



Christian Schuster is one of seven specialist mechanics of Schaeffler's field service that performs worldwide maintenance and repair work



# THIS MAN LOVES **CHALLENGES**

London, Paris, Madrid – what sounds like the stops on a tour of a TV commercial for hairspray in the late 1980s may also at times be hairy routine for Christian Schuster – this story, though, is not about the hairstyle of Schaeffler's field mechanic but about tricky maintenance jobs around the globe.

— by Carsten Paulun



Be sure not to turn around, don't look up, and definitely don't take off your goggles: The bright sunshine feigns warm temperatures that Christian Schuster can only dream of at the moment. At 20 degrees centigrade below zero (-4 degrees Fahrenheit) and a biting coastal wind, the 33-year-old mechanic is perched on a scaffold at a height of a one-family house in the Finnish port city of Pori, about a three hours' drive northwest of Helsinki. His mission: replacing the main bearings of the two reels of a pipe-laying vessel. Exposed to exceptional forces, each bearing has an outer diameter of 1.75 meters (5.74 feet) and weighs six metric tons (6.6 short tons) because several kilometers of pipe previously welded onshore is wound on the reels. Replacing the bearings is no mean feat and requires Schuster and his crew to insert the spherical roller bearings with millimeter precision into the housing that also weighs several tons.

### ***A great team that Schaeffler is proud of***

Christian Schuster is one of seven members of Schaeffler's field service crew. They're the men for special challenges. Be it maintenance, repair or replacement,



**» I turned  
my dream  
into my job**

Christian Schuster,  
industrial mechanic

be it in a steel mill, on trains or in a mine, out in the middle of the North Sea or in the "ice house" at Pori – whenever precision work needs to be done on huge high-tech components, Schuster and his colleagues are called. "A great team that Schaeffler is proud of," says Andreas Krieg, who is in charge of the field service crew.

Besides the work itself, the conditions at the site pose a challenge because in spite of all advance coordination, the local situation often differs. There's just one constant: the required completion date. Schaeffler's mechanics must adhere to the defined time window under all circumstances. "In spite of tight schedules, we have to work with millimeter precision," Schuster explains.

### **PORI (FIN)**

Each of the two reels of the "Deep Energy" pipelayer has a diameter of 25 meters (82 feet) and is able to take up 2,800 tons (3,086 short tons) of welded, ready-to-lay pipe for pipelines. With a 200-millimeter (7.9-inch) pipe this is enough for a total of more than 90 kilometers (56 miles) of pipeline.



# MAINTENANCE & SUPPORT **WORLDWIDE**

*Specialty bearings from Schaeffler are used around the globe. Mechanics from Schaeffler's customer support team handle all the necessary maintenance and repair work. Here are a few examples.*

## OPEN-CAST MINING GARZWEILER (D)

The bucket wheel of the **coal excavator** has a diameter of 21.60 meters (71 feet). The massive bearings have to be inspected regularly.



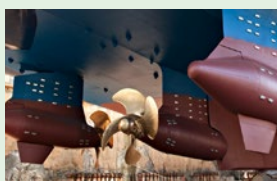
## MOJAVE DESERT (USA)

To repair a **wind turbine** in the Mojave Desert, the mechanics have to work at a height of 80 meters (262 feet). Constant wind force 4 puts axial and radial loads on the specialty bearings.



## LONDON (GB)

Work at dizzying heights: The **wheel** of the 135 meter (443 feet) high "London Eye" weighs 2,100 metric tons (2,315 short tons) and is supported by two Schaeffler spherical roller bearings.



## SINGAPORE (SGP)

Due to their Azipod propulsion systems that can rotate by 360 degrees, **cruise ships** and other huge vessels are extremely agile. The bearings are replaced when a ship like this is in a dock.



## NORTH SEA (GB)

During the extension of an **offshore gas platform** in the middle of the North Sea, new joints for the pile foundations had to be installed.





“You can’t cut corners with our precision components. The next failure would be pre-programmed.”

Completing one of these specialized on-site jobs takes an average of one week, plus all the preparatory work such as selecting the required external staff, specifying the component, arranging for equipment and tools. Naturally, working in foreign countries with their unique cultures and the diversity of people holds a special attraction as well. “Yes, it’s exciting every time, even though in many of our projects we work to

a schedule that hardly leaves any time for the country and its people,” says Schuster. But at least working with local colleagues at the site provides some small insights. “And sometimes the job involves a weekend on which we may not be working quite as long as usual,” says the family man and father of two, who “by all means wanted to work with the final product of rolling bearings” even when he was still an apprentice at Schaeffler being trained as an industrial mechanic.

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### ***Specialty bearings with a diameter of 2.62 meters***

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Christian Schuster has been a field service mechanic for special missions since 2007. The lead picture and the one at the bottom of this article show him after just having replaced the spherical roller bearings of the lock and dam complex in Hagestein, the Netherlands. They sit on the cable winches that pull up the two lock gates, each weighing 270 metric tons (298 short tons). Since 1958, the lock and dam complex has been controlling the water level of the Lek river to keep the waterways navigable at all times.

The two spherical roller bearings in London’s rotating landmark, the “London Eye,” have to bear even greater weight. The Ferris wheel that with a height of 135 meters (443 feet) is Europe’s biggest weighs 2,100 metric tons (2,315 short tons). Its hub sits in specialty bearings with an outer diameter of 2.62 meters



Installation of a large housing with assembled spherical plain bearing for an offshore platform



(8.59 feet). Both bearings have a design life of more than 50 years. An inspection is necessary every year. Large bearings expert Christian Schuster has just performed the most recent one.

Having no fear of heights is one of the prerequisites that Schuster has to meet in addition to his qualification as an industrial mechanic. “Plus, we’re trained in fitness for heights, rope rescue, and helicopter underwater escape for missions at offshore wind farms or oil and gas platforms,” the Schaeffler employee explains.

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### ***How do you get a job like this?***

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Sounds tough, so it’s not really a dream job? “Yes it is! Fortunately, my family accepts that I’m away all the time,” says Christian Schuster, who initially came into

contact with the technical field service during his apprenticeship at Schaeffler and was ultimately approached by one of his colleagues back then: “You love challenges, so that’s right up your alley.”



### **THE AUTHOR**

*Carsten Paulun was already fascinated with technology as a young child. He’d dismantle and examine anything he could get his hands on – and still does today. In the members of Schaeffler’s field service crew, especially Christian Schuster, he instantly found the right people to talk shop with.*

At the lock and dam complex in Hagestein, the Netherlands, Christian Schuster just finished replacing the bearings on the cable winch drive of the gates each of which weighs 270 metric tons (298 short tons)

