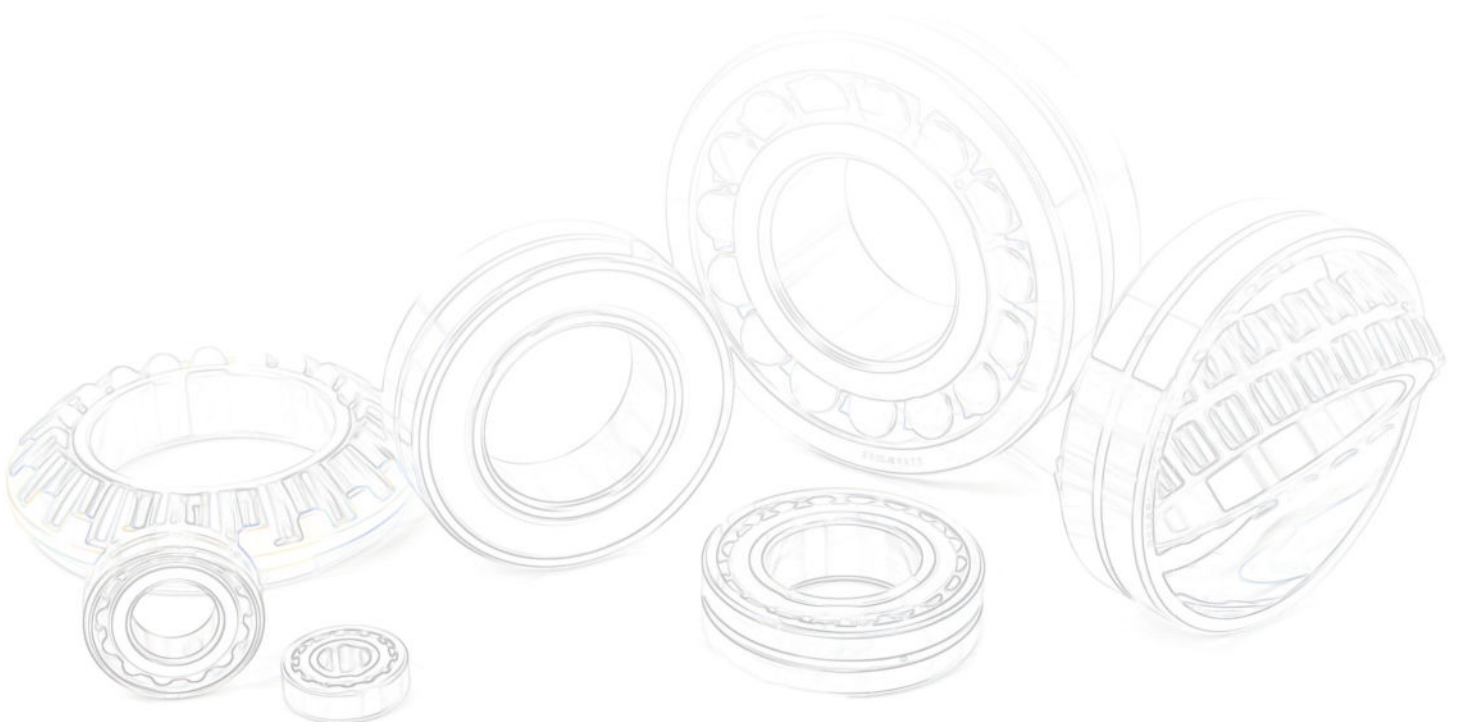


C&U[®] BEARINGS



RAILWAY BEARINGS



C&U COMPANY LIMITED

Company Overview

- C&U is the largest bearing manufacturer in China and in the TOP 10 worldwide.
- In 2023, C&U's bearing division reported a turnover of 1.365 Billion € and employed around 15.500 employees.
- As a full range bearing supplier, C&U produces a variety of bearing sizes and designs from 1 mm inner diameter to 6.000 mm outer diameter
- C&U offers maximum flexibility on the products for our customers. Our bearings are designed according to the needs of the customer's application.

**9 PRODUCTION
PARKS**

9 PRODUCTION
PARKS WORLDWIDE

**4 ENGINEERING
CENTERS**

4 ENGINEERING
CENTERS WORLDWIDE

30,000 TYPES

PRODUCTION OF MORE
THAN 30,000 TYPES OF
BEARINGS

2 BILLION SETS

BEARING ANNUAL CAPACITY
OF 2 BILLION SETS

NEW Engineering Center in Schweinfurt



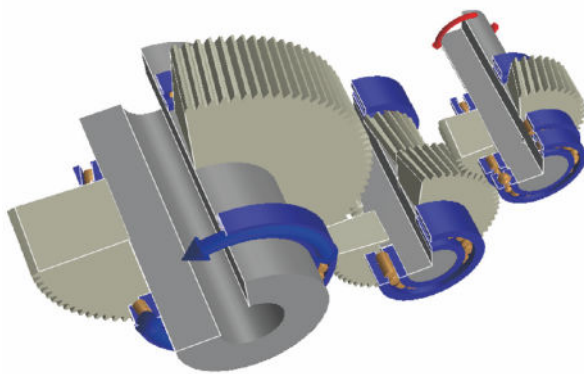
Technology Center Europe

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D -97424 Schweinfurt
+49 9721 298330
info@cubearing.de

The Technology Center Europe serves as a competent development partner, providing engineering support for all applications. We offer comprehensive bearing analysis along with state-of-the-art laboratory and testing equipment to meet the individual/customer specific needs.

Calculation

C&U, as a development partner, provides application engineering across various applications. Our calculation software creates a robust simulation environment for comprehensive bearing durability analysis considering material flexibility and component interface conditions. This enables a thorough examination of the entire system or individual components during the conceptual design phase. Through modelling and dynamic/static analyses, C&U achieves accurate simulation, optimizing designs and assessing bearing performance under individual/customer specific working conditions.



Romax model



Axlebox bearing test machine

Testing

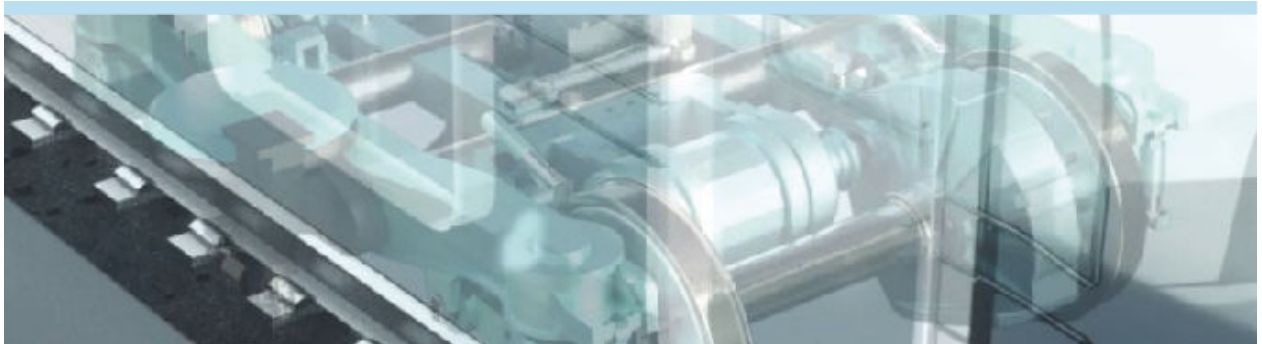
250 Test rigs, > 2800 m²

- Fatigue life and endurance
- Bearing material and grease
- High, low temperature, contaminant simulation
- Performance under various speed / load conditions

C&U offers testing according to following standards TB/T 3017.1 or EN 12082 or AAR (American Association of Railways).

Traction motor bearings

In the common bearing arrangement, a deep groove ball bearing (DGBB) serves as the fixed bearing, positioned at the non-drive-end side of the motor, while a cylindrical roller bearing (CRB) acts as the floating bearing on the drive-end side. To mitigate potential issues related to current flow impacting bearing lifetime, C&U provides solutions such as insulation-coated bearings and hybrid bearings featuring ceramic rolling elements.



Features:

Insulation coated bearings

Layer thickness 100—700 μm

- Cost-effective especially at large diameters
- Good insulation properties for DC currents



Al_2O_3 coating

Hybrid bearings

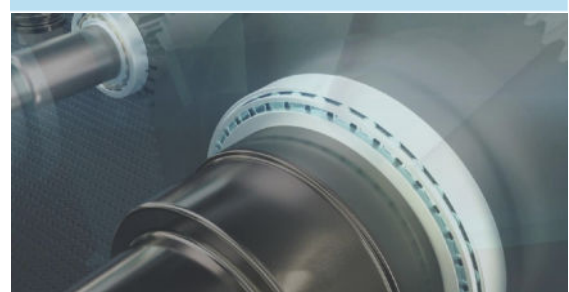
- Higher robustness
 - high wear resistance
 - increased grease life
 - designed for demanding application conditions
- Outstanding insulation properties
- Less heat generation, high speed capability and reduced friction



Deep groove ball bearing
Cylindrical roller bearing

Gearbox bearings

Certainly, the demanding conditions in railway gearboxes necessitate bearing arrangements that can endure a wide range of operational challenges. These bearings must be capable of handling high shock loads, operate efficiently in low-load situations, accommodate variations in speed, and sustain high RPM. The ability to withstand these diverse conditions is crucial for ensuring the reliable and durable performance of the bearings in railway gearbox applications.

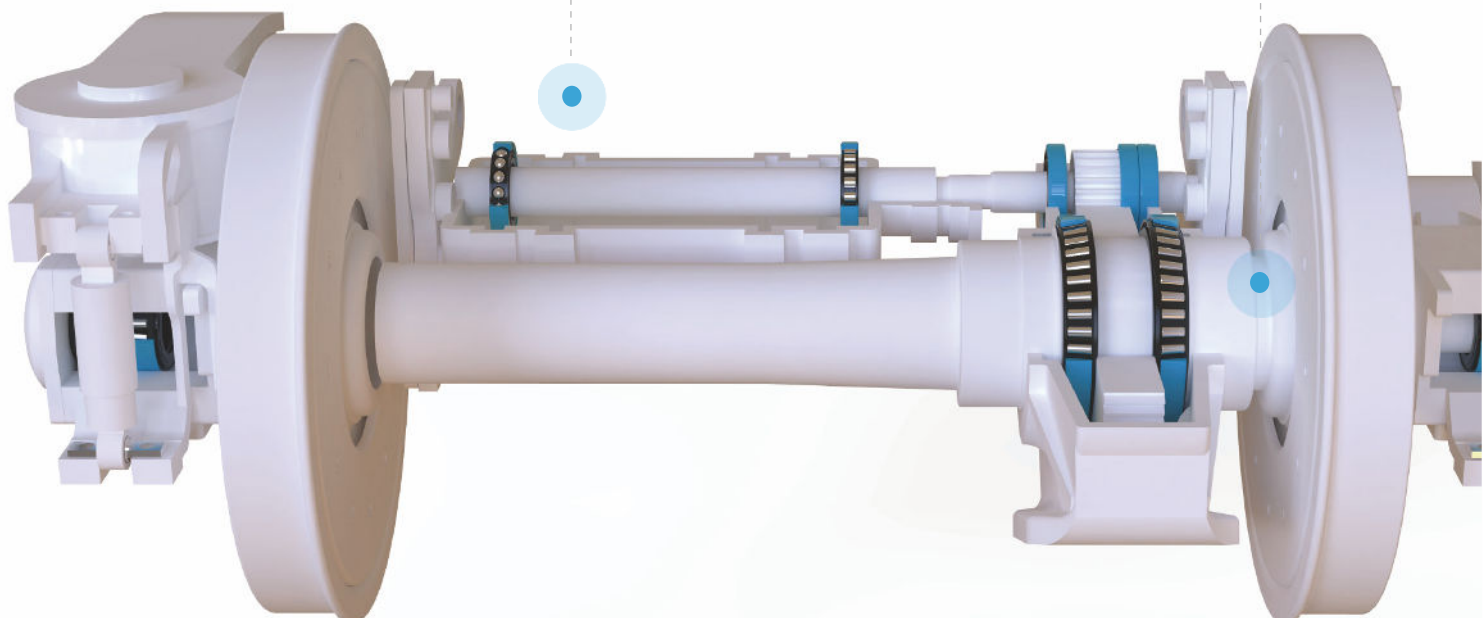


C&U bearings in gearbox applications:

- Cylindrical roller bearings
- Tapered roller bearings
- Angular contact ball bearings
- Four point contact ball bearings

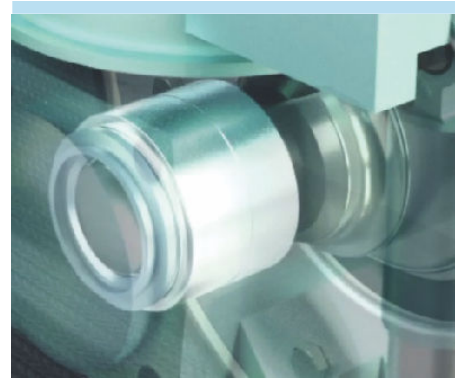


Gearbox bearings



Axle box bearings

The axle boxes in various vehicles utilize a range of bearings, like tapered roller bearing units, cylindrical roller bearings, and cylindrical roller bearing units. These bearings are selected based on specific customer requirements, technical conditions, and industry standards. To enhance performance and convenience, these bearing units come pre-lubricated and are equipped with specialized seals, ensuring efficient operation and longevity across a diverse range of applications.

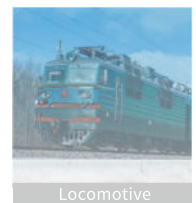
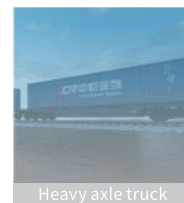


C&U bearings in gearbox applications:

- Integral design
- Specialized sealing
- Inhouse phosphate coating line
- High reliability and safety



Axle box bearings



C&U is committed to the research and mass production of a full range of rail transit bearings

Other railway applications

Linear bearings

Installed in train sliding doors and designed with high precision, low friction torque, resistance against corrosion, dust or water vapor.



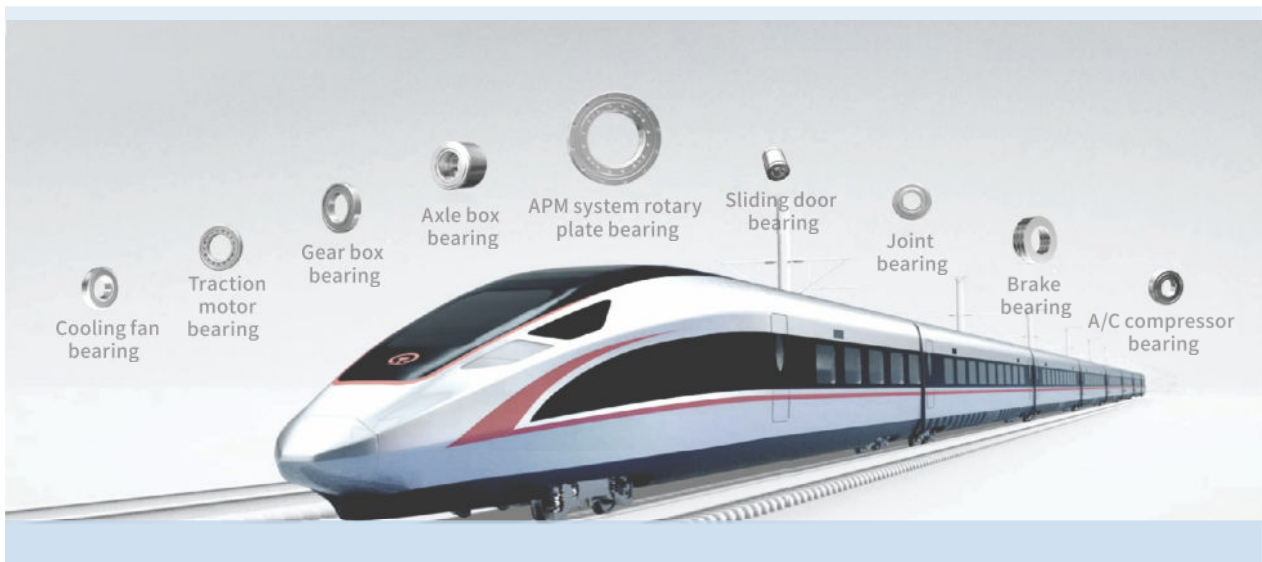
Slewing bearings

This product is used in the train bogie and carriage articulation parts. It can withstand high radial, axial loads and tilting moments at the same time.

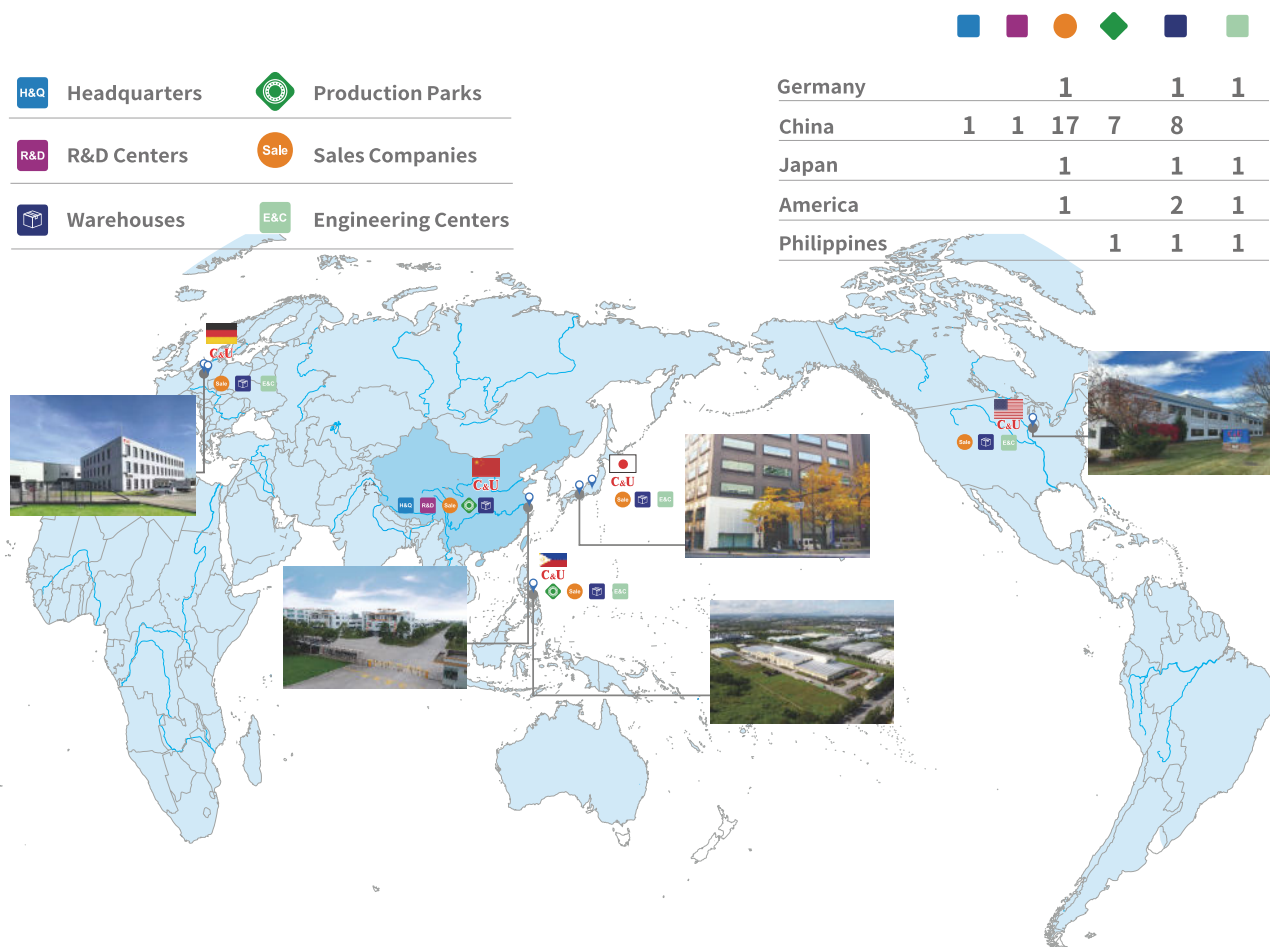


Spherical plain bearings

The railway application of these bearings are couplings. They connect the locomotive and the waggons to each other and transmit the high forces.



C&U Production Parks



C&U Layout of Domestic Production Parks

