

PETRONAS

Industrial Solutions

Future Focused



Industrial Product Catalogue

Find out more at www.pli-petronas.com

PETRONAS is ready for the world of tomorrow, today

PETRONAS Lubricants International (PLI) is part of the PETRONAS Group. With 10 blending plants, over 30 sales offices and products distributed in more than 90 countries worldwide, PLI's global network of over 240 scientists, technical professionals and engineers anticipate future mobility and mechanical challenges and opportunities, then research and develop advanced fluid technology solutions to meet tomorrow's challenges, today.

We strive to deliver maximum value to our consumers, customers

and the markets in which they operate – while minimising our environmental impact and pioneering high-performance fluids that are manufactured in increasingly low CO2 environments.

We are quietly confident, ambitious, self-assured, thoughtful and enterprising – yet always responsible and dependable.

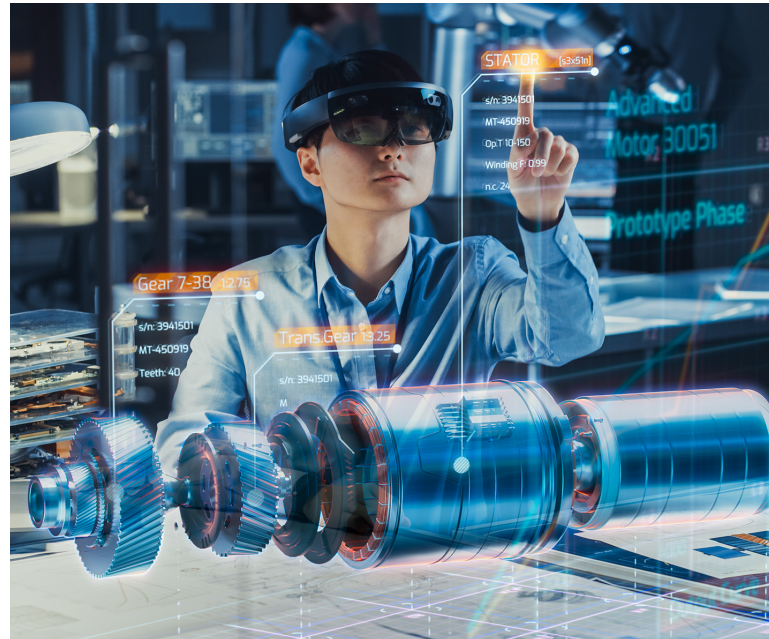
We are always moving forward.
We are PETRONAS.

Global Research & Technology Centre,
Turin, Italy



Strengthening progressive businesses from within

As the world comes together to tackle the climate crisis, businesses need strong partners to help them develop the resilience they need to progress and grow in sustainable ways. PETRONAS Industrial Solutions works as one with our customers to strengthen your operation from within, developing a deep understanding of your needs and delivering against them with innovative services and energy-efficient solutions that set a clear path to a carbon neutral future. Together, we drive industrial resilience and deliver sustainable performance.



Formula 1® and PETRONAS

Challenging environment. High performance requirements. Tough competition.

Sound familiar? The fact is, the issues you face every day are similar to the ones we help solve with the Mercedes-AMG PETRONAS Formula One (F1) Team. In other words, PETRONAS isn't just a title sponsor. We work together with Mercedes-AMG, providing Fluid Technology expertise that creates tailor-made solutions for the

technical challenges of the F1 and delivers a clear PETRONAS advantage on the track. 8 consecutive Constructor's Championship wins show how the partnership continues to thrive. For us, being the best is all about translating the solutions we create for race days into solutions that help your business every day.



OEM Partnerships

**Always testing.
Always refining.
Always improving.**

We strive to continuously improve our products in order to provide you with the best lubricant or grease available. Our efforts have resulted in an extensive list of Original Equipment Manufacturer (OEM) approvals. The approvals mean that our products have been tested and approved by both global and regional OEMs, ensuring optimal system-product compatibility.



Mercedes-Benz

- Supplier of first fill for all high performance Mercedes-Benz AMG engines
- Co-branded Mercedes genuine oil "Powered by PETRONAS"



CNH IVECO

- Supplier of first fill and service fill for CNHi agriculture machinery and Iveco Industrial fleet
- Dedicated brands for CNHi (Ambra and Akcela) and PETRONAS Urania Next (Iveco)

Automotive

Vehicles



Engines



Transmissions



Cooling Systems

DENSO

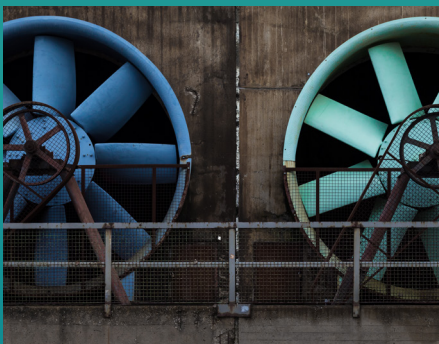
Industrial

Equipment Manufacturers



Partners





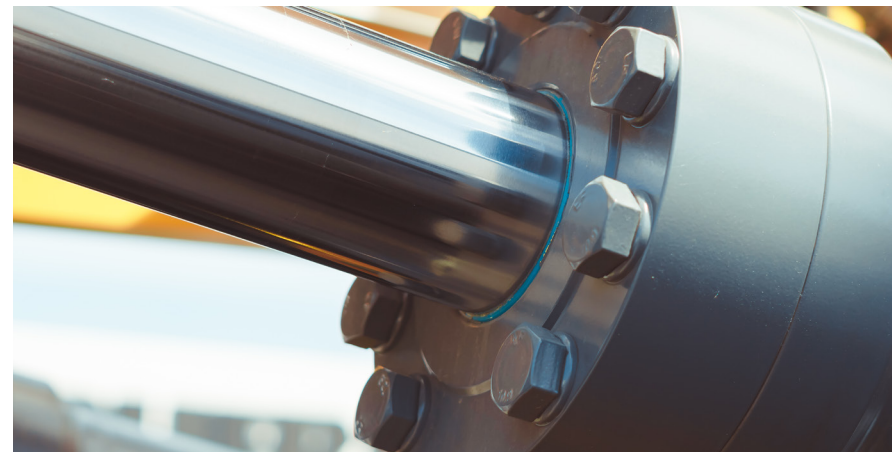
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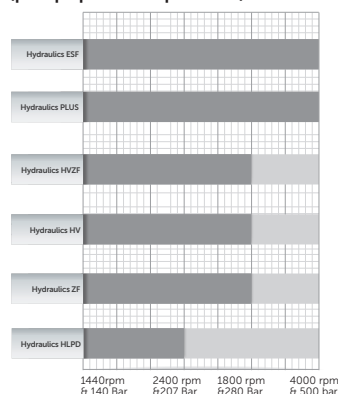
Hydraulic Oils

Hydraulic equipment is now faster and more powerful than ever, placing greater demands on hydraulic oils. Manufacturers today make incredibly compact systems with higher pressures and tighter tolerances to increase system performance. This has led equipment owners to seek longer-lasting solutions to stay competitive in an increasingly competitive market.

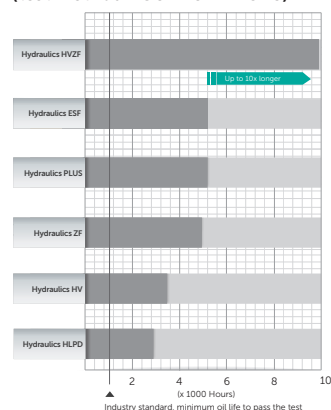
PETRONAS thrives on the challenge of meeting these demands. PETRONAS Industrial Solutions for your hydraulic equipment are designed to meet, if not exceed, today's key industrial and OEM specifications. We have engineered hydraulic oils for all extreme industrial conditions; ranging from situations where water presence can cause filter blockage to applications that require fire resistance such as hydraulic forging presses or robot welding machines.



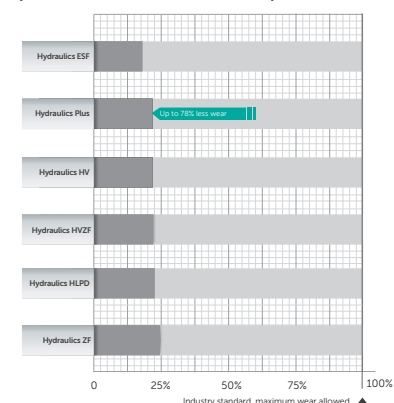
Product Performance Level
(pump speed and pressure)



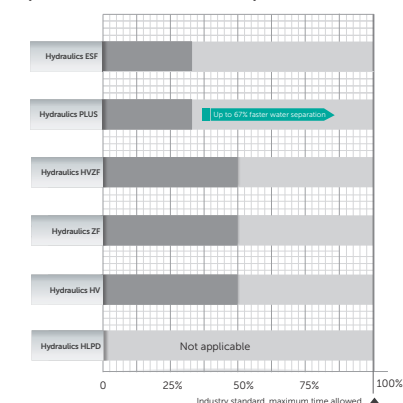
Oxidation Stability Test Results
(test method TOST ASTM D943)



Hydraulics Pump Wear Test Results
(test method EATON 35VQ25)



Water Separability Test Results
(test method ASTM D1401)



Hydraulic Oils

Increasing performance and protection
Improving uptime and lowering maintenance costs

	Modern, anti-wear hydraulic fluids for multipurpose applications	Zinc-free, anti-wear hydraulic fluids for multipurpose applications	Detergent-enhanced hydraulic fluids for high water contamination control	Fire-resistant hydraulic fluids for fire hazard applications
Supreme	PETRONAS Hydraulic ESF <ul style="list-style-type: none"> Energy/Fuel-saving up to 10%/6%** Excellent anti-wear protection Over 5x longer oil life* Excellent and highly stable performance over wide temperature range 			
Premium	PETRONAS Hydraulic HVZF <ul style="list-style-type: none"> Excellent anti-wear protection Up to 10x longer oil life* High and stable performance over wide temperature range 			
	PETRONAS Hydraulic PLUS <ul style="list-style-type: none"> Excellent anti-wear protection Over 5x longer oil life* Excellent performance 	PETRONAS Hydraulic ZF <ul style="list-style-type: none"> Excellent anti-wear protection Up to 5x longer oil life* High performance 	PETRONAS Hydraulic HLPD <ul style="list-style-type: none"> High water tolerance (up to 3%) Excellent anti-wear protection Up to 3x longer oil life* Excellent performance 	
Standard	PETRONAS Hydraulic E <ul style="list-style-type: none"> Very good anti-wear protection High performance 			
	PETRONAS Hydraulic HV <ul style="list-style-type: none"> Excellent anti-wear protection Over 3x longer oil life* High and stable performance over wide temperature range 			
				Petronas Hydraulic HFDU <ul style="list-style-type: none"> Excellent fire resistance High temperature applications Highly biodegradable High wear-resistant protection

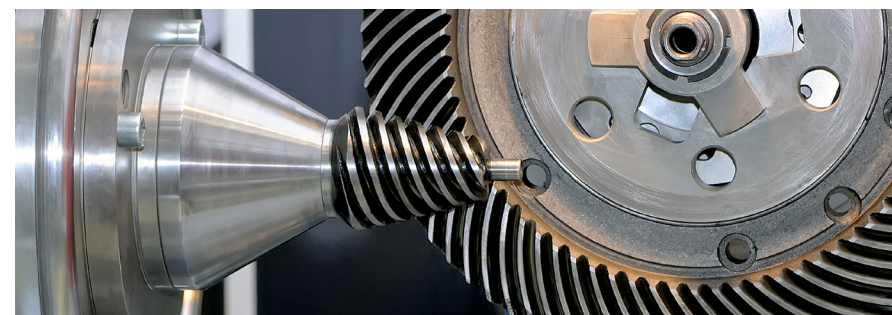
* vs. minimum requirements of ISO 11158 HM for anti-wear hydraulic fluids based on TOST (ASTM D943).

** vs. conventional, standard viscosity hydraulic fluids. Actual results may vary depending on different application conditions, type & condition of equipment, current oil used.
Viscosity index / Pour point: Typical values for VG 46

Gear Oils

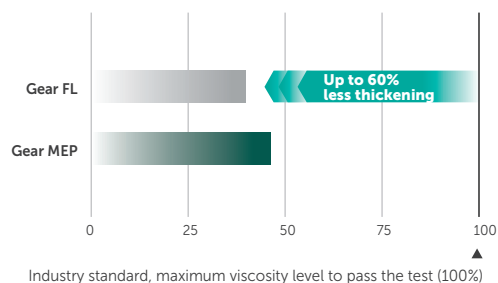
In today's world, everything is getting smaller and faster. OEMs are offering higher output gear drives in increasingly compact forms. Not only are they expected to perform at faster speeds under greater loads, they're constructed from cutting-edge materials.

PETRONAS Industrial Solutions provides equipment owners with reliable and durable solutions for their gear drives. Our gear oils work efficiently in everything from worm gear drives to wind turbines. They also work efficiently in standard fully enclosed gear boxes to large heavily-loaded open gears like those used in mining, sugar refineries, power and steel processing plants.



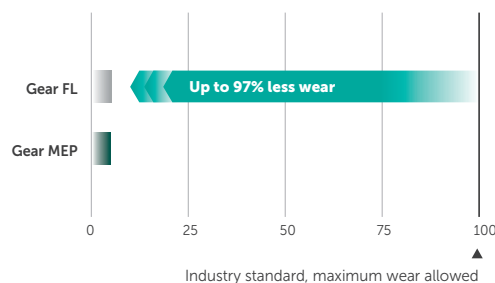
Oxidation Stability Test Results

(test method ISO 4263 @ 95C)



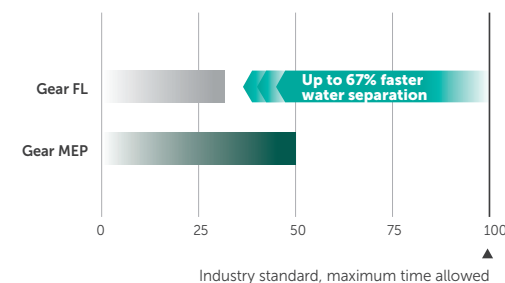
Gear Wear Test Results

(test method FE8 / DIN 51517-3)



Water Separability Test Results

(test method ASTM D1401)



	Industrial enclosed spur / helical / bevel / planetary gears / worm gears	Industrial open gears
Supreme	PETRONAS Gear Syn PAG <ul style="list-style-type: none"> Excellent micropitting, extreme pressure and anti-wear protection Up to 5x longer oil life** High Viscosity Index Excellent performance incl. energy saving 	PETRONAS Gear Syn OG <ul style="list-style-type: none"> Lubricants light colour prevents the need for gear cleaning prior to inspections, helping to reduce maintenance time and costs Excellent extreme pressure performance Excellent anti-wear protection Excellent oxidation stability
Premium	PETRONAS Gear Syn mPAO PETRONAS Gear Syn PAO <ul style="list-style-type: none"> Excellent extreme pressure and anti-wear protection Up to 3x longer oil life** High Viscosity Index Excellent performance including energy saving <hr/> PETRONAS Gear Syn WTS <ul style="list-style-type: none"> Excellent protection against corrosion, wear & shock loading Significantly less micropitting Wider operating temperatures Anti-foam protection <hr/> PETRONAS Gear Syn <ul style="list-style-type: none"> Excellent micropitting resistance Excellent extreme pressure protection Up to 2x longer oil life* High Viscosity Index Excellent resistance to sludging <hr/> PETRONAS Gear FL <ul style="list-style-type: none"> Excellent micropitting, extreme pressure and anti-wear protection Up to 1.6x longer oil life* Excellent performance 	
Standard	PETRONAS Gear MEP <ul style="list-style-type: none"> Excellent extreme pressure and anti-wear protection Up to 1.5x longer oil life* High performance 	
Basic	Gear MEP IND Kindly consult PETRONAS sales and technical services for recommendations.	

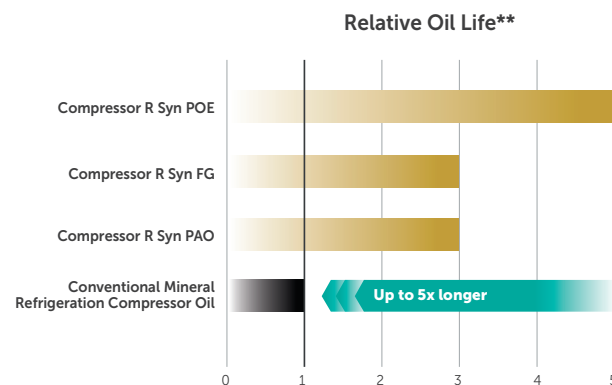
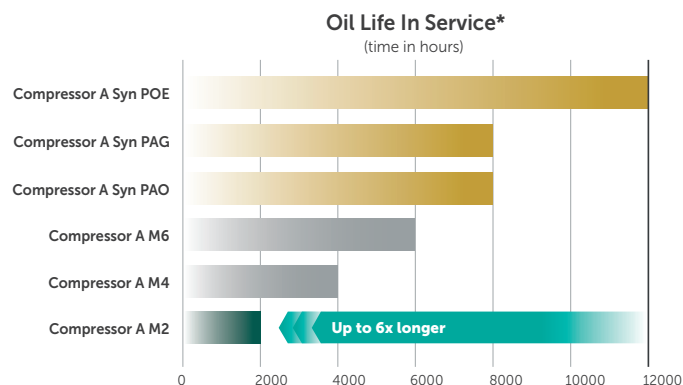
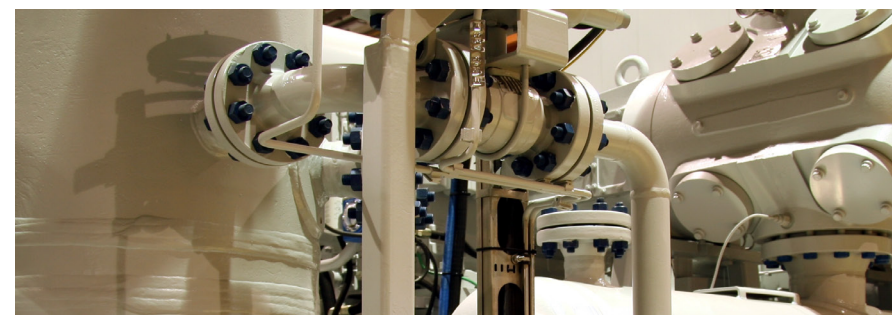
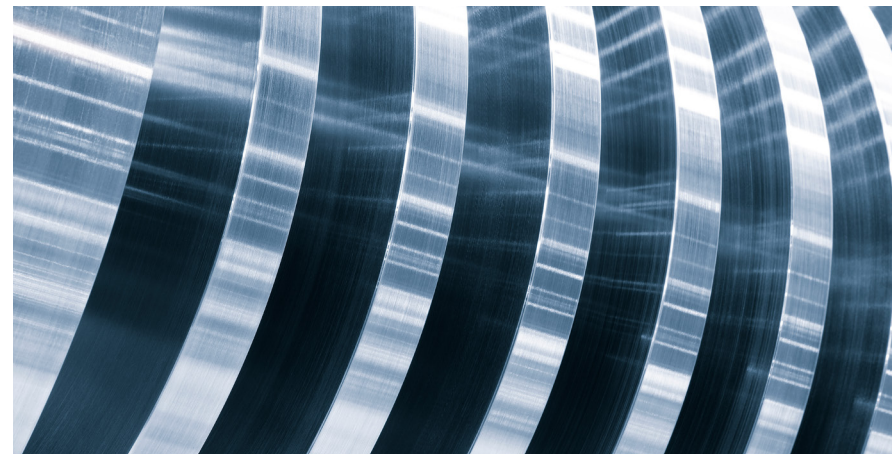
* vs. minimum requirements of industrial gear oils to pass the viscosity increase test (ISO 4263-4 @95°C)

** vs. conventional mineral gear oils

Compressor Oils

Compressors today work at ultra-high temperatures for long periods of time, putting them (literally) under pressure. With the advent of new, more demanding equipment specifications, and with potential contaminants intermingling with oil, protecting the equipment presents a number of challenges.

PETRONAS Industrial Solutions offers a range of compressor oils with a service life of up to 12,000 hours - even at maximum discharge temperatures of 120°C. From air compressor oils to those formulated specifically for refrigeration and air conditioning, they protect against varnish and deposit formation. Whether in Standard form, or Supreme high performance, all our compressor oils are enhanced with advanced anti-oxidant, anti-wear (zinc-free), anti-rust and anti-foam additives.



Compressor Oils

Increasing performance and protection
Improving uptime and lowering maintenance costs

	Air compressors (all types)	Refrigeration and air conditioning compressors (all types)
Supreme	PETRONAS Compressor A Syn POE <ul style="list-style-type: none"> Up to 12 000 hours oil life in service* Excellent system protection against varnish and deposit formation Excellent performance 	PETRONAS Compressor R Syn POE <ul style="list-style-type: none"> Up to 5x longer oil life** Excellent system protection against varnish and deposit formation Excellent performance HFC refrigerants
	PETRONAS Compressor A Syn EST <ul style="list-style-type: none"> Up to 12 000 hours oil life in service* Excellent system protection against varnish and deposit formation Excellent performance 	
	PETRONAS Compressor A Syn PAG <ul style="list-style-type: none"> Up to 8 000 hours oil life in service* Excellent system protection against varnish and deposit formation Excellent performance 	PETRONAS Compressor R Syn POE <ul style="list-style-type: none"> Food industry approved Up to 3x longer oil life** Excellent system protection against varnish and deposit formation Excellent performance Ammonia and process gases
	PETRONAS Compressor A Syn PAO <ul style="list-style-type: none"> Up to 8 000 hours oil life in service* Excellent system protection against varnish and deposit formation Excellent performance 	PETRONAS Compressor R Syn PAO <ul style="list-style-type: none"> Up to 3x longer oil life** Excellent system protection against varnish and deposit formation Excellent performance Ammonia and process gases
Premium	PETRONAS Compressor A M6 <ul style="list-style-type: none"> Up to 6 000 hours oil life in service* High thermal and oxidation stability High air release and foam stability 	
	PETRONAS Compressor A M4 <ul style="list-style-type: none"> Up to 4 000 hours oil life in service* High system protection against varnish and deposit formation High performance 	
Standard	PETRONAS Compressor A M2 <ul style="list-style-type: none"> Up to 2 000 hours oil life in service* Very good system protection against varnish and deposit formation Very good performance 	
Basic	Kindly consult PETRONAS sales and technical services for recommendations.	

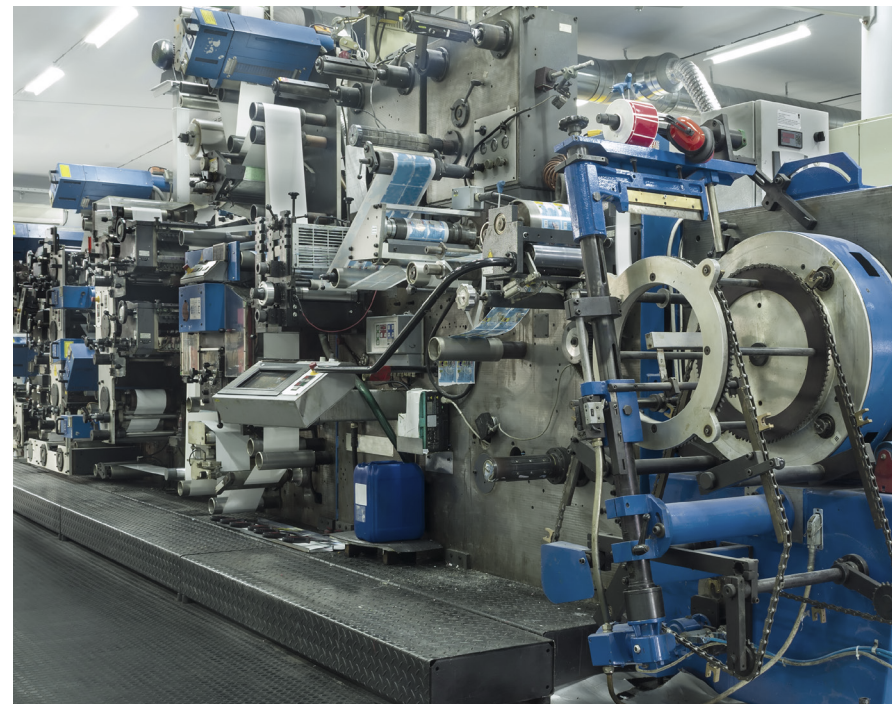
* Maximum values for each product. Individual oil condition strongly depends on the type of compressor and operating conditions.
Oil condition monitoring should be carried out during the service to secure optimum oil performance.

** vs. conventional mineral refrigeration compressor oils.

Circulating Oils

Circulating oil systems must provide smooth, continuous lubricant flow to bearings and gears and this is where PETRONAS Industrial Solutions can help.

PETRONAS circulating oils are optimized for efficiency so maintenance costs are reduced, even as equipment is pushed to its limits. High thermal stability, excellent water separation, and resistance to sludge formation are just some of the properties you can expect from our lubricants. The PETRONAS Circula range is recommended for use in various heavy duty circulating systems, including plain or rolling element bearings and hydraulics.



Circulating Oils

Increasing performance and protection
Improving uptime and lowering maintenance costs

	Heavy duty oil circulating systems	Steel mill oil circulating systems
Supreme	PETRONAS Circula SYN <ul style="list-style-type: none"> Excellent water separability Over 4x longer oil life* Excellent anti-wear protection Excellent resistance to sludge formation 	
Premium	PETRONAS Circula PM (Paper Machine) <ul style="list-style-type: none"> Excellent water separability Over 3x longer oil life* Excellent anti-wear protection Excellent resistance to sludge formation 	PETRONAS Circula Mill NT <ul style="list-style-type: none"> High water separability Long oil life Excellent anti-wear & EP protection
Standard	PETRONAS Circula <ul style="list-style-type: none"> Very good water separability Very good anti-wear protection Over 2x longer oil life* 	PETRONAS Circula Mill <ul style="list-style-type: none"> Excellent water separability Long oil life High anti-wear protection
Basic	Kindly consult PETRONAS sales and technical services for recommendations.	

* vs. minimum requirements of ISO 11158 HM fluids based on TOST (ASTM D943)

Gas Engine Oils

The global demand for reliable energy continues to grow for the foreseeable future. So does the need for effective solutions to anticipate and meet future demands as dependably and efficiently as possible.

PETRONAS Industrial Solutions for your gas engines meet the most severe industry and OEM specifications to deliver the performance you can rely on. Our solutions deliver excellent TBN retention, minimum levels of engine wear and excellent engine cleanliness leading to long oil life and lower overall maintenance costs.



Gas Engine Oils

		Gas Engine (Natural Gas)	Gas Engine (Bio, Sewage and Landfill Gas)
Increasing performance and protection Improving uptime and lowering maintenance costs	Supreme	PETRONAS GEO SYN <ul style="list-style-type: none"> Excellent TBN retention Excellent engine cleanliness Excellent oxidation and nitration stability High anti-wear and rust-protection specially developed for the lubrication of a wide range of spark-ignited gas-fuelled Specially developed for the lubrication of a wide range of spark-ignited gas-fuelled Able to support Engines using Steel & Aluminum pistons 	
	Premium	PETRONAS GEO NG <ul style="list-style-type: none"> Excellent TBN retention Excellent engine cleanliness Excellent oxidation and nitration stability High anti-wear and rust-protection Specially developed for the lubrication of a wide range of spark-ignited gas-fuelled engines in order to improve fuel-efficiency and reduce emissions 	PETRONAS GEO BLG <ul style="list-style-type: none"> Excellent TBN retention Excellent engine cleanliness Premium performance bio and landfill gas engine oil specially developed for bio and landfill applications Excellent anti-wear and anti-scurf protection High oxidation and nitration stability High rust & corrosion protection
	Standard		
	Basic	Kindly consult PETRONAS sales and technical services for recommendations.	

* vs. minimum requirements of ISO 11158 HM fluids based on TOST (ASTM D943)

Metalworking Fluids

When you're trying to drive improvements in production while lowering costs, you'll need a partner with technical expertise in the metalworking industry.

PETRONAS Industrial Solutions offers a range of chlorine, phenol and nitrite free water-soluble and neat metalworking fluids for improved productivity, flexibility and safety. We've formulated the PETRONAS Mecafluid Series to include the latest Boron and Biocide free (formaldehyde free) formulation technology for machining with a wide range of metals. Their stable emulsions make them bacteria and fungal-resistant, extending tool and sump life and reducing maintenance costs.

By partnering with you to solve the problems you face today and tomorrow, we can help you move ahead and develop your business. Together with our insight-driven services, we'll help you improve reliability, reduce your operating costs and free up your potential – all because we share your goals and priorities.



Metalworking Fluids

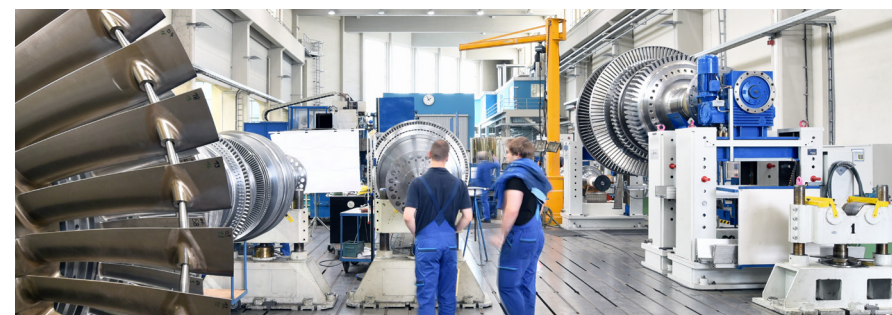
Increasing performance and protection
Improving uptime and lowering maintenance costs

	Soluble	Neat
Supreme	MECAFLUID SS 1001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 Low oil content💧 Excellent hard water tolerance💧 Excellent stability in use	MECAFLUID SYN 1001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 Oil free💧 Excellent stability in use💧 Excellent rust and corrosion protection
	MECAFLUID SS 3001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 Medium oil content💧 EP additive💧 Excellent hard water tolerance💧 Excellent stability in use	MECAFLUID SM 5001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 High oil content💧 EP additive💧 Excellent hard water tolerance💧 Excellent stability in use
	MECAFLUID SM 4001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 Exceptional for yellow metals💧 High oil content emulsion💧 Excellent hard water tolerance💧 Excellent stability in use	MECAFLUID SS 4001 ECO <ul style="list-style-type: none">💧 Boron and Biocide free💧 EP additive💧 Excellent hard water tolerance💧 Excellent stability in use
Premium	MECAFLUID SS 3001 FF <ul style="list-style-type: none">💧 Biocide free💧 Medium oil content💧 Excellent hard water tolerance💧 High stability in use	
Standard	MECAFLUID SS 3001 <ul style="list-style-type: none">💧 Medium oil content💧 High stability in use💧 Very good rust and corrosion protection	MECAFLUID NO 23 EP <ul style="list-style-type: none">💧 Neat cutting fluid with EP additives💧 Yellow metals compatibility💧 Very good extreme pressure performance
Basic	Kindly consult PETRONAS sales and technical services for recommendations.	

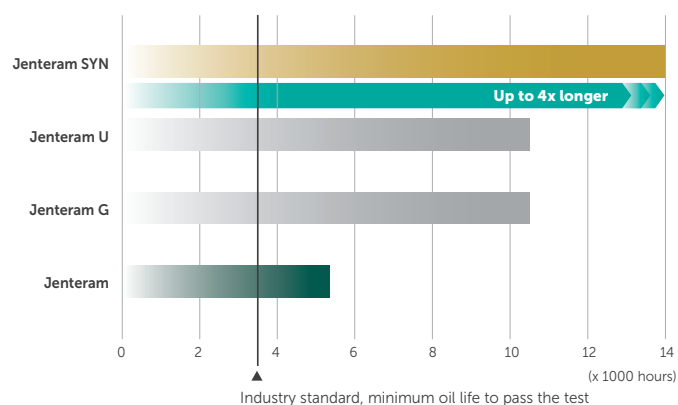
Turbine Oils

The demand for power has become a challenge not only for energy suppliers, but also for turbine manufacturers. Lengthy periods of time in service, extreme operating conditions (high temperatures, elevated operating pressures, potential water contamination) all take their toll on modern steam and gas turbines – and the turbine oil inside them. There is also a risk of costly breakdowns when peak load requirements involve frequent powering up and shutting down.

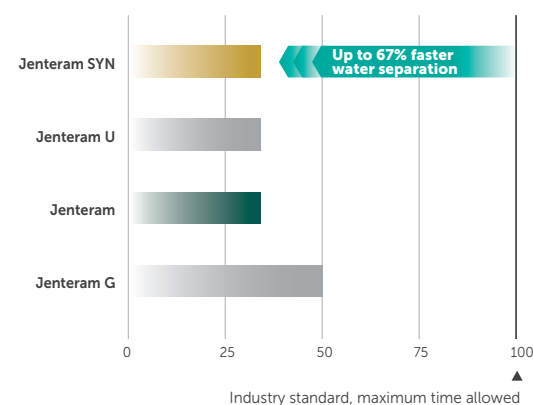
PETRONAS Industrial Solutions offers oils for steam, light or heavy-duty gas turbines that meet or exceed key industrial specifications and OEM requirements. Each one is formulated with high quality selected base oils enhanced with anti-wear, anti-oxidant, anti-rust and anti-foam additives. From Standard, through Premium to Supreme levels of protection, PETRONAS Jenteram Series delivers class-leading performance.



Oxidation Stability Test Results
(test method TOST ASTM D943)



Water Separability Test Results
(test method ASTM D1401)



Turbine Oils

Increasing performance and protection Improving uptime and lowering maintenance costs		Steam, gas, combined cycle turbines with / without associated gear drives	Steam, gas, combined cycle turbines without associated gear drives
	Supreme	PETRONAS Jenteram SYN <ul style="list-style-type: none">Very good varnish controlHigh anti-wear protectionUp to 4x longer oil life*Excellent performance	
	Premium	PETRONAS Jenteram G <ul style="list-style-type: none">Very good varnish controlHigh anti-wear protectionUp to 3x longer oil life*High performance	PETRONAS Jenteram U <ul style="list-style-type: none">Excellent varnish controlVery good anti-wear protectionUp to 3x longer oil life*High performance
	Standard		
	Basic	Kindly consult PETRONAS sales and technical services for recommendations.	

* vs. minimum requirements of DIN 51515 Part II for industrial turbine oils based on TOST results (ASTM D943)

Greases

Efficacious lubrication is only as good as the people, equipment, and products involved. This certainly holds true for greases used in industrial applications. Understanding the root causes of problems, deciding on solutions, then recommending the optimal products that deliver cost-effective outcomes is critical when it comes to grease applications.

PETRONAS Industrial Solutions offers a comprehensive grease range. We give you fewer but better options that enable you to deliver effective lubrication, regardless of the conditions. The experts behind our greases have decades of experience and understand your challenges. Whatever your needs may be, our team of experts will help you find the right product.

Greases	Description	NLGI Grade
Aluminium Complex		
PETRONAS Grease FG	PETRONAS Grease FG is an Aluminium complex grease specially developed for lubrication of machinery used in food processing and packaging industries.	2
Calcium		
PETRONAS Grease Ca 00	PETRONAS Grease Ca 00 is a calcium grease specially developed for machine tools used in mining operations.	00
Calcium Sulfonate		
PETRONAS Grease CaSx	PETRONAS Grease CaSX is a Calcium Sulphonate complex grease specially developed for industrial, marine and off-road applications.	2
Clay		
PETRONAS Grease Clay MEP	PETRONAS Grease CLAY MEP is a high temperature Organophilic Bentonite grease with solid lubricant specially developed for industrial equipment where the capability of conventional greases may be exceeded by either continuous high temperature or cyclic conditions ranging from normal to extremely high temperatures.	2
PETRONAS Grease Clay MG	PETRONAS Grease CLAY MG is a high temperature Organophilic Bentonite grease with solid lubricant specially developed for heavy duty industrial equipment with slow speed plain bearings where the capability of conventional greases may be exceeded by either continuous high temperature or cyclic conditions from normal to extremely high temperatures.	1
Lithium		
PETRONAS Grease Li 2	PETRONAS Grease Li 2 is a non-EP Lithium grease specially developed for industrial general purpose applications.	2
PETRONAS Grease Li A5	PETRONAS Grease Li AS is an extreme pressure Lithium grease with anti-seize compound specially developed for general maintenance and installation procedures used in industrial, mining and marine applications.	1.5

Greases	Description	NLGI Grade	Greases	Description	NLGI Grade
Lithium			Lithium Complex		
PETRONAS Grease Li EP 2	PETRONAS Grease Li EP 2 is an extreme pressure Lithium grease specially developed for multipurpose applications, lubrication of both plain and anti-friction bearings even where severe or shock loads are experienced.	2	PETRONAS Grease LiX EP 2/380	PETRONAS Grease LiX EP 2/380 is an extreme pressure Lithium complex grease specifically developed for high temperature general purpose industrial applications.	2
PETRONAS Grease Li PT	PETRONAS Grease Li PT is a Lithium grease specially developed as a post tensioning grease within the construction industry.	1.5	PETRONAS Grease LiX MEP	PETRONAS Grease LiX MEP is an extreme pressure Lithium complex grease with solid additives specially developed for lubrication of heavy duty applications where good adhesive properties are required.	2
PETRONAS Grease Tutela SP	PETRONAS TUTELA SP Grease is an extreme pressure Lithium grease specially developed for automotive applications.	2	PETRONAS Grease LiX SYN 1/1500	PETRONAS Grease LiX SYN 1/1500 is a synthetic Lithium complex grease specially developed for heavily loaded bearings in low speed applications, at elevated temperatures, in wet and corrosive environments.	1
Lithium Calcium			PETRONAS Grease LiX SYN 2/100	PETRONAS Grease LiX SYN 2/100 is a synthetic Lithium complex grease specially developed for heavily loaded bearings at elevated temperatures, in wet and corrosive environments.	2
PETRONAS Grease LiCa GEP 0	PETRONAS Grease LiCa GEP 0 is an extreme pressure Lithium Calcium grease with solid additives specially developed for lubrication of open gears, racks, chains, wire ropes, support rollers, slides and sprockets.	0	PETRONAS Grease LiX SYN 2/220	PETRONAS Grease LiX SYN 2/220 is a synthetic Lithium complex grease specially developed for heavily loaded bearings at elevated temperatures, in wet and corrosive environments.	2
PETRONAS Grease LiCa GEP 2.5	PETRONAS Grease LiCa GEP 2.5 is an extreme pressure Lithium Calcium grease with solid additives specially developed for lubrication of open gears, racks, chains, wire ropes, support rollers, slides and sprockets.	2.5	PETRONAS Grease LiX SYN 2/460	PETRONAS Grease LiX SYN 2/460 is a synthetic Lithium complex grease specially developed for heavily loaded bearings at elevated temperatures, in wet and corrosive environments.	2
PETRONAS Grease LiCa MG HL	PETRONAS Grease LiCa MG HL is an extreme pressure Lithium Calcium grease with dual solid additives and film thickening polymers to improve boundary lubrication.	2	PETRONAS Grease Tutela WB	PETRONAS Grease Tutela WB is an extreme pressure Lithium complex grease specially developed for the transport industry and its wheel bearing applications.	2.5
PETRONAS Grease LiCa MG XHL	PETRONAS Grease LiCa MG XHL is an extreme pressure Lithium Calcium grease with dual solid friction-reducing additives specially developed for applications requiring heavy duty grease for long-term use.	2			
PETRONAS Grease LiCa TMG	PETRONAS Grease LiCa TMG is a Lithium Calcium grease specially developed for lubricating the traction motor gear cases of all locomotives including the latest high horsepower units.	0.5	Polyethelene		
Lithium Complex			PETRONAS Grease PE HS	PETRONAS Grease PE HS is a Polyethylene grease specially developed to withstand the high centrifugal forces created by rotating couplings.	1
PETRONAS Grease LiX EP 2 / 170	PETRONAS Grease LiX EP 2/170 is an extreme pressure Lithium complex grease specifically developed for commercial vehicle applications and a wide variety of industry applications.	2	Polyurea		
			PETRONAS Grease PU	PETRONAS Grease PU is a Polyurea grease specially developed for lubrication of electric motor bearings, and high-speed pumps.	2

Other Oils

Air Tool Oils

PETRONAS ATO

PETRONAS ATO Series are high performance air tool oils specially developed for a range of pneumatically operated rock drills in underground and surface mining. Formulated with high quality selected mineral base oils enhanced with advanced antiwear, anti-rust, anti-oxidant and anti-foam additives, our air tool oils provide excellent anti-wear, metal wetting properties, adhesiveness, fog and emulsion control. The fog generation is kept at minimum and is non-toxic.

Chainsaw Oils

PETRONAS CHAINSAW

PETRONAS Chainsaw Series is a high quality chainsaw oil specially developed for the lubrication of cutting chains and cutter bars of modern chainsaws. Formulated with selected mineral base oils enhanced with advanced heavy metal free antiwear, anti-oxidant, anti-rust and adhesive additives, our chainsaw oils provide high anti-wear, high lubricity and adhesive properties for smooth operation of the chainsaws.

Transformer Oils

PETRONAS ELEKTRON

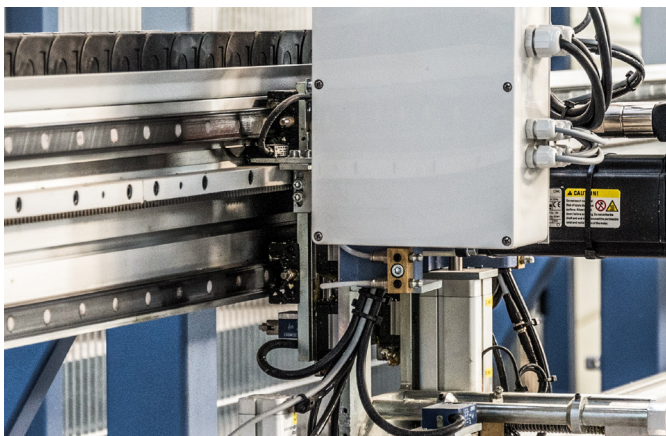
PETRONAS ELEKTRON are premium performance oils specially developed to meet main specifications of all major transformers. Formulated with high quality synthetic base oils enhanced with anti-oxidant additive, PETRONAS ELEKTRON oil provides excellent insulating and cooling properties which extends the oil life due to its natural resistance to degradation.



Slideway Oils

PETRONAS SLIDEWAY

PETRONAS Slideway Series are high performance lubricants specially developed for machine-tool ways and slides where precision or slow speeds make it necessary that "stick-slip" of tables and slides are eliminated. Formulated with high quality selected mineral base oils enhanced with advanced antioxidant, anti-rust, extreme pressure, anti-wear and anti-foam additives, our slideway oils provide excellent separation from water-miscible cutting fluids, high antiwear protection and a combination of adhesiveness and stick-slip characteristics ensuring smooth operation of the machine tools.



Heat Transfer Oils

PETRONAS HTO

PETRONAS HTO Series are high performance heat transfer fluids specially developed for open and enclosed heat transfer systems operating at high bulk oil temperatures. Formulated with high quality selected mineral base oils enhanced with advanced antioxidant and detergent additives, our heat transfer oils provide high anti-oxidant protection and detergency to eliminate build-up and deposits.



White Oils

PETRONAS WHITE OIL

PETRONAS WHITE OIL Series are high-quality oils specially developed for a variety of uses, especially in the pharmaceutical and food grade field.



Multifunctional Fluids

PETRONAS *Tutela*

The PETRONAS Tutela range of fluids are specifically engineered to provide enhanced protection for ancillary systems and are designed to work in conjunction with PETRONAS Urania to keep your business moving.

- **PETRONAS Tutela Transmission Fluids** combine lower viscosity with strengthened fluid film resistance, to reduce friction and improve fuel efficiency without compromising on protection.
- **PETRONAS Tutela Axle and Gear Fluids** offer outstanding shock load resistance to protect the axle, particularly in lowspeed, high-load scenarios such as those experienced in distribution and construction.
- **PETRONAS Tutela Brake Fluids** are designed with all the most critical safety features in mind – protecting vehicles, drivers and passengers in all conditions.
- **PETRONAS Tutela Coolants**, formulated with high-quality additive technologies, cater to the cooling systems of passenger vehicles, light and heavy-duty vehicles, and off-highway equipment.



Engine Oils

PETRONAS Urania

PETRONAS Urania with StrongTech™ technology, our range of engine oils for commercial vehicles, is formulated with incredibly strong molecule chains that lock away harmful deposits to maintain optimal viscosity and defend against wear and oxidation, extending the oil's efficiency right up to the next drain.

Supreme



Urania 5000

- StrongTech™ Ultimate Core Strength
- Extended Drain Interval
- Improved Fuel Economy (for 5W-30 variants)
- Part-Syn/Full-Syn
- ACEA E4, Euro III/IV/V OEM Approvals Std SAPS



Urania 5000 LS

- StrongTech™ Ultimate Core Strength
- Extended Drain Interval
- Improved Fuel Economy (for 5W-30 variants)
- Low Emission
- Part-Syn/Full-Syn
- API CK-4/ACEA E8 Euro VI, China VI/Bharat VI OEM Approvals Mid/Low SAPS



Urania 5000 ECO

- StrongTech™ Ultimate Core Strength
- Extended Drain Interval
- Ultimate Fuel Economy
- Low Emission
- Fully synthetic
- New MAN & Scania Euro VI-d engines
- OEM Approvals by MAN M3977 & Scania LDF-5

Premium



Urania 3000

- Mineral/Part-Syn
- StrongTech™ Excellent Core Strength
- Extended Oil Life
- API CI-4/CI4 Plus, ACEA E7, Euro III/IV/V OEM Approvals Std SAPS



Urania 3000 LS

- Mineral/Part-Syn
- StrongTech™ Excellent Core Strength
- Extended Oil Life
- Low Emission
- API CK-4/ACEA E11, Euro VI, China VI/Bharat VI OEM Approvals Mid/Low SAPS

PETRONAS Expert Solutions

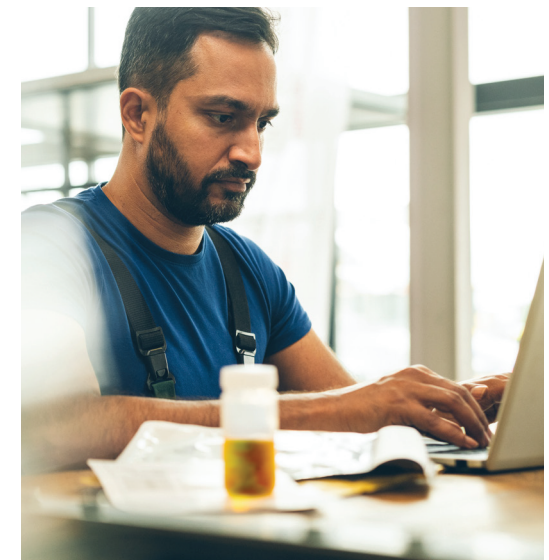
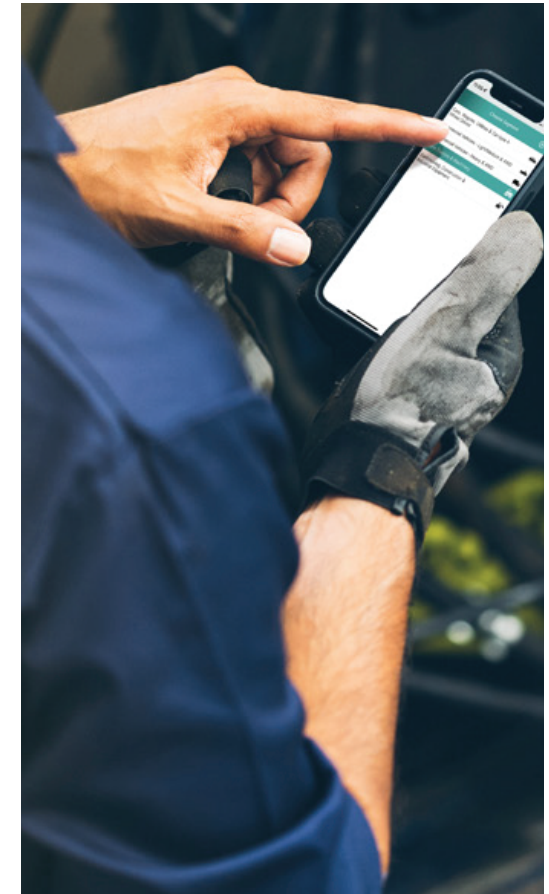
Your progress. Our priority.

By partnering with you to solve the problems you face today and tomorrow, we can help you move ahead and develop your business. Our insight-driven services help you improve reliability, reduce your operating costs and free up your potential – all because we share your goals and priorities. Expert Solutions from PETRONAS is your secret weapon in your mission to do more, use less and grow faster. It's how our passion for progress can help take you to an exciting and more sustainable future.

Equipment

Downtime is the enemy of progress. With predictive maintenance and support for your equipment and fluids, we can identify problems before they take hold – so you can plan ahead and focus on success.

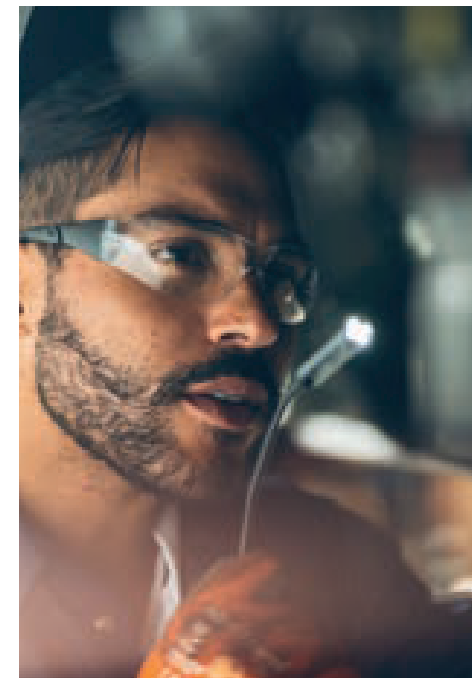
- Diagnostics - Oil condition monitoring
- Fluid recommender



Operations

With so much happening in your business, it's easy to lose sight of what matters. Our Expert Solutions use tools, services and support to help you achieve greater progress more quickly – and improve efficiency while reducing operational costs.

- Fleet survey
- Fluid-i for remote fluid level visibility and alerts for automatic stock orders



People

With the right knowledge in your team, you can progress further, faster. That's why we work with your people to build their skills and help them work more effectively day in, day out.

- Technical training programme

Notes

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Scan the QR code
for more information

