe I'll give it a try with Italian in five years' time."

ERNST HUBER

//PRODUCTION PLANNING SPECIALIST

Marry young and you'll never regret it. *For more than 140 years, MAURER has been existing in Munich, and for 40 years, Ernst Huber has been with us. About a colleague who most likely knows everything but is still eager to know something more.*

Mr. Huber, how long have you been working with MAURER?

Ernst Huber: : "Um, let me think ... on September 1, 2021, precisely 40 years."

Well done, that's a long time. We assume you have experienced and done a lot at MAURER. What is your primary task by now?

E. H.: "Well, there's not just one, and giving interviews is least of all among them. Among my tasks is a whole bundle of planning and implementation of interdependent processes.

When a new project comes onto the agenda, the manufacture of a new MAURER product, my first task is to issue manufacturing documents. I have to determine the workflows in the workshop, determine planning and target times, and program the various machines in the plant. Of course, I don't do that at discretion alone, but I consult with my colleagues who finally have to implement all that.

In addition, I am responsible for the calculation of the production cost for special projects, for time observations (REFA), and finally for the optimization of our workflows and the programming in ORTIMPlan.

Since we are quite an innovative company where often products are newly developed or individualized, I am also responsible for designing the required manufacturing appliances in the plant and for maintaining our Enterprise Resource Planning (ERP) system."

»On September 1, 2021, I will have my 40-year anniversary with MAURER.«

Is there still anything that really fascinates you?

E. H.: .: "In all honesty, it is exactly what I am doing right now: dealing with complex work and components in the workshop!"

What is the biggest challenge in your daily work?

E. H.: "To remain stress-free and to try to find the right solution for everyone."

Are there special requirements that you consider indispensable for your job?

E. H.: "Technical understanding, the desire to handle big things, to deal with complex processes, and, of course, to contribute my own ideas, to be creative!"

But honestly, during these 40 years, did you ever wish to leave the company?

E. H.: "Yes, I did, approx. 25 years ago. My foreman at the time saw things differently than I did. Anyhow, I stayed nonetheless, and that's a good thing."

From your point of view: what are the strengths of MAURER?

E. H.: "That they make seemingly impossible deadlines and designs possible."

Can you make time for hobbies?

E. H.: "Never enough. At present, I am completely fitting out a camper on my own, to travel and experience Europe the other way – hopefully soon."

//THE FIRST OCEAN-GOING ROLLERCOASTER WORLDWIDE

COMES FROM MUNICH

MAURER Rides has scored a new coup: BOLT™ – the first rollercoaster that will be on its way on the high seas. The base for this innovative coaster is the Mardi Gras, the most recent flagship of the cruise trip provider Carnival Cruise Line. Christine Duffy, President of Carnival, emphasizes: "Mardi Gras is our most innovative cruise liner with some special attractions. However, the capstone of all that is BOLT™, the first rollercoaster on the high seas."

On a racetrack length of 220 m, „BOLT™" offers exciting curves whereby the drivers reach a speed of almost 60 km/h.

Just imagine: on the uppermost deck of the luxury liner, the passengers enter the rollercoaster – more precisely: they mount the motorcycle, since BOLT™ is a 2-seater. The driver opens the throttle and – with an acceleration of 1.2 g, reaches 60 km/h in next to no time. With this speed, he races along the track, with drops, dips, curves, and a view on the endless horizon – and eventually must hit the brakes, when he drives through the hairpin curve around the legendary Carnival funnel back to the starting point.

After that, he/she not only looks back on a 220-m racetrack, but also on a spectacular 360° panoramic view on the sea, Caribbean islands, or shops and ports. An unsurpassed rollercoaster experience 57 m above sea level.

Patented Spike® drive

Technically, the coaster is based on the innovative Spike® drive, which puts MAURER ahead of the competition at present. Broadly speaking, Spike® is a further developed cog drive. The extremely high-performance Spike® drive has been patented by MAURER Rides. Its special feature: it makes the rollercoaster passengers real drivers. Anywhere on the racetrack, they can hit the brakes or accelerate on their own, with 100% traction and 1.2 g propulsion. "No matter whether the passengers want to experience an adrenaline rush or want to take it slow and enjoy the breathtaking view, BOLT™ simply offers everything," cruise manager Duffy is delighted to report. Everyone creates their own individual driving experience.

▶ FACTS AND FIGURES

LAUNCH: 2021

TYPE OF COASTER: ..... Spike® Racing

TRACK LENGTH: ..... 220 m

BASE: ..... 84 X 33 m

HEIGHT ABOVE SEA LEVEL: ..... 57 m

DRIVE: ..... electric drive

THRUST ACCELERATION: ..... 1,2 g (11,7 m/s²)

TORQUE: ..... 1.050 Nm

POWER TRANSMISSION: ..... 100 % traction

MAX. SPEED: ..... 60 km/h

VEHICLE: ..... 2-seater in motorcycle design

NUMBER OF VEHICLES: 2

CAPACITY: : ..... 190 pph

Even the access 57 m above sea level promises a breathtaking view.

The ride along the ship edge guarantees a memorable and unparalleled experience.

The speeds of the drivers are displayed after the race. Alongside the racetrack, cameras are mounted so that the guests can get a souvenir. The bikes with two consecutive seats are designed in red and blue metallic with a gaudy yellow flash. A digital speedometer display and speakers with innovative sound effects promise an experience that goes far beyond previously known cruise and rollercoaster dimensions.

Made in Munich

In 2019, BOLT™ Ultimate Sea Coaster was manufactured by MAURER in Munich and installed on the ship at the Meyer Turku dockyard in Finland in 2020. The maiden voyage was scheduled for 2020, but because of corona the ship is berthed, good to go, in its hailing port, Port Canaveral (Orlando, Florida). At the copy deadline of our magazine, it was planned that the first passengers for a cruise in the Caribbean will embark the ship in July.

Whenever it may be: the rollercoaster from Kirchheim is the highlight of the amusement area on the new cruise liner. "BOLT™ will carry on the Carnival tradition and offer our guests exciting new options. We are so enthusiastic about this unparalleled, trailblazing attraction – and our guests will love it," Christine Duffy feels confident about it.

The Mardi Gras is the 24th and the largest cruise ship of the Carnival fleet so far with a capacity of 5,200 passengers. She is the first cruise ship worldwide entirely driven by liquid gas (LNG). Like her sisters, this fun ship offers a variety of board activities. From waterslides and spray water zones to minigolf, jogging track, basketball and suspension rope grounds through to "Loft 19": a secluded safe haven along the lines of the best resorts in the world, with bar service, private pool, sunbeds, and spacious cabanas to which you can discretely retreat.

▶ FEATURES OF THE COASTER

- attractive motorcycle design
- interactive speed and acceleration control
- acceleration out of the curve
- no potential or kinetic restrictions
- sound, display, and light on board with automatic energy feeding
- lightweight vehicles enable simple steel construction
- maximum energy consumption of 130 kW when accelerating
- energy recovery system when braking and use for the next vehicle
- IAAPA ' Best New Product Award 2017

MAURER SÖHNE TORBALI
//FROM TURKEY FOR THE WORLD

Within 20 years, a small manufacturing facility has become a regional player processing orders from all over the world.

Near the end of the 1990s, Turkey started with an ambitious program for the development and strengthening of their own economy. Turkey wanted to keep pace with the EU. An increasing number of companies had their products manufactured in Turkey, entered into joint ventures or founded their own subsidiaries. For the increasing exchange of goods, renewal and expansion of the transportation infrastructure were absolutely necessary. In many cases, streets and bridges were to be made fit for higher loads or newly built.

MAURER in Munich recognized the chances quickly. Up to that point, they worked in close cooperation with a plant that was a reliable partner for the manufacture of elastomeric bearings for the Turkish market. In 1999, due to the expected increase in orders, those responsible in Munich decided to acquire this company and to establish their own manufacture in Turkey.

In the beginning, there was mainly a strong demand for expansion joints with one to four profiles. MAURER Expansion Joints type D80/D100 up to D320 were perfectly suited for the requirements on site. In addition, the manufacture of spare parts for technical improvement of existing streets and bridges was added to the portfolio.

read more >

Osman Gazi Bridge, Turkey

Elastomeric bearings being packed for shipment

Elastomeric bearings during assembly

Along with the increasing number of incoming orders, MAURER in Turkey kept growing. Meanwhile, about 100 colleagues are working in Torbali. The times when here, at the beautiful west coast of Turkey, just 60 kilometers away from Izmir, only production for the national market took place are long gone. In 2020, the export share was up to 85%. We supply the markets in Germany and Europe. But countries in the Middle East and Asia order MAURER products made in Turkey as well.

It is not only the high manufacture and service quality provided by our colleagues that boosts growth. Meanwhile the range of products manufactured in Torbali has significantly expanded.

Besides the expansion joints that are still in high demand, MAURER in Turkey also manufactures pot and spherical bearings for structural protection. As is known, Turkey is one of the most earthquake-prone regions worldwide.

Meanwhile, MAURER Pendulum Isolators, Lead Rubber and Elastomeric Bearings from Torbali protect buildings and infrastructures against expectable tectonic incidents.

On top of that, MAURER relies on continuing growth also in the future, not only in terms of quantity but also in terms of quality. To become the leading manufacturer in the region, they started in Torbali with building their own test center. In the future they want to conduct static and dynamic tests of their MAURER products that are adapted to specific requirements.

For us, it goes without saying that this requires a close cooperation of the research department at MAURER with renowned institutes and universities of applied sciences in Turkey.

We are aware that economic growth without an added value in knowledge and skills is not a lasting value.

8 ANNUAL TURNOVER 2020:

M. €

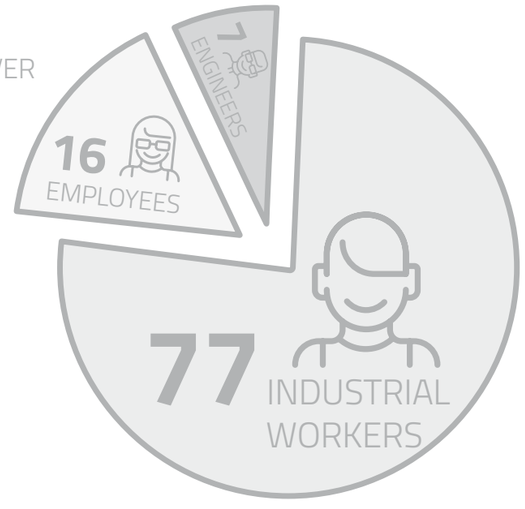
ANNUAL MANUFACTURE

10,000 M

EXPANSION JOINTS

350,000 KG

ELASTOMERIC BEARINGS



100 STAFF MEMBERS

PRODUCTION & ASSEMBLY OF:

- ELASTOMERIC BEARINGS
- SPHERICAL BEARINGS
- LOCKING DEVICES
- ROADWAY EXPANSION JOINTS
- POT BEARINGS
- SIP ISOLATORS
- MOLDED BODIES MADE OF ELASTOMERIC PROFILES
- DAMPERS
- EXPANSION JOINTS
- ANCHORINGS

Mr. Öztimur, since when have you been working with Maurer Söhne Torbali?

Ferit Öztimur: „"I have been working here in Torbali since the end of 2016. However, before that I have had particularly good contacts within MAURER SE for several years."

So, you surely know the German corporate culture. Are there big differences versus the Turkish corporate culture and what does your own look like?

F. Ö.: "I would say – and I hope that my co-workers will confirm that – that I prefer collaboration on an equal footing. I want to convince and include the others. This cooperative style of leadership, which is rather common in Europe, is increasingly being practiced in Turkey, too. Even if that still requires a bit more of energy for me as the boss. In Germany, self-motivation, efficiency, and also discipline are rather self-evident for the colleagues."

What were the most crucial innovations and investments at Maurer Söhne Torbali?

F. Ö.: "It was quite a bunch of them. Starting with the new hall that gives us the prerequisites for growing in the first place.

With the new vertical lathe, the oxy-plasma cutting machine and the CNC milling machine we are now able to manufacture more products of our own.

And the new mixing facility will help us to reduce our raw material cost by up to 50% in the future."

Where are your most important sales markets?

F. Ö.: "We produce about 15–20% for the domestic market in Turkey, the large remainder goes to Western and Eastern Europe, the Middle East, Africa, Asia, Latin America and Australia."

That is almost any continents?

F. Ö.: "Yes, from Turkey for the entire world."

FERIT ÖZTIMUR
//MANAGING DIRECTOR MAURER SÖHNE TORBALI

Nov. 21, 1961	born in Hagen, Germany
1982	to Trieste, Italy, for studies
1983 – 1984	to London, England, for studies
1984 – 1988	studies at the London Metropolitan University, faculty of Polymer Science
1988 – 2003	various departments at Arsan Kaucuk (family-owned enterprise)
2003 – 2016	Managing Director at Jefleks AS (group company Walraven, Mijdrecht, Holland)
since 2016	Managing Director at Maurer Söhne Torbali, a company of MAURER Group, Munich

Since 1999, production site in Torbali, 60 km away from Izmir

Different types of roadway expansion joints before shipment

LET'S MEET AGAIN

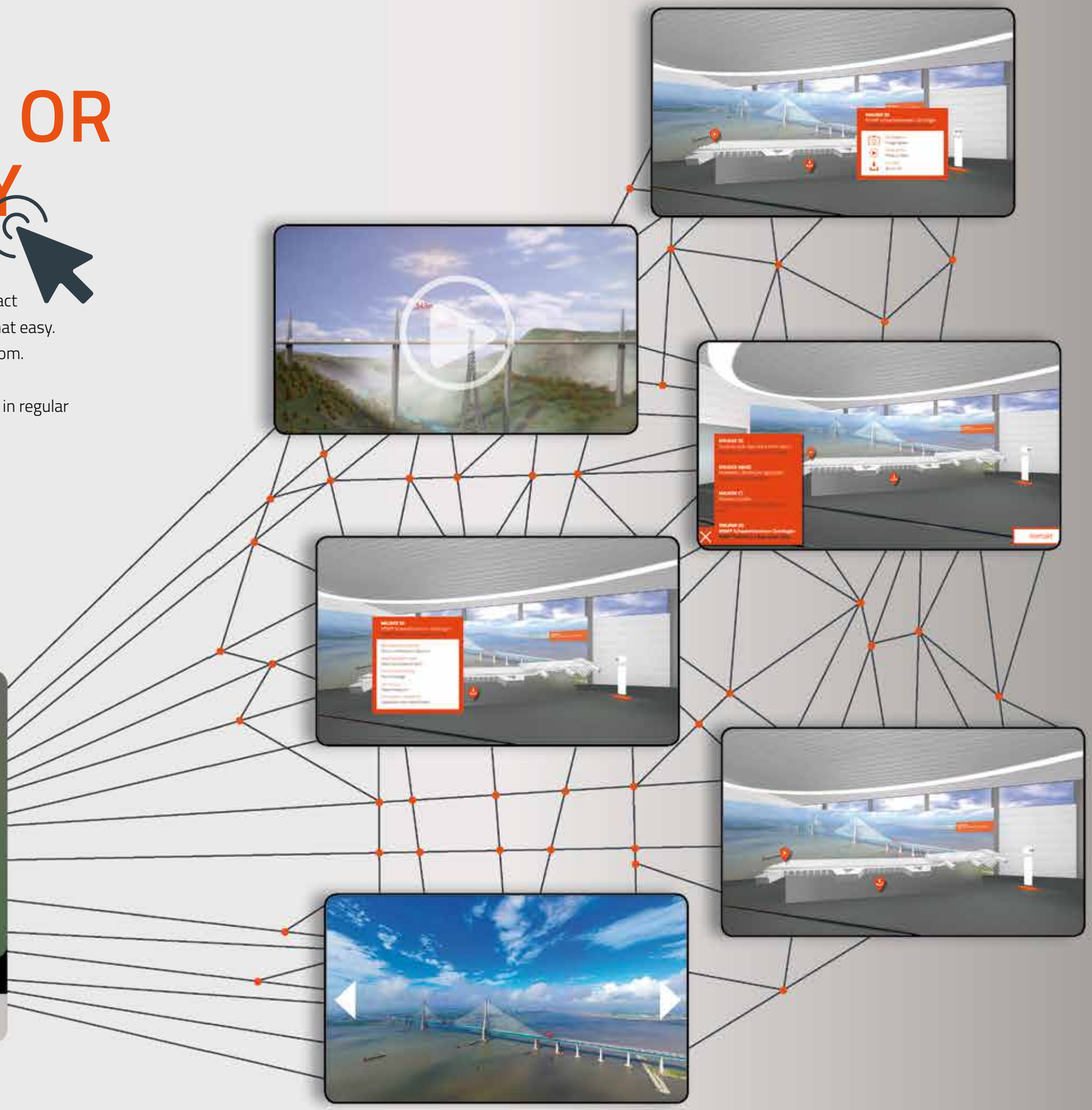
//BE IT THE ANALOG OR THE DIGITAL WAY

Digital seems to be the new normal. As much as we enjoy the personal contact with you, our partners and clients: in times of the pandemic, regrettably it is not that easy. All the more we are delighted to welcome you in our virtual MAURER Showroom.

Our virtual product exhibition is complemented by novelties and further information in regular intervals and offers a great variety of existing interactive options.

We will be glad to keep you posted and to invite you to our digital presentations and events.

www.maurer.eu



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