

**SERVICE  
EXCELLENCE  
OF  
ZEPPELIN  
POWER  
SYSTEMS.**



**LET'S DO THE WORK.™**

**ZEPPELIN®**  
Power Systems



# THE ZEPPELIN BRAND – A PIONEER SPIRIT WITH SUCCESS.

Zeppelin Power Systems is the official partner of Caterpillar for Cat, MaK, and EMD engines and a leading provider of drive, propulsion, traction, and energy systems. We have developed this successful partnership over the course of 60 years.

Our company is part of the successful Zeppelin corporate group. With around 800 employees, we offer our customers individual and highly efficient system solutions as well as comprehensive services for industrial and marine applications, the oil and gas industry, rail vehicles, and power generation.

With sales territories in Germany, Russia, many countries in Europe and the CIS plus our group representatives worldwide, we assist our customers with service and sales across country borders.

Today, Zeppelin Group has a presence at 190 sites worldwide, with around 7,800 employees. New international support points and branches are always emerging, helping us remain close to our customers.

## CONTENT

<b>About Us</b>		
Our Service Concept	4	Spare Parts and Logistics
Zeppelin Power Systems Portfolio	5	Customized Service Agreements
Locations and Worldwide Service Network	6	Warranty and Extension Options for Cat® Engines
		Advanced Test Rigs
		Rail Connection – Competence Center, Lippstadt
<b>Our Services</b>		Service Training
Our Product Range at a Glance	8	Financing for Cat® Engines
Inspection and Maintenance	10	<b>Certification and Awards</b>
Repairs, Overhaul and Modernization	11	<b>Our Service Matrix – a Quick Overview</b>
Professional Oil Diagnostics	12	<b>Your Contact</b>
Remote Diagnosis – Staying focused on your Application	13	
Exchange Programs	14	



# OUR SERVICE CONCEPT.



# ZEPPELIN POWER SYSTEMS PORTFOLIO.

We offer sales and services for all drive system and energy applications that are based on Caterpillar engines and systems. This includes diesel, gas, and dual fuel engines from the Cat, MaK, and EMD brands as main and auxiliary propulsion, emergency generators, propellers, complete drive trains, and the corresponding systems. Whether you use diesel-mechanical, diesel-electric, gas-electric, or even hybrid drive systems – we provide individual solutions from one source, perfectly customized to your application.

Customers in nearly all segments and markets rely on our comprehensive service for engines, plants, and systems:

- **In the marine applications sector**, we service trade ships, inland waterway and cruise liners, yachts, and special-purpose vessels. At our Hamburg site, we have the added bonus of our own workshop for turbochargers. As an authorized Napier Service Center, we perform repairs for Cat, Napier, KBB and KKK as well as turbochargers from other manufacturers. We partner with Optimarin in the field of ballast water treatment, and provide all services for the Optimarin Ballast System (OBS).
- **For industrial applications**, we are represented in mobile, semi-mobile, and stationary construction and working machinery, in forestry and agriculture, in chemical, paper, and processing industries.
- **In the rail vehicles segment**, you will find our drive systems in locomotives, railcars, rail construction, and service and maintenance vehicles.
- **For power generation**, we are actively involved in sales and service for power generators, power plants, and combined heat and power plants (CHP plants). As a general contractor, we create complete CHP plants for the combined production of power, heat, cold and process steam, as well as emergency and standby power supply systems.
- **The oil and gas industry** relies on our engines in the on- and offshore sector for drilling, gas compression, production and well service.

Our service provision encompasses all services and consultancy throughout the value chain – we are ready to help you worldwide at our sites or through the global company group.

## YOU TAKE CARE OF YOUR BUSINESS, AND WE'LL MAKE SURE IT RUNS SMOOTHLY.

We understand that your engines and units have to work reliably, since downtimes or failures mean high costs. For this reason, we – a full-service provider – reliably carry out all maintenance and repair work for you, and ensure that any spare parts needed are always available in the right place, at the right time. We can ensure high availability for your machinery or plant. We are there for you, worldwide, around the clock, 365 days a year.

## EXPERIENCE THAT COUNTS.

For more than 60 years, we have been working for our customers as a Caterpillar partner. Over the decades, our services have constantly been expanded and optimized to meet the ever-increasing technical developments and demands of the engine and drive system sector. Today we see ourselves as a systems supplier and service provider that comprehensively meets customers' individual requirements.

## PERFECTLY EQUIPPED.

We have well-trained technical specialists, whose professional knowledge enables them to offer exactly the expertise required in each sector. Vehicles equipped with all the state-of-the-art tools, as well as measuring and testing devices are ready to use at each of our service facilities. Customers from all market sectors worldwide rely on our comprehensive service.



# LOCATIONS AND WORLDWIDE SERVICE NETWORK.

Throughout **Germany**, we have a comprehensive service network, and are therefore able to provide quick service at the highest technical level. We operate our Zeppelin Power Systems service centers in Achim, Hamburg, Leipzig, and Cologne for all sectors. These sites offer extensive spare parts warehouses, all required services, as well as our highly-qualified service technicians.

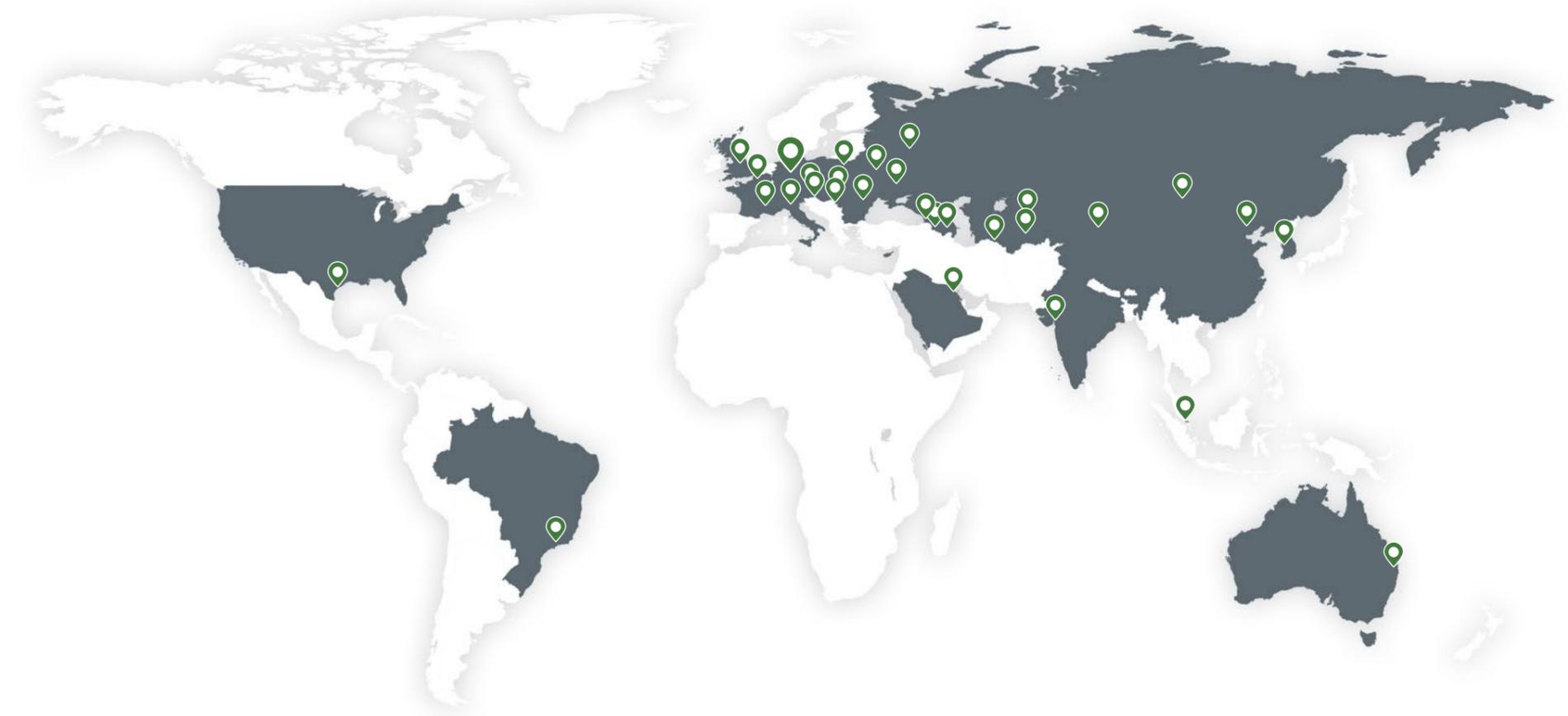
**Achim**, near Bremen, is home to our largest production and repair site. This houses our advanced new-engine fitting facility, Caterpillar Cat® and MaK repair, a large warehouse for spare parts and engines, plus our advanced test rigs. All sectors are served from here, and engines and plants are equipped, overhauled, repaired, and tested on our state-of-the-art test rigs.

In **Hamburg**, we have a service center for all areas. On-site, we operate a large MaK workshop for our marine customers, plus a comprehensive parts store and our own turbocharger workshop. Hamburg is also our main branch, home to all our commercial departments.

Our location in **Duisburg** is readily accessible for inland waterway ships from the Rhine-Ruhr region and neighboring waterways from the Netherlands and Belgium. We have private moorings right outside our door.



190 locations in 30 countries worldwide



Internationally, our sales and service locations stretch from Germany, through Austria, Czech Republic, Slovakia, Northern and Southwestern Russia, the Ukraine, Belarus, Turkmenistan, Tajikistan, Armenia, and Uzbekistan.

For MaK engines our sales and service territory additionally includes Switzerland, Azerbaijan, Georgia, Moldova, Mongolia, Kyrgyzstan, Poland, Hungary, Romania, Bulgaria, Russia, Kazakhstan, and Cyprus.

And we can use any of the Zeppelin sites with engine repair facilities across the Zeppelin network to repair your engines.

**Wherever our customers operate around the world, we are there.**

## OUR PRODUCT RANGE AT A GLANCE.

Zeppelin Power Systems provides services and consultancy throughout the value chain for your drive and energy systems.

### We offer you:

- Inspection and Maintenance
- Repairs, overhaul and modernization
- Spare parts and our own spare part logistics
- Exchange programs for parts and engines
- Customized service agreements
- With ESC/OVH protection even beyond the standard warranty period
- Oil and coolant diagnostics
- Remote diagnosis
- Our own test rigs
- Our own rail connection
- Training for your service teams
- Financing opportunities

We carry out the commissioning of all plants and systems, including the Optimarin Ballast System (OBS). We have a mobile load bank for generator plants at our disposal, as well as our own turbocharger service at our Hamburg site.

### How can we help you?

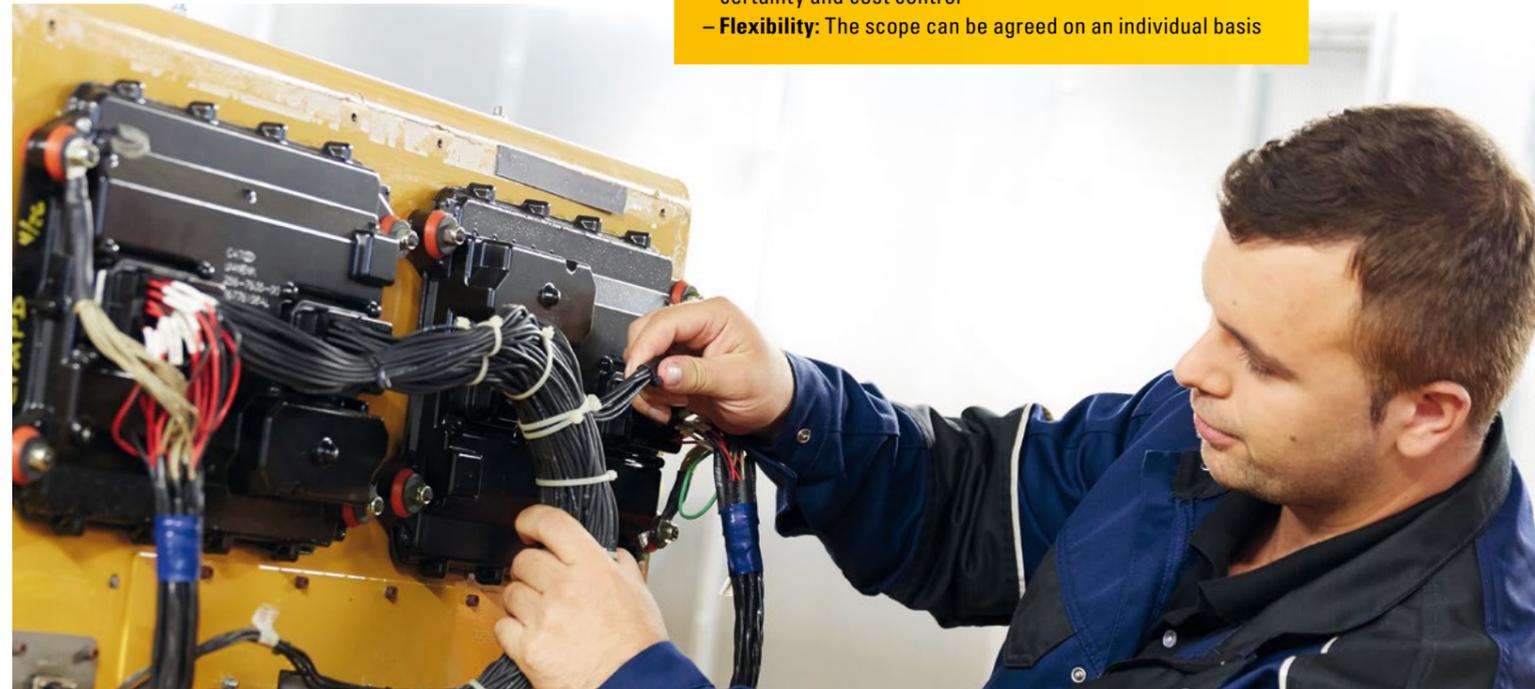


# INSPECTION AND MAINTENANCE.

Are you dependent on functional systems and failures are not an option? Then our customized inspection and maintenance agreements are the perfect solution for you. All Caterpillar engines and systems provided by Zeppelin Power Systems are manufactured to the highest quality standards and offer efficient, safe operation from the outset, and a long lifespan.

To make sure this remains the case, your engine should be cared for in keeping with the same high standards. Our services have been optimized for top performance and maximum availability. We offer preventive lubricant and coolant diagnostics for engines and units, and a comprehensive remote monitoring package for your Cat CHP plant.

We will provide you with a service agreement tailored to meet your specific requirements, extensive maintenance documentation, and comprehensive status analysis for prevention and early detection. Overall, the lifespan of your plant will be extended, and your product will always be up-to-date.



## Your benefits

- **Optimum availability:** with our sophisticated logistics system we offer a spare parts availability of 98 %
- **Professional implementation:** Trained technicians at our many maintenance sites have the required experience and training as well as all tools required to repair your engine, plant, or machine quickly and precisely
- **Cost optimization:** You will get fixed costs for calculation certainty and cost control
- **Flexibility:** The scope can be agreed on an individual basis



# REPAIRS, OVERHAUL AND MODERNIZATION.

**The highest standards due to certification and qualification:** Whether you opt for repair, overhaul or modernization, you are in very good hands with Zeppelin Power Systems. Our specially trained technicians can work at your location, or in our advanced repair workshops – in either case, you can be assured of the highest standards.

We carry out all work according to the high quality standards of Caterpillar. We have received contamination control certification and are one of the few dealers worldwide to have been awarded with the highest „Platinum“ grade for the marine sector following testing by DNV GL.

Of course, our workshops are ISO 9001 certified, and all work is carried out in accordance with manufacturers' instructions. Your machinery is kept right up-to-date – as are our specially-trained technicians, who continually receive further training in their specialist areas.

**We are ready to help at our various national and international locations.**

## PROFESSIONAL OIL DIAGNOSTICS.

Continually monitoring your engine oil can provide protection from breakdowns and slow the wearing of important parts. Make sure you include oil diagnosis in your service agreement. We can carry out regular checking of your lubricant by a qualified professional in Zeppelin's own oil laboratory. This means we can identify potential damage early on, and notify you before it is too late and gets expensive.

### Your benefits

- Longer lifespan and lower maintenance costs
- Direct status notification immediately following the oil sample evaluation
- Fast and direct electronic data transmission



## REMOTE DIAGNOSIS – STAYING FOCUSED ON YOUR APPLICATION.

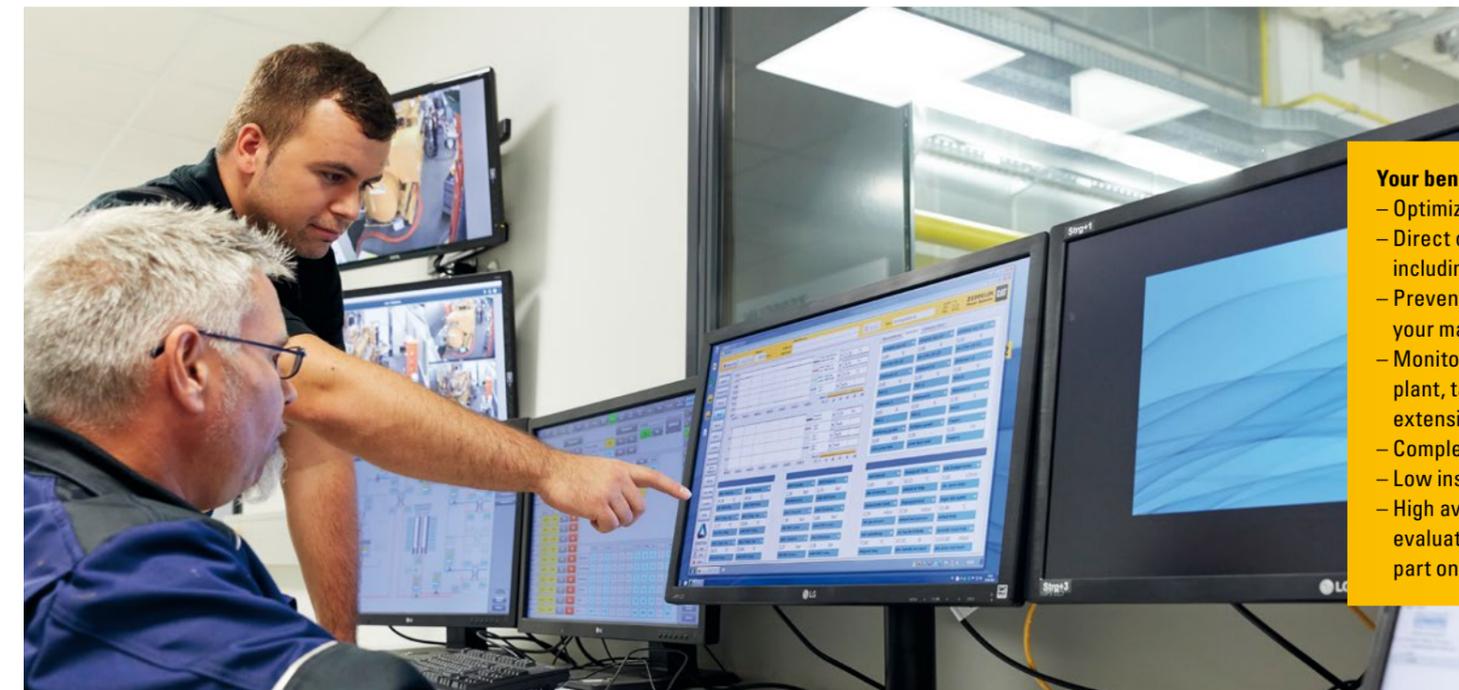
Leave the round-the-clock plant support to us. Our technicians regularly monitor the condition of your plant. We have comprehensive remote monitoring tools at our disposal. We can reduce your workload as required, or can even install a control room in order to offer you the optimum support at all times.

**Do you want to do your own remote monitoring?**  
We can provide programs that supply accurate, current, and useful data on the location, utilization, and condition of your machinery via mobile communications or satellite – these are precisely the data that are critical for the efficiency and costs of your overall operation.

**Do you have a whole fleet to manage?**  
Our programs redefine the effectiveness of fleet management. Where is your machine, how efficiently is it operating, and does it need maintenance? These are all details you can see at a glance using the engine parameters. You will receive precise reports about the condition and utilization of the

machinery, with clear mapping functions, while the programs can also be used for mixed fleets.

All this, plus simple and cost-effective installation. Settings like the frequency of data transfer and the number of parameters, can be determined by individual agreement. Of course, we also pay attention to your data security: we ensure access via a secured connection and our server sites are exclusively located in Germany.



### Your benefits

- Optimization of your fleet deployment and machines
- Direct control of all machine deployment and their sites, including automated geo-fencing, e.g. for rental organizations
- Prevention of breakdowns through constant monitoring of your machine's status
- Monitoring of the engine in conjunction with the whole plant, taking into consideration all sub-systems and extensive efficiency optimization of the whole system
- Complete maintenance history
- Low installation costs and charges
- High availability of your plant: once the error report has been evaluated, our technician always has the appropriate spare part on hand for future use

# EXCHANGE PROGRAMS.

Fast availability is often the most important criterion. That is why we offer different exchange programs for our various brands.

For Cat and MaK engines, we offer high-performance parts exchange procedures. Engine components are not only reprocessed according to state-of-the-art technology, but are also brought up to the latest state of the art in order to ensure optimum performance and longevity. The exchange parts you receive are in an absolutely new condition. The only difference is the price. Also, we offer complete replacement engines as well as partial engine concepts (longblock / shortblock) for many types of engines.

**For marine MaK engines:** We offer exchange of a variety of engine components to achieve an on-board engine overhaul that saves time and money. We have a comprehensive program for all current MaK engine models, covering, for example: Cylinder heads, pistons, injection pumps, liners, turbochargers, vibration dampers and many other components.

In advance, you will receive a reconditioned and checked spare part in exchange for your used part. This saves you costs by reducing the time required for the overhaul, whilst also ensuring the overhaul standards comply with the MaK manufacturer instructions.



## **We offer a complete engine exchange program for Cat® engines:**

A replacement engine that has had a general overhaul is generally the most cost-efficient solution for smaller engines. The costs for this are much lower than for an overhaul, and, of course, engines are also covered by our warranty extension.





## SPARE PARTS AND LOGISTICS.

**Speed is our strength:**

We have a state-of-the-art logistics center and spare parts warehouse at our disposal for Cat® engines; in addition, we can draw on our extensive warehouse for Cat and MaK parts. With Cat® Direct Shipping, we are able to ensure that 98% of all spare parts ordered by 4pm will arrive on the morning of the next working day.

We personally undertake all the logistics services required, including air freight. Your package benefits from preferential customs clearance, on account of our status as a “Known Consignor”. This means

your spare parts reach you even more quickly and cost effectively, unopened and in their proper original packaging.

**Our motto is reliability:**

You will only ever receive original parts from Zeppelin Power Systems, to ensure your plant operates reliably. So you can always rest assured that you are using the appropriate spare part for your engine type – with all the associated warranty rights. This saves time and money by reducing wear and downtime.

## CUSTOMIZED SERVICE AGREEMENTS.

Our goal is for you to achieve optimal operational readiness for smooth engine operation, with the greatest possible economic and ecological efficiency.

Our service agreements can be used for more than large-scale plants or new engines: Maximum cost efficiency can be achieved for all applications, regardless of age, area of utilization and whether it is a case of an individual plant or a vast fleet.

Zeppelin offers a wide range of service agreements to cover these various uses. From a simple protective maintenance agreement through to a complex performance guarantee with total cost absorption: anything is possible.

**Whichever option you choose, you can rely on our careful planning and implementation.**

Your individual service agreement will be adapted according to your needs and tailored to your requirements. We will work out the perfect strategy in conjunction with you so that we can put together the ideal combination of the scope of services and materials, payment conditions, technical consultancy and remote monitoring, plus on-site service and exclusive material stocking.

**The benefits you gain from a service agreement include**

- Attractive terms and conditions, customized to meet your needs and requirements
- Control over costs, budget oversight, and strategic warehousing
- A reduction in unplanned failures and increased operational security



### FLEXIBLE SERVICE OPTIONS.

You can decide how many machines are covered by the service agreement. You can cover individual systems, individual machines, or entire fleets. We will calculate a monthly flat rate according to your personal needs – or the price can be determined by the actual operational hours.



# WARRANTY AND EXTENSION OPTIONS FOR CAT® ENGINES.

You are given a manufacturer's warranty of 12 months and unlimited hours for all original Cat® spare parts and remanufacturing/repair or exchange parts overhauled by Caterpillar. There are also additional care options, depending on safety requirements or the age and type of engine.

## OUR PLATINUM CARE FOR YOUR SAFETY.

Always on the safe side: All material and salary costs are included for all components supplied from the factory with the Cat® part number for these insured components:

- Cooling, fuel, lubrication and electrical systems
- Generator sets (only electric power generator sets)
- Suction and exhaust tract
- Engine block
- Cylinder head
- Front and rear covers
- Additional optional protection services

The level of travel expenses cover depends on the engine type.

## PROTECTION BEYOND THE STANDARD WARRANTY PERIOD.

You rely on the longevity of drive solutions from Caterpillar and Zeppelin Power Systems – therefore, with ESC/OVH, we offer additional protection options to cover their whole useful lives.

### ESC – Extended Service Coverage – for new engines

Cover lasting 12 to 60 months is available for new engines. The level of the ESC is determined by engine type and operational hours.

### ESC Advantage – Extended Service Coverage for used engines

The ESC Advantage is available following the expiry of the manufacturer's warranty and before the first overhaul, with a duration of 12 to 60 months, up to a maximum engine age of 10 years. The level of the ESC Advantage is determined by engine type and operational hours.

### OVH ESC – Overhaul Extended Service Coverage – Protection for overhauled engines

There is a further, enhanced coverage for overhauled engines beyond the manufacturer's warranty. This special service cover for overhauled engines is available with a duration of between 12 to 60 months. The level of the OVH ESC is determined by engine type and operational hours.

### Global service

Our ESC/OVH is available wherever you are: You can rely on our global service in the worldwide Caterpillar network, without regional or area-specific limitations.

### Your benefits

Cost savings and improved cash flow: ESC/OVH offers protection against unexpected repair costs and a safeguard against rising materials and labor costs.



## ADVANCED TEST RIGS.

We have eight state-of-the-art test rigs available at our Achim site. Comprehensive tests can be carried out here following a successful repair. Three separable cells provide an opportunity for individual test runs for all mechanical and electrical power tests up to 6,000 kWel. If you like, you can attend the test rig run – and, of course, we will provide you with comprehensive service documentation to verify the process.

**By the way, all manufacturers of machinery (OEMs) can test and improve their units on our test rigs. Contact us!**



## RAIL CONNECTION – COMPETENCE CENTER, LIPPSTADT.

An own rail connection in Lippstadt is available to our locomotive customers. In partnership with the Westfälische Landes-Eisenbahn (WLE), we are able to undertake all repair and maintenance work on locomotives and smaller rail vehicles there. Tell us what you need, and service for your locomotive will be handled in full, on site.



- Your benefits**  
No need for protracted discussions to arrange appointments – we provide you with everything from one source:
- Hall
  - All maintenance and repair works
  - Oil change
  - Electrical work
  - Large storage areas
  - Locomotive stabling
  - Capacity for several locomotives at once

## SERVICE TRAINING.

In our advanced training center in Achim, we provide our customers with high-value technical training. We offer specialist training specific to your application; you determine the scope and will have a dedicated trainer as your point of contact.

- Your benefits**
- Professional training:  
Your staff will professionally be trained on common service features
  - Cost reduction:  
You will be able to carry out the trained service topics on your own



## FINANCING FOR CAT® ENGINES.

Our tailored financing solutions enable us to find the best path for your application. In conjunction with Cat Financial, we will work with you to find a solution that is customized to meet your specific requirements. The Cat Financial Products Division has been offering a broad spectrum of financing and insurance options for Caterpillar machinery, engines, and other Caterpillar products for more than 25 years.  
**Please feel free to contact us to find out more!**



# CERTIFICATION AND AWARDS.

## PLATINUM AWARD FROM DNV GL FOR ZEPPELIN POWER SYSTEMS CAT AND MAK.

**We are one of the best:** Zeppelin Power Systems has been awarded with the highest level of recognition by the classification company DNV GL for first-class customer service in the Cat and MaK divisions. Worldwide, we are one of three Caterpillar dealers to receive this award.

## CERTIFIED ENERGY MANAGEMENT

GUTcert certified Zeppelin Power Systems as having an effective energy management system in December 2016. All German companies belonging to Zeppelin GmbH were certified at this time.

## WE FOCUS ON CLEAN SOLUTIONS: AWARD FOR CONTAMINATION CONTROL.

We have been audited according to the Caterpillar contamination directive and given a 4-star rating. Contamination during maintenance or repair leads to risks of breakdown or machine wear. Our repair work is undertaken in accordance with the strictest standards and regulations, in order to avoid the possibility of contamination of your machinery during maintenance and repair.

## CERTIFIED QUALITY FOR RAIL VEHICLES.

You can rely on Zeppelin Power Systems: We have been certified by GSI SLV Hanover at level CL4 in accordance with DIN EN 15085-2. The certification encompasses the applications of construction, procurement, assembly, and further distribution of welded rail vehicle parts and components at security-related certification level CL1.

## FASTER AIR FREIGHT DELIVERIES FOR YOU.

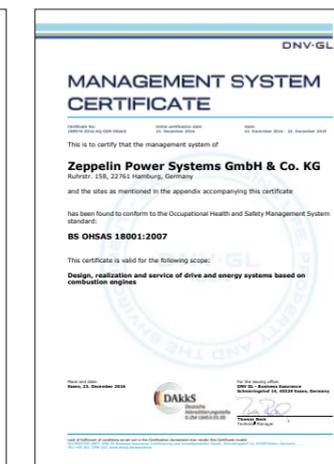
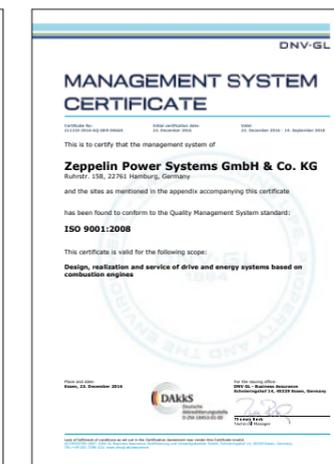
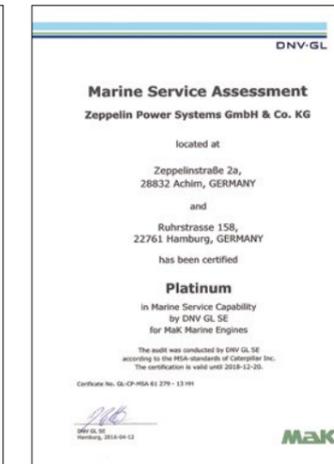
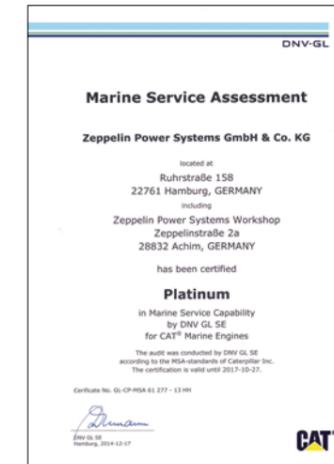
Zeppelin Power Systems is confirmed as a “Known Consignor” in Germany in accordance with EU Commission Regulation 185/2010. The certification is provided by the Luftfahrtbundesamt (German Aviation Authority, LBA) and is evidence of a completely verifiable, secure supply chain and compliance with all security requirements and standards for air freight deliveries. From now on, these will no longer require additional security controls at airports, enabling faster processing. This provides our customers with multiple benefits: Costs for security controls are reduced on account of the secure supply chain. The goods remain in their original, proper packaging and fast delivery times can be maintained, thereby avoiding unnecessary delays.

## CERTIFIED QUALITY MANAGEMENT AS A MATTER OF COURSE.

Our customers’ satisfaction is of great importance to us. For that reason, our quality management systems ensure optimal services and products, designed to inspire you. However, we are not satisfied with simply staying on the course; we also want to constantly improve the range we offer. We therefore have our quality management system monitored by DNV GL, and are certified in accordance with DIN EN ISO 9001.

## OUR OCCUPATIONAL SAFETY AND HEALTH PROTECTION SYSTEMS ARE ALSO CERTIFIED.

We also have our occupational safety and health protection systems externally monitored to ensure that our workforce can work safely for you. Since 2016, we have also been certified in accordance with BS OHSAS 18001.



# OUR SERVICE MATRIX – A QUICK OVERVIEW.

## PERFORMANCE OVERVIEW OF ENGINES & SYSTEMS

	MaK	Cat	EMD	Turbochargers	Propellers/Thruster	Control systems
Specialized workshop	✓	✓	-	✓	-	✓
Engine test bench	✓	✓	✓	-	-	-
Spare parts	✓	✓	✓	✓	✓	✓
Exchange program	✓	✓	✓	✓	-	-
Warranty extensions (ESC/OVH)	✓	✓	✓	-	-	-
Certified service technicians	✓	✓	✓	✓	✓	✓

## PERFORMANCE OVERVIEW BY SEGMENTS

	Industry	Rail vehicles	Power generation	Oil & Gas	Marine
Engines and drive systems	✓	✓	✓	✓	✓
Ballast water treatment	-	-	-	-	Optimarin
Mobile load bank	-	-	✓	-	-
Own rail connection	-	✓	-	-	-
CAD construction	✓	✓	✓	✓	✓
Remote monitoring	✓	✓	✓	✓	✓
Certified service technicians	✓	✓	✓	✓	✓
Financing	✓	✓	✓	✓	✓
24/7 emergency number	✓	✓	✓	✓	✓

# YOUR CONTACT.

We have set up a center at our Achim site for general inquiries about our portfolio of services. Your query will be dealt with professionally there, and you will be immediately connected to the relevant point of contact in the relevant branch:

### SERVICE CENTER

Phone +49 4202 9146-0  
E-mail zps.achim@zeppelin.com

### YOUR CONTACT WITH OUR LOCATIONS:

#### For industrial applications, rail vehicles, and power generation

Hamburg Service Center +49 40 85315140  
Cologne Service Center +49 2203 929110  
Leipzig/Munich Service Center +49 34207 79200  
**24/7 emergency number** +49 172 6163272

#### Your contacts for marine applications

Hamburg +49 40 8531510  
Achim +49 4202 91460  
Duisburg +49 203 4799950

#### 24/7 emergency numbers

Duisburg Inland Waterways +49 172 8275172  
Achim MaK Marine Service +49 171 2413377  
Hamburg MaK Marine Service +49 171 2112779  
Cat Marine Service +49 172 8275172

[www.zeppelin-powersystems.com](http://www.zeppelin-powersystems.com)



# SERVICE YOU CAN COUNT ON – THERE FOR YOU 8,760 HOURS A YEAR.

## ZEPPELIN POWER SYSTEMS GMBH

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**LET'S DO THE WORK.™**

