ENGINEERING, MAINTENANCE AND MANUFACTURE OF SPECIAL COMPONENTS

The RWE Maintenance and Engineering Center
RWE operates its own Maintenance and Engineering Center at Frechen, 15 kilometers west of Cologne. The independent unit works for outside customers and for the company’s own production units.

The Maintenance and Engineering Center offers a comprehensive range of products and services in connection with the maintenance of machines and installations. 800 skilled staff, among them 100 engineers, work there with one aim: to get your machine or your component up and running again – as quickly and as cheaply as possible.

Just as varied as the tasks are the diverse skills and the sound expertise of the staff. Computer-assisted design, metalworking on the lathe, materials testing and analysis – the Technology Centre has around 3,500 jobs in progress at any time.

The unit’s roots go back to lignite mining. In mining, machinery has always had to be highly reliable, that is to say sturdy, durable and low-wear. And at the same time economical.

Maintenance, inspection, repair and improvement are the four major remits of the Maintenance and Engineering Center. We devise a tailor-made maintenance strategy for any machine and any system based on the following criteria:

- safety
- frequency and cost of repairs
- downtimes
- potential secondary cost of damage
- scheduled availability
- predictability of repairs
- information value and practical applicability of technical diagnosis
- operating experience

The quality management system at the Maintenance and Engineering Center is certified to ISO 9001 and includes systematic safety management.
OUR PRODUCTS, OUR SERVICES.

Mining products & services
- Conveyor belt pulleys
- Wear protection
- Belt testing
- Diagnostics
- Mining machines
- Repair of large gearboxes

Renewables services
- Repair of wind turbine gearboxes
- Diagnostic and engineering services
- Spare parts

Industry services
- Machining
- Wear protection
- Rail vehicles
Components and services for demanding customers and top handling capacity: regular maintenance is crucial to optimising all economic operations. Expensive systems, especially, need to be well looked after to ensure a long service life and high availability.

**Conveyor belt pulleys**
We manufacture and repair your conveyor belt pulleys.

- Specialised in manufacturing and repairing pulleys with diameters of about 1,000 mm and larger
- FEM analyses, 3D design, and products made in Germany
- Tried and tested designs with excellent service life
- Optimisation of existing designs

**Wear protection**
We significantly extend the service life of your systems.

- Advice on and solutions for wear issues in open cast mines
- Supply of coated wear plates for transfer points and material flow guides
- Anti-wear treatment of crawler track links, bucket teeth, etc.
- Hardfacing with fused tungsten carbide and chromium carbide
- Up to 14x longer service life

**Belt testing**
We help you to inspect and assess your conveyor belt systems.

- Identification of the most durable and economical conveyor belts
- Inspection of conveyor belts to RWE standards for heavy mining demands
- Inspection of conveyor belts to DIN, ISO, and other international standards
- Analysis of conveyor belt outages and service life forecasts

**Components and services for demanding customers and top handling capacity:**

Regular maintenance is crucial to optimising all economic operations. Expensive systems, especially, need to be well looked after to ensure a long service life and high availability.

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Big is beautiful: conveyor belt pulley manufactured at the Maintenance and Engineering Center for a South American copper mine.
MINING PRODUCTS & SERVICES

EFFICIENT. SUSTAINABLE. UNIQUE.

Diagnostics
We check out your systems and find the weak spots.
> Vibration-based diagnosis of roller bearings and drive elements of all rating classes
> Analysis of service loads and stresses in drive trains and structural parts
> Magneto-inductive testing and computer-assisted diagnosis of running cables

Mining machines
We offer tailored spare and replacement parts for your heavy equipment.
> Customised solutions and spares for equipment as of a handling capacity of about 3,000 t/h
> For example bucket wheels and buckets

Repair of large gearboxes
Our experts repair and service your heavy-duty gear units.
> Damage analysis
> Optimisation and upgrading, re-engineering and design analysis of gear units
> Many years of manufacturer-independent expertise with heavy-duty gearboxes

8 MINING PRODUCTS & SERVICES

Precision work: installing a 22-meter bucket wheel, made in the Maintenance and Engineering Center.

FIND OUT MORE – VISIT US ON THE INTERNET:
www.rwe-mec.com
Customised repairs and engineering services for wind power installations: we draw on our skills and experience from over 40 years of servicing to help you minimise your system’s downtimes.

**Repair of wind turbine gearboxes**

*We wind turbine gearboxes cost-effectively.*

- Repair of wind turbine gearboxes and drive shafts of all types and makes
- Assistance for on-site repairs (e.g. pitch tube replacement, HSS replacement)

**Diagnosis and engineering services**

*Whether for machine diagnosis or condition monitoring, we dedicate all our know-how to serving you.*

- Non-destructive examination of materials and testing of parts
- Drive technology diagnoses
- Fatigue strength testing and quality checks

**Spare parts**

*We provide replacement components at short notice.*

- Gearboxes and drive shafts for Vestas V80/V90 and NEG Micon systems always in stock
- Up-to-date overview of our replacement components on our website www.rwe-mec.com

High in the sky - working on a wind turbine gearbox.
Our products and services for industrial applications. We are your reliable service provider when it comes to repairing and manufacturing mechanical parts and equipment.

**Machining**
Profit from our wide range of machining facilities.

- Lathe work, milling, forming, straightening, flame and plasma cutting, joining, lining and coating, heat treatment and lots more besides.
- Overview of our production machinery on our website www.rwe-mec.com

**Wear protection**
We join you in tailoring solutions for your abrasive wear issues.

- On-the-spot analyses
- Wear analyses on our own test bed
- Cladding applied to your parts using leading-edge welding technology
- Hardfacing with fused tungsten carbide and chromium carbide

**Rail vehicles**
Our experts get your rail vehicle back on track.

- Overhaul and repair of freight and tank wagons
- Overhaul of unit trains up to a maximum length of 200 m
- Certified vehicle workshop (shop no. 202)

Manufacture of XXL products: workshop shed of the Technology Centre where machining work is performed.
Germany needs energy. Lots of it. Lignite meets a major part of this demand. This can be achieved due to the technology used to extract and process it – and to expert maintenance.

Lignite is extracted in opencast mines. Bucket wheel excavators (photo) and conveyor systems run around the clock. Electronic systems help to control and monitor them, but the hard work is still done by classical mechanical equipment: rollers, pulleys, gear wheels, conveyor belts, bogies, steel cables – everything is in motion.

The masses involved are huge, the friction is enormous. The systems are exposed to the elements and the influence of highly abrasive materials such as sand and gravel. The challenge facing production is to supply fuel to the power plants reliably and at all times! That can only work if the production side can count on expert and efficient maintenance. This is essential for achieving maximum dependability, output and economy.

In West German lignite mining, this task has been accomplished on an industrial scale for over 100 years, with major contributions by the RWE Maintenance and Engineering Center at Frechen, near Cologne, with its staff of highly qualified engineers, technicians and skilled workers. Its comprehensive array of equipment is state-of-the-art. For many years, clients from other sectors of industry have also been profiting from its expertise in metalworking, repairs and servicing. The people in the Technology Centre know: their clients depend on top performance to be able to operate successfully on the market.