

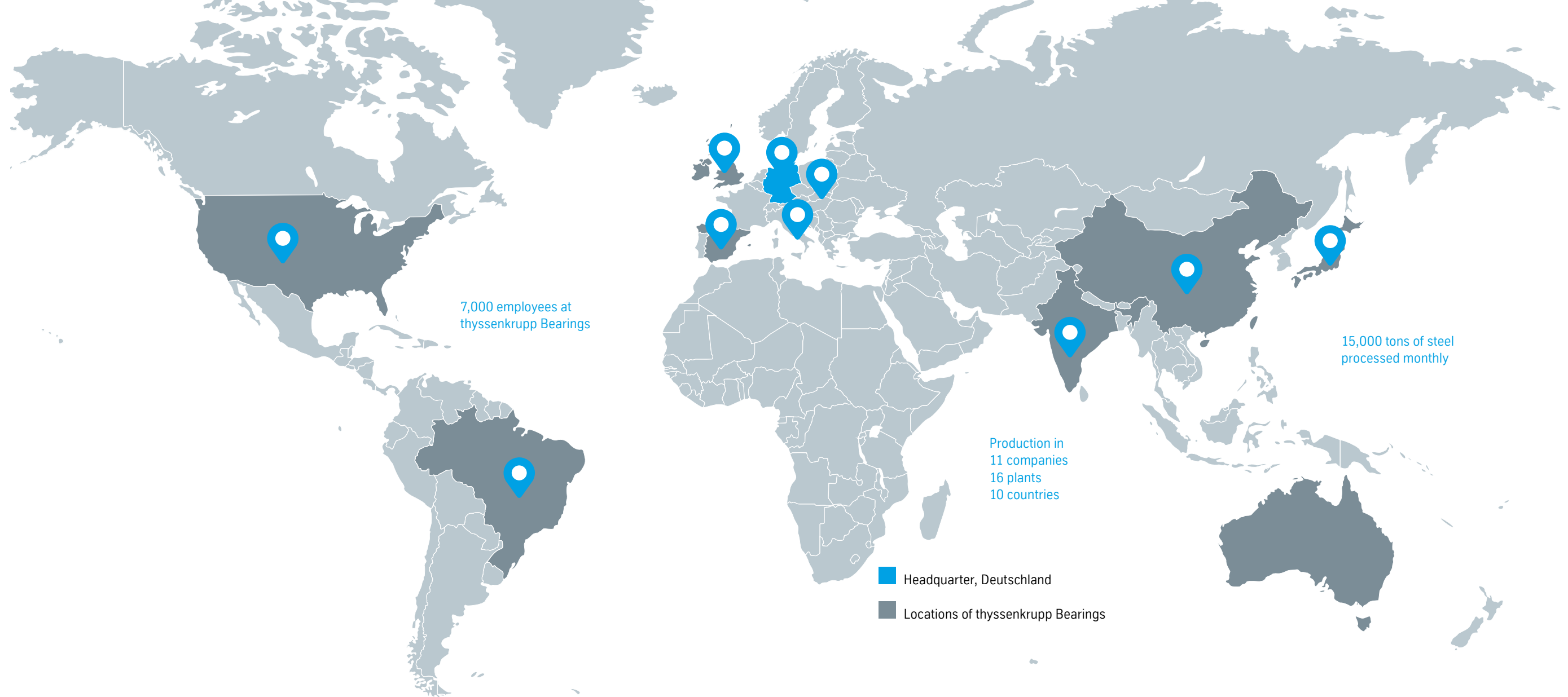
rothe erde® Slewing bearing service

Maximum flexibility for
continuous operation



thyssenkrupp





We are there when you need us.

As a customer, you are important to us. As a result, thyssenkrupp Bearings offers you comprehensive service – worldwide!

As a leading global manufacturer of slewing bearings, we at thyssenkrupp Bearings are also your first port of call when it comes to obtaining services for these demanding products. After all, only regular maintenance and expert servicing will ensure that the rotary connections reach a long service life, with trouble-free operation and so that your installations will remain available without restrictions – an important factor in your success.

Expertise, experience, global presence and competence in solving problems are the building blocks of first-class service from our highly qualified and specialized team – as well as guaranteeing satisfaction for our customers with their challenging requirements. Also make thyssenkrupp Bearings your partner for all services relating to slewing bearings! There are good reasons for doing this:



Flexibility

For us, being flexible means consistently orientating ourselves towards the requirements and demands of our customers. We carry out the tasks that you give us: efficiently, on schedule and with good value. In the process, our Service team not only looks after slewing bearings from our own production, but also inspects, maintains and repairs bearings for you irrespective of their manufacturer. On request, we can also carry out optimizations of bearings that have already been fitted.



International stance

We are available wherever you need us. Currently, we have seven Service facilities in Europe, USA, Brazil, China, India, Australia and Japan, and we are constantly expanding our network further. You benefit from fast response times, which are within 24 hours worldwide in most cases.



Experience

We have decades of experience not only in design and production, but also in service and maintenance. Our Service team features outstanding experts who can be deployed worldwide. We have qualified personnel even for specialist tasks, such as working on offshore installations, in aerospace as well as special technologies.

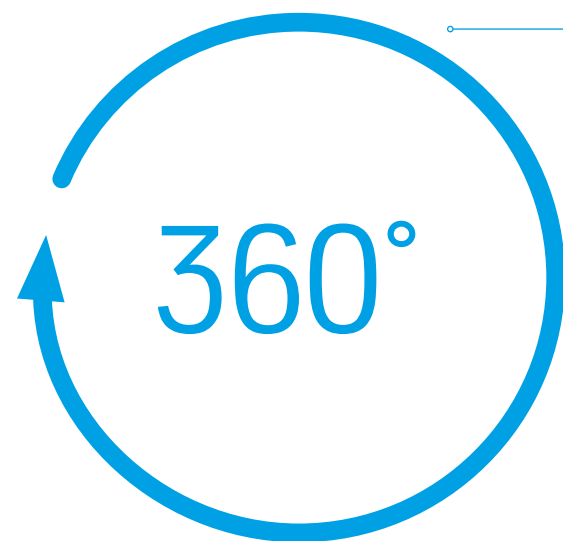
Maximum reliability through comprehensive services

From installation to inspection, from maintenance to repair and even training courses: Our service concept is comprehensive and is divided into three areas:

1.

In-house service

On our own premises, we carry out maintenance, inspection, repair and overhaul activities on your bearings – irrespective of which company manufactured them.



2.

On-site service

We can also carry out all the stated works on your premises. In addition, on request we handle the installation and commissioning of bearings in your plant.

3.

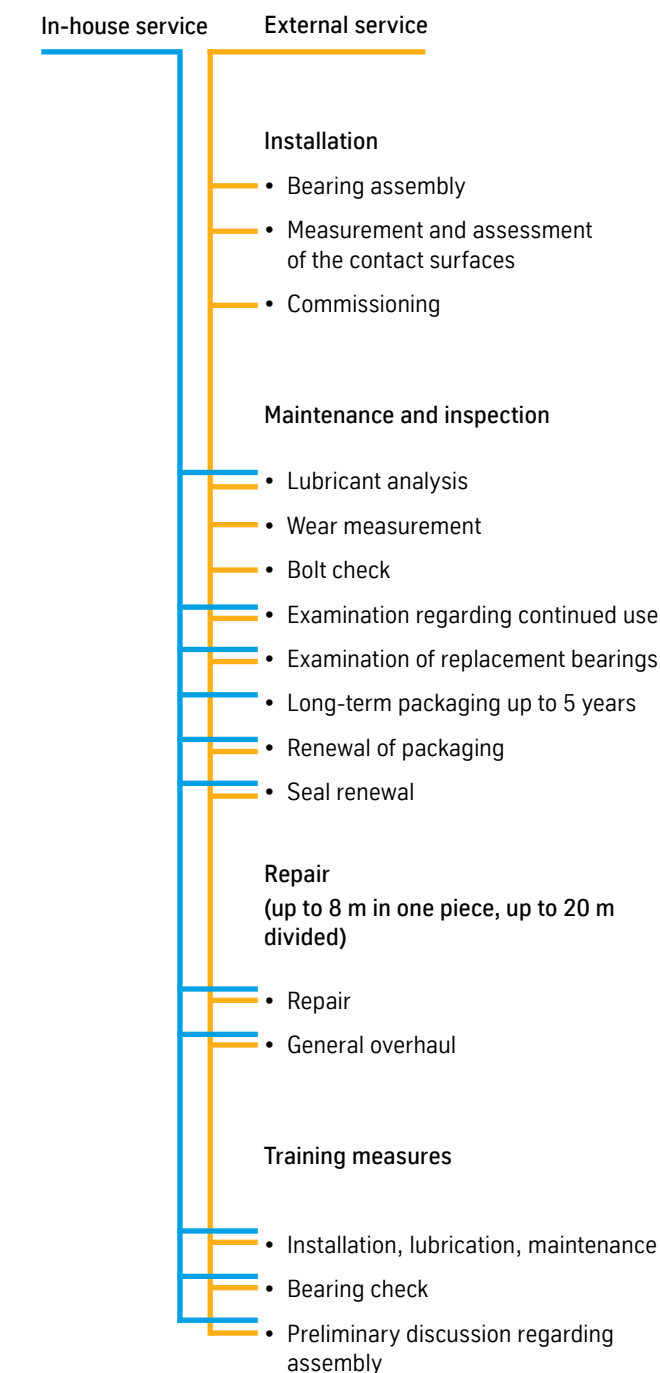
Proactive service

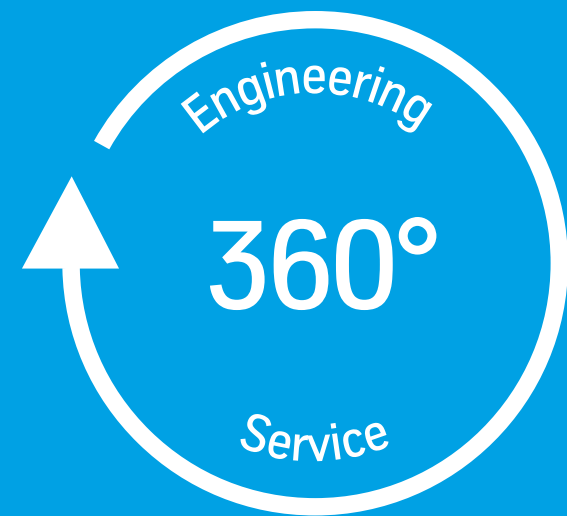
Quite apart from the actual work on the bearings, we prepare service concepts for you, analyze the status of bearings in your plants and provide you with detailed reports. In addition, we offer you individual service such as training and service reminders.



Overview of After Sales Service

The availability of your systems as well as long service life of the bearings are important components in your success!





Our service is always at your side!

You can rely on our Service team one hundred percent. Whenever you need us, our experts are at your disposal at any time – wherever your premises are in the world. Alternatively, we offer you online support.



Asset Management



Spare Parts Supply
& Management



Service Center
& Field Services

①

Inward warehouse movements/ spare parts management

⇒ Packaging check

To allow the permitted storage times to be complied with optimally, we check and evaluate packaging and the storage conditions.

⇒ Renewal of packaging

It is recommended for the packaging to be renewed or optimized so that spare parts will be available over long periods, such as extending storage by up to five years.

⇒ Bolt-on warranty after the storage period has been exceeded

Once the storage period has been exceeded, a bolt-on warranty can be provided following a check on the raceway system. We will be pleased to submit an offer.



②

Preliminary laser measurement

⇒ Evaluation of the connecting surfaces prior to bearing installation

We use our rotation laser measuring systems to measure the levelness of connecting surfaces according to DIN EN ISO 1101.

③

Bearing installation/ bearing exchange

⇒ Bearing positioning

Correct positioning of the slip positions "S" is of elementary importance in operational reliability and for the service life of a slewing bearing.

⇒ Bearing screw connection

The high expectations on quality and service life of rothe erde® slewing bearings also requires efficient handling of screw connections. For this purpose, we accompany and check the process of pre-tightening screws including provision of tools.

⇒ Setting the backlash

The backlash must be set on the teeth marked in green, between the drive pinion and bearing splines.

⇒ Basic measurement

A basic measurement must be carried out as a preliminary for the follow-on measurements to evaluate the progress of wear in a slewing bearing.





4

Bearing inspection in the plant

➞ General bearing condition

During the check of the general bearing condition, the slewing bearing as well as adjacent machine parts are checked visually. The characteristics that are examined include the level of contamination, status of the seals, lubrication condition, noise, etc.

➞ Bolt check

An adequately high screw preload must be provided throughout the entire service life of a slewing bearing, and we check this in the course of screw preload checks.

➞ Wear measurements (settlement/movement measurements)

Wear measurements provide precise information about the operational reliability and compliance with wear limits in a slewing bearing.

➞ Wear status and evaluation of the contact pattern of the bearing splines

Experience shows that the permitted wear can be $0.1 \times$ modulus. The general evaluation is conducted visually; the drive pinions are also considered. Wear measurements are carried out using special tools and measuring equipment.

➞ Grease samples including lubricant analyses

Lubricant analyses combined with settlement and movement measurements provide an optimum way of assessing the progress of wear and the status of the raceway system in a slewing bearing.



5

Examination of the removed bearing

➞ Determining the function value

The function values are determined using proven and tested processes. These provide information about the status of the slewing bearing as well as whether it can be reused.

➞ Detailed examination of the bearing splines if necessary

In addition to the visual inspection and wear evaluation, a crack test can be carried out.

6

Removal of the bearing

➞ Detailed inspection of the raceway

The best way of assessing the status of the raceway is following removal and cleaning of the individual parts.

➞ Crack test of raceways and splines

A crack test provides information about whether a slewing bearing can be reused. For example, following an accident it will be necessary to establish whether a bearing is still suitable for operation.

➞ Status analysis and reporting with repair recommendations

Following each check/inspection, a detailed report is prepared including digital images. This describes, amongst other things, the status and repair capability; in addition, the document contains recommendations from our experts regarding further operation.



7

Repair of the removed bearing on the spot

➞ Manual reworking of damaged areas

If the extent of damage is significant, it is possible for a slewing bearing to be repaired by manual reworking. For example, seals can be renewed, new roller bodies installed or the splines can be smoothed manually.

➞ Packaging (standard or long-term)

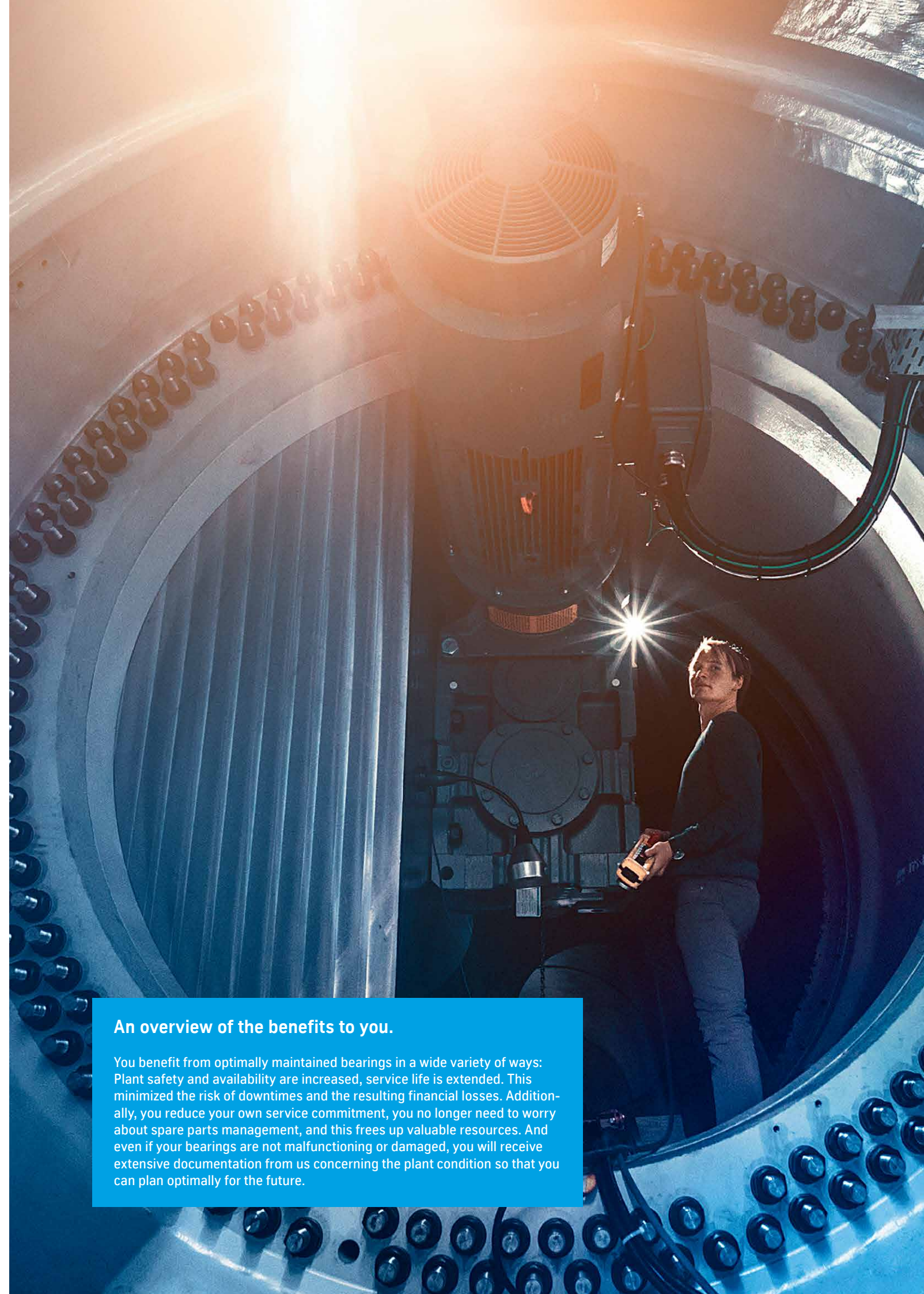
Following an examination/inspection, we offer the choice of standard packaging or long-term packaging. With long-term packaging, storage is possible for up to five years in temperature-controlled rooms.

8

Training on-site and at thyssenkrupp

➞ Theoretical and practical training courses

Theoretical and practical training courses
We adapt the content of our training courses to your individual needs, meaning that the focus is always on the specific plants of the customer in question. For example, the content of the training includes bearing installation, bearing checks, seal renewal, wear measurements, relubrication, etc.



An overview of the benefits to you.

You benefit from optimally maintained bearings in a wide variety of ways: Plant safety and availability are increased, service life is extended. This minimized the risk of downtimes and the resulting financial losses. Additionally, you reduce your own service commitment, you no longer need to worry about spare parts management, and this frees up valuable resources. And even if your bearings are not malfunctioning or damaged, you will receive extensive documentation from us concerning the plant condition so that you can plan optimally for the future.

Components Technology
Bearings

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