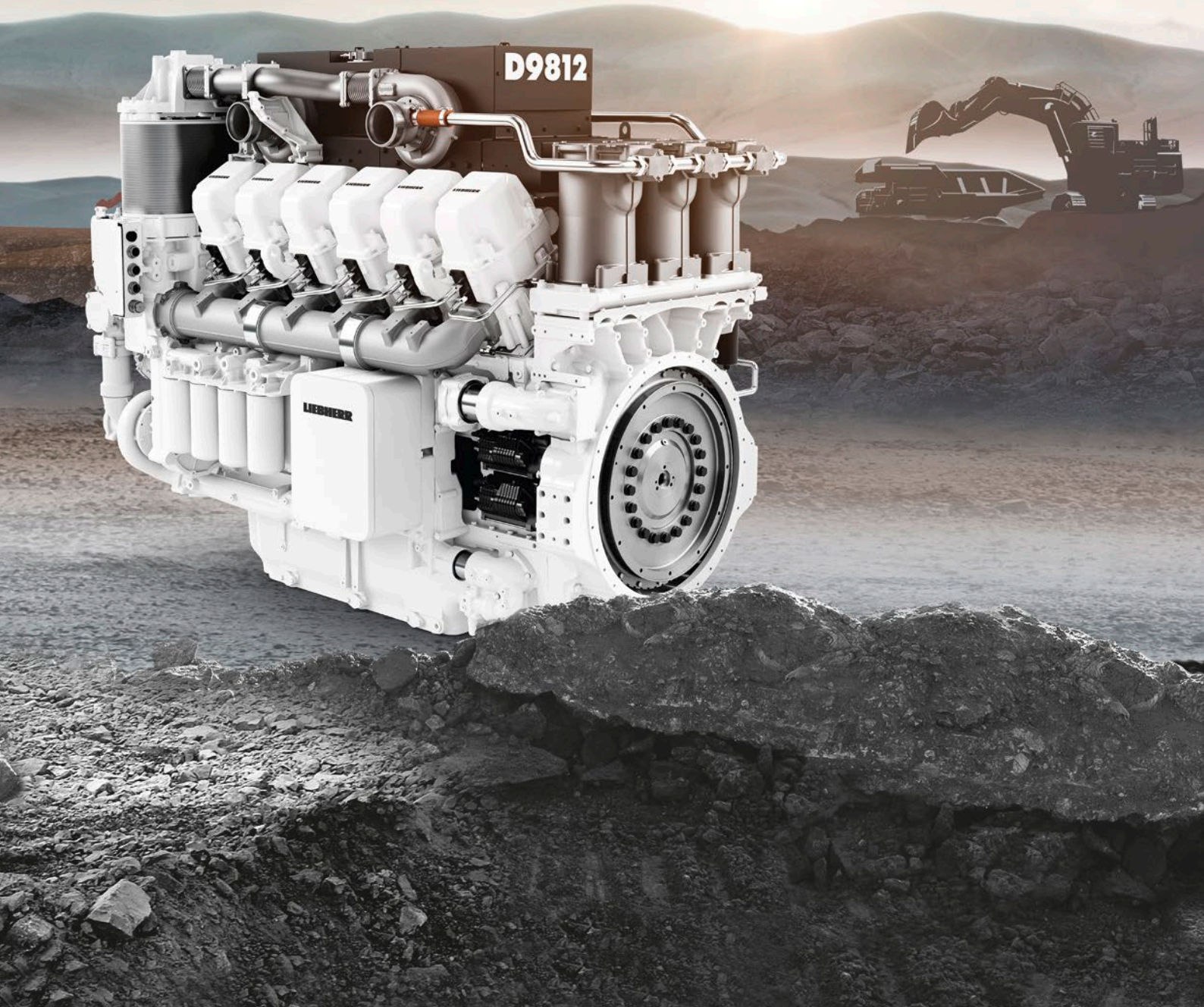
Combustion engines for the mining industry

LIEBHERR

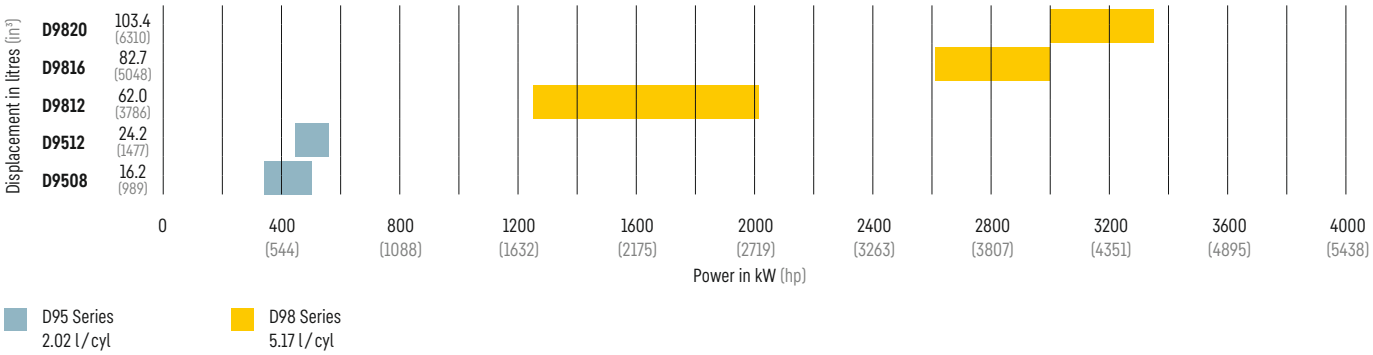
Combustion engines



Combustion engines for the mining industry

Over the past 40 years, Liebherr has evolved from a captive engine manufacturer to an established and important market player. These decades of engine development knowledge, combined with extensive expertise in the mining industry and close collaboration with mining equipment owners and companies, enable the creation of a complete engine portfolio covering a power range from 340 kW (456 hp) up to 3,350 kW (4,492 hp).

Power range



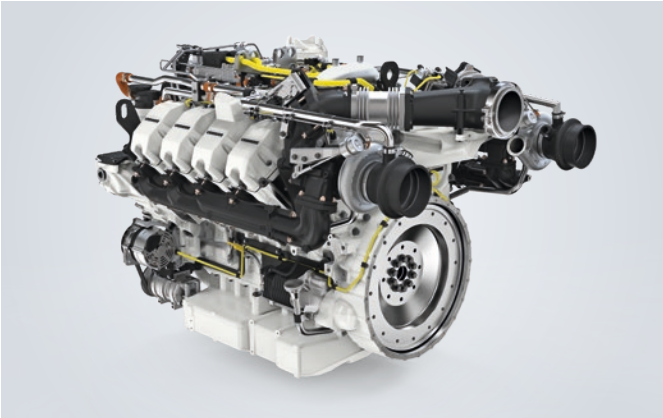
High productivity / performance
Our mining engines have a highly responsive and reactive design, providing superior performance and the required horsepower for more productivity. As a result, your excavator will deliver faster cycle times and your truck will accelerate and climb faster on grade, which will enable you to move more tons per hour and to increase your productivity.

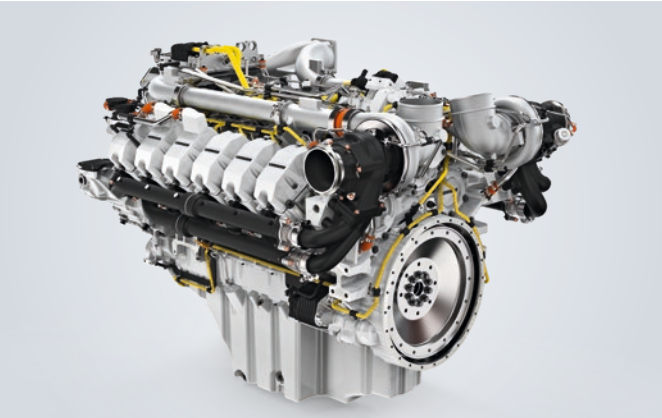
In addition, our engines deliver outstanding low fuel consumption by matching the exact engine subsystems from the highest competency of in-house developed key components such as the Liebherr engine control unit and common rail fuel system. Furthermore, 3 % to 5 % fuel savings can be achieved thanks to a reduction of rated speed from 1,800 to 1,500 rpm.

Increased availability
Designed for extended maintenance intervals, Liebherr engines are carefully thought-out and their maintenance-friendly design allows for quick and easy servicing. As a result, their overall scheduled downtime has been reduced, resulting in less maintenance downtime and more uptime in availability.

Our combustion engines have been designed with superior reliability in mind for the harshest mining environments, providing the highest operating capability for your machine. Additionally, down-speeding by up to 300 rpm results in an up to 20 % increase of engine lifetime. Overall, we are focusing on saving your time, increasing your equipment availability and optimizing your total operating costs, so the total cost of ownership exceeds your expectations and forecasts.

From 340 – 3,350 kW



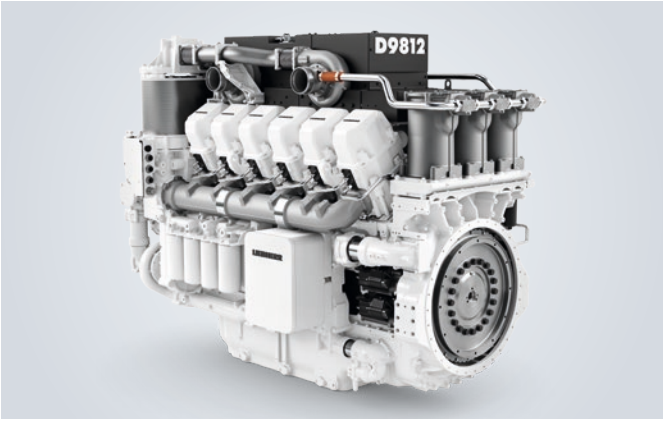


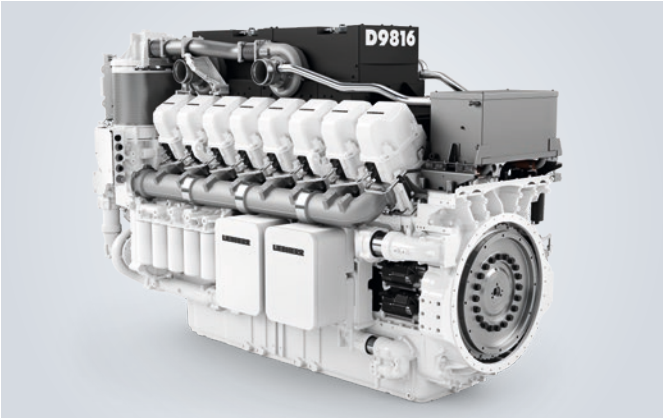
D9508

Bore	mm (in)	128	5.04
Stroke	mm (in)	157	6.18
Displacement	l (in³)	16.2	989
Power rating	kW (hp)	340 – 505	456 – 677
Rated speed	rpm (rpm)	1,800	1,800
Peak torque	Nm (lb-ft)	3,019 at 1,300 rpm	2,227 at 1,300 rpm
Dry weight	kg (lbs)	1,520	3,352
Dimensions (L x W x H)	mm (in)	1,631 x 1,119 x 1,273	64.21 x 44.06 x 50.12
Fuel rail pressure (up to)	bar	2,000	2,000
Min brake specific fuel cons.	g / kWh	197	197

D9512

Bore	mm (in)	128	5.04
Stroke	mm (in)	157	6.18
Displacement	l (in³)	24.2	1,477
Power rating	kW (hp)	450 – 565	603 – 758
Rated speed	rpm (rpm)	1,800	1,800
Peak torque	Nm (lb-ft)	4,074 at 1,500 rpm	3,005 at 1,500 rpm
Dry weight	kg (lbs)	2,050	4,520
Dimensions (L x W x H)	mm (in)	1,856 x 1,236 x 1,314	73.07 x 48.66 x 51.73
Fuel rail pressure (up to)	bar	2,000	2,000
Min brake specific fuel cons.	g / kWh	190	190





D9812

Bore	mm (in)	175	6.89
Stroke	mm (in)	215	8.46
Displacement	l (in³)	62.0	3,783
Power rating	kW (hp)	1,250 – 2,010	1,676 – 2,695
Rated speed	rpm (rpm)	1,500 – 1,800	1,500 – 1,800
Peak torque	Nm (lb-ft)	11,307 at 1,700 rpm	8,340 at 1,700 rpm
Dry weight	kg (lbs)	9,310	20,529
Dimensions (L x W x H)	mm (in)	2,550 x 1,800 x 2,194	100.39 x 70.87 x 86.38
Fuel rail pressure (up to)	bar	2,200	2,200
Min brake specific fuel cons.	g / kWh	195	195

D9816

Bore	mm (in)	175	6.89
Stroke	mm (in)	215	8.46
Displacement	l (in³)	82.7	5,047
Power rating	kW (hp)	2,610 – 3,000	3,500 – 4,023
Rated speed	rpm (rpm)	1,800	1,800
Peak torque	Nm (lb-ft)	15,167 at 1,700 rpm	11,187 at 1,700 rpm
Dry weight	kg (lbs)	11,300	24,917
Length	mm (in)	3,240 x 1,800 x 2,194	127.56 x 70.87 x 86.38
Fuel rail pressure (up to)	bar	2,200	2,200
Min brake specific fuel cons.	g / kWh	195	195

D9820

Bore	mm (in)	175	6.89
Stroke	mm (in)	215	8.46
Displacement	l (in³)	103.4	6,310
Power rating	kW (hp)	3,000 – 3,350	4,023 – 4,492
Rated speed	rpm (rpm)	1,800	1,800

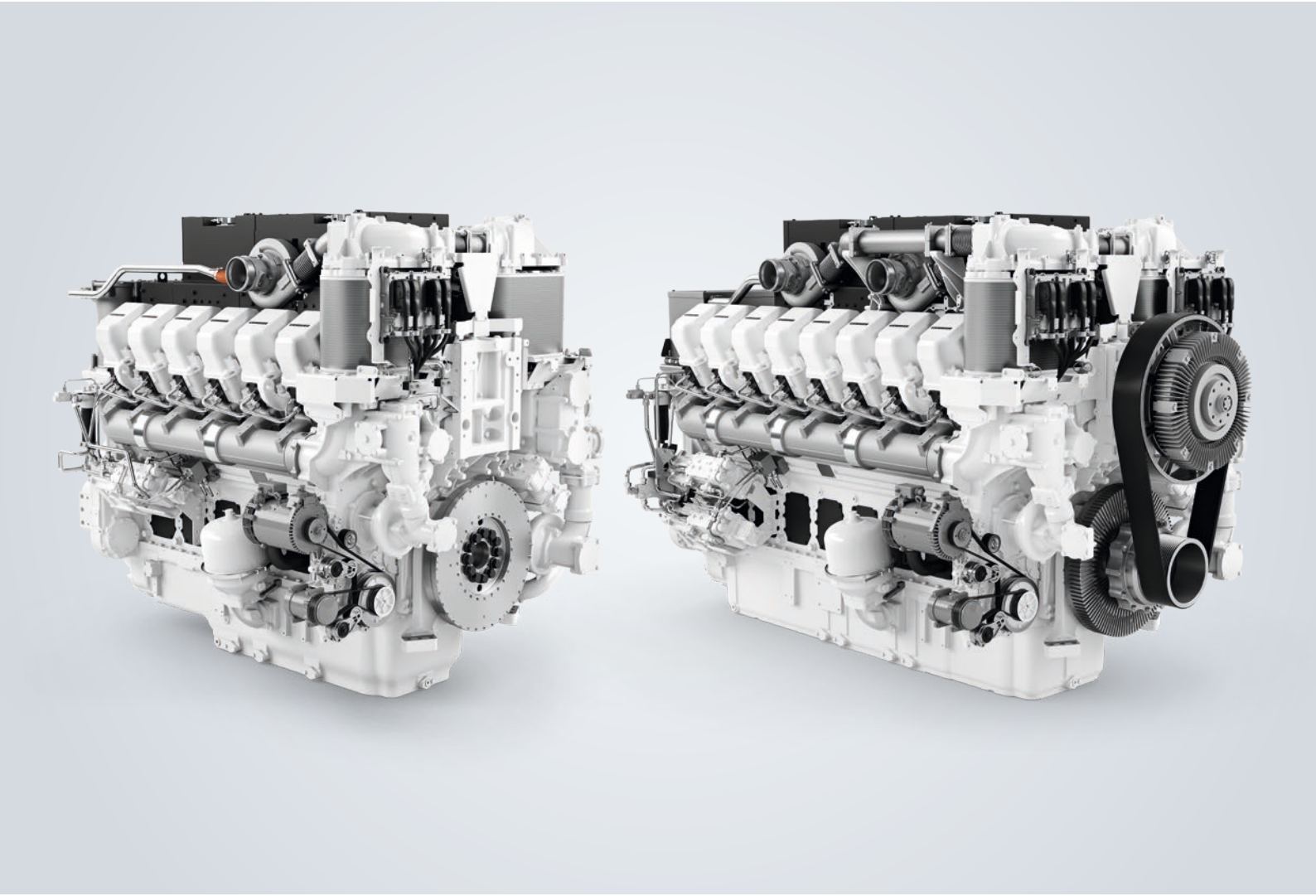
High flexibility

Based on an intelligent modular system, our engines can be tailored easily to suit all application requirements, while fulfilling global emission regulations.

Depending on customers' and application requirements, our engine's modular system consists of scalable components and optional equipment to provide your machine with the optimum design and the required horsepower as and when required.

In addition, our engines can adapt to operate worldwide in very different climates and challenging environments. Whether operating in freezing arctic conditions, hot and arid conditions or at high-altitude, the engine's response and performance is quick, efficient and powerful. Utilizing the same modular concept and thanks to its efficient and add-on exhaust gas after treatment system, Liebherr engines are able to comply with the most stringent global emission regulations i.e. US EPA Tier 4.

Model	D95	D96	D97	D98
Configuration	8/12	12/16	6	12/16/20
Fuel consumption optimized	•	•	•	•
USA EPA Tier 2 (or equivalent)	•	•		
USA EPA CARB Tier 4 final	•	•	•	•



Service

Providing our customers with high quality product support and tailored assistance is what we strive for. For this reason, on top of qualified training for customers' technicians, we offer exceptional service to our customers.

A worldwide presence

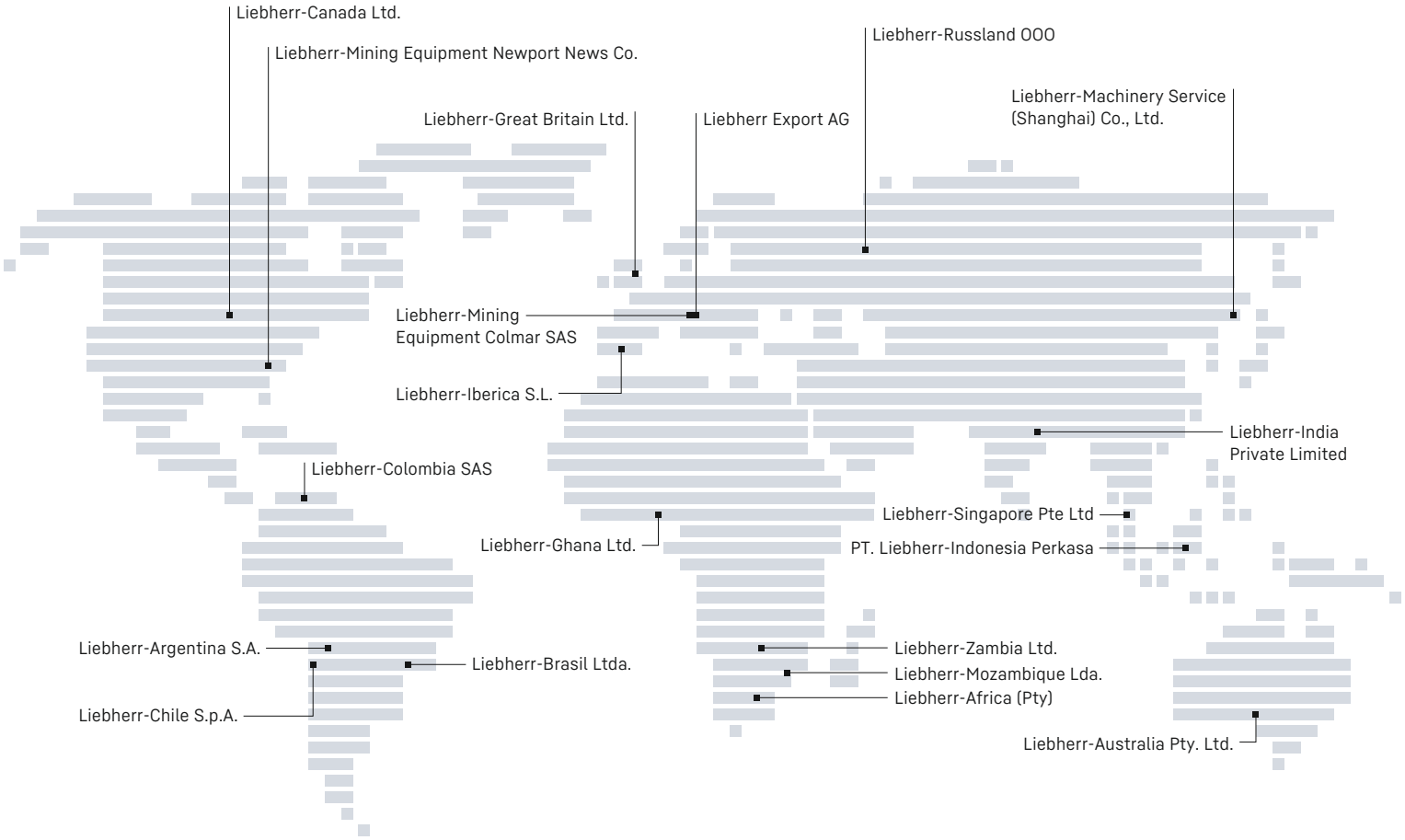
With a truly global network composed of Liebherr affiliates and exclusive representatives, Liebherr's worldwide presence enables the greatest level of service support to ensure the highest availability and productivity of your machine. Our customer support is made up of a global network of Liebherr service organisations, whose priority is your success. Experienced teams with a variety of capabilities, machine expertise, and languages, are available for tailored assistance to customer specific projects and site requirements.

Remanufacturing and repowering
As your engine needs to be replaced several times during the overall lifetime of your machine, we are helping you to reduce your costs by offering you an alternative to a new engine.

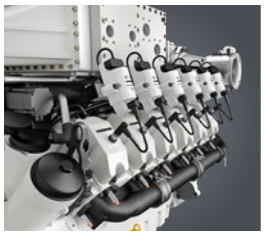
With our remanufacturing program we offer you a financial benefit by helping businesses to cut costs whilst lessening environmental impacts through the various product's life cycle stages.

Our second alternative is the repowering of your machine regardless of its brand or the one of its engine. To improve reliability and fuel consumption, we can offer a complete repowering service and kit.

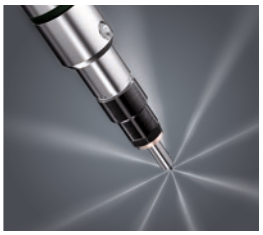
Overall, we are focusing on saving your time, increasing your equipment availability and optimizing your total operating costs so your total costs of ownership meets or exceeds your expectations and forecasts.



Liebherr Components


Gas engines


Diesel engines

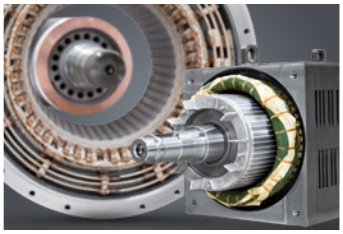

Fuel injection systems

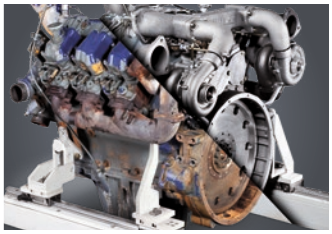

Axial piston hydraulics


Hydraulic cylinders

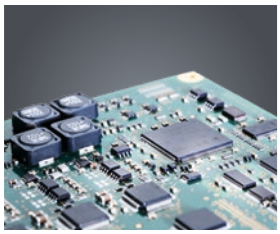

Slewing bearings


Gearboxes and winches

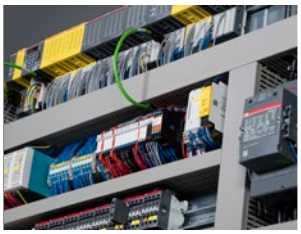

Electric machines


Remanufacturing


Human-machine interfaces and gateways


Control electronics and sensor technology


Power electronics


Control cabinets


Software

From A to Z – the components division of the Liebherr Group offers a broad range of solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contact persons for all product lines are available to our customers at Liebherr-Components AG and the regional sales and distribution branches.

Liebherr is your partner for joint success: from the product idea to development, manufacture and commissioning right through to customer service solutions like remanufacturing.

components.liebherr.com

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