



Total Cost of Ownership (TCO) reduction

Extended equipment life

Optimized drain intervals

LubAnac

Let your oil do the talking



TotalEnergies

LubAnac

by TotalEnergies

Lub Analysis compared

LubAnac is more than an Oil Analysis service.

LubAnac is a **Fleet/Equipment Management System**, based on the analysis of used oil, providing a significant saving for the customer regarding maintenance costs of their vehicle/machine park, by:

- Early detection of increased wear
- Personal advice about the cause of wear
- Drain interval recommendation

Our professional customers are active in **automotive** (On-Road & Off-Road), **industrial**, and **marine** (Inland and International) markets. The LubAnac diagnostic service is sold worldwide by TotalEnergies affiliates to the final users.

Choose LubAnac to help meet your operational & maintenance requirements

- 🔍 Improves equipment performance and reliability
- 🔍 Reduces unexpected breakdowns
- 🔍 Helps to anticipate and schedule maintenance
- 🔍 Extends equipment lifetime
- 🔍 Reduces operating costs
- 🔍 Optimizes drain intervals
- 🔍 Produces insights by automated monitoring

Did you know that?

- 🔍 An equipment breakdown can cost up to **€9.500** (engine + mechanic)
- 🔍 1 week of a vehicle at the workshop could mean a loss of more than **€800** only in labor cost (€15,6/h x 8 hours x 7 working days)
- 🔍 Every non-productive truck could imply a turn over loss of up to **€ 2.800** per week (€400 x 7 working days)

LubAnac can prevent a non-expected vehicle breakdown that could imply up to €13.200 expenditure!*

*Cost estimation not contractually binding based on a geographically limited internal study.



Reduces downtime of your fleet.

Prevention of possible mechanical breakdowns.



Increases the lifetime of your vehicles and machines.

Decrease of the risk of excessive wear of the mechanical component.

Key figures

- More than **10.000 customers** worldwide
- **Decreasing Total Cost of Ownership (TCO)**, with a return of investment (ROI) of up to 9:1*
- More than **9 million oil samples** analysed
- More than **45 years** of experience
- Active in **100 countries**
- Reports available in **19 languages**



Optimizes the maintenance.

Control of your maintenance budget.



Reduces the Total Cost of Ownership (TCO).

Optimization of the amortization of your vehicle/equipment park.

*Based on feedback provided by LubAnac customers.

Worldwide presence



1 main European LubAnac center in Ertvelde, Belgium which also hosts the worldwide database.

A worldwide network of 30 accredited LubAnac weblink laboratories for used oil analysis connected to the central laboratory.



The **automotive** range

LubAnac Premium Offer



Specially designed for **long-haul road fleet**, ensures:

- The **use of right engine** oil to protect exhaust gas emission systems and ensuring the use of LOW SAPS engine oil for new generation of equipments.
- The **optimization of drain intervals** with oxidation analysis.



Specially designed for **intra-city road fleets** (waste collectors, city buses, etc), ensures:

- **Adapted analysis to city condition usages** with T.B.N. control based on OEM requirements.
- **Adapted analysis to gas engine requirements** with nitration and oxidation control.



Specially designed for **off-road applications**, ensures:

- The **detection of bigger ferrous particles** with FDM (Ferrous Debris Monitor) for transmission.
- Advanced **oxidation control** for transmission oil and **TAN follow-up** for hydraulic oil to prevent any acid attacks of elastomers, seals and oil thickening.



Specially designed for **agricultural applications**, ensures:

- The **detection of bigger ferrous particles** with FDM (Ferrous Debris Monitor) for transmission.
- The determination of **presence of hydraulic oil in UTTO** (Universal Tractor Transmission Oils), avoiding noise and shuddering.



Specially designed for **marine applications** (fishing boat, barges, yacht, etc.), ensures:

- The determination of **presence of sea or fresh water in lubricant**.
- The **detection of bigger ferrous particles** with FDM (Ferrous Debris Monitor) for transmission.



In-depth diagnostic system for the follow-up of **cooling liquids** and **cooling systems**. LubAnac coolant premium adds a **microscopic examination** of the particles in the coolant to the analysis of the physico-chemical condition of the coolant and the wear condition of the cooling system.

LubAnac Standard Offer



Using a data compensation system, LubAnac Pro is the solution offered to all fleet managers to accurately **identify the wear condition** of their vehicle driveline components and **reduce the maintenance costs** of their vehicle/machine park.



In-depth, **personalised diagnostic system**, recommended for detailed follow-up of component wear and lubricant behaviour, spot analysis and diagnosis in special cases (breakdown, claims, expertise, etc).

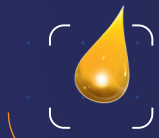


In-depth diagnostic system for **non-combustion driveline components** and **hydraulic systems** in automotive applications. LubAnac Visio adds a **microscopic examination** of the particles in the oil to the analysis of the physico-chemical condition of the lubricant and the wear condition of the component.



In-depth diagnosis for the follow-up of **cooling liquids** and **cooling systems**. LubAnac Coolant standard ensures:

- **A detailed monitoring** of the coolant behavior and cooling system condition.
- A rigorous **compliance check** of the cooling liquid properties in use.



The **industry** range

Basic

Standard

Premium

LubAnac
industry



Diagnostic system for the monitoring of the evolution of the industrial oil conditions during use for all applications.



LubAnac
turbine



In-depth diagnostic system for the monitoring of the evolution of the state of the **turbine lubricant during use** and as an assessment of the operating conditions of the machines, supported by expert recommendation and graphs.



LubAnac
calo



In-depth diagnostic system for the monitoring of the evolution of the state of heat transfer fluids during use and as an assessment of the operating conditions of the systems, supported by expert recommendation and graphs.



LubAnac
frigo



In-depth diagnostic system for the monitoring of the evolution of the **state of the refrigerating compressor lubricant during use** and as an assessment of the operating conditions of the machines, supported by expert recommendation and graphs.



LubAnac
gas



Diagnostic system. Through a simple used oil analysis, LubAnac Gas gives a follow-up of the behavior and depletion of the lubricant and the mechanical wear of industrial gas engines.



LubAnac
trempe



In-depth diagnostic system for the monitoring of the evolution of the **state of quenching oils during use** and as an assessment of the operating conditions of the systems, supported by expert recommendation and graphs.



LubAnac
hydraulic



In-depth diagnostic system for the monitoring of the evolution of the state of the hydraulic lubricant during use and as an assessment of the operating conditions of the system, supported by expert recommendation and graphs.



LubAnac
gear



In-depth diagnostic system for the monitoring of the evolution of the state of the gear lubricant during use and as an assessment of the operating conditions of the machines, supported by expert recommendation and graphs.



LubAnac
compressor



In-depth diagnostic system for the monitoring of the evolution of the state of the compressor lubricant during use and as an assessment of the operating conditions of the machines, supported by expert recommendation and graphs.



LubAnac
wind



In-depth diagnostic system for the follow-up of specific wind turbine transmissions operating in severe service conditions, supported by expert recommendation and graphs.



LubAnac
coolant



In-depth diagnosis for the follow-up of **cooling liquids and cooling systems**. LubAnac coolant ensures:
• A **detailed monitoring** of the coolant behavior and cooling system condition
• A rigorous **compliance check** of the cooling liquid properties in use.



LubAnac
soluble



In-depth diagnostic system for **water-based cutting fluids used in metalworking**. It is offered in 2 sets (Standard and Premium) to perfectly match your needs and extend sump life.



LubAnac
soluble
water



Diagnostic system for **water used in metalworking emulsions**. High water quality ensures optimal fluid performance and efficiency of operations by preventing emulsion instability, corrosion and microbial contamination.



Easy-to-use

LubAnac

LubAnac website provides fast and user friendly access to diagnoses and extensive functionality for optimal management of all your analyses:

- Real-time access to performed diagnoses
- Results exportable in PDF or Excel format. An Application Programming Interface (API) is also available.
- Activity history
- Diagnoses and report color evolution
- Administrative and analytical data requests
- Online registration of new equipment and new samples

The color codes of the measured characteristics

Satisfying diagnosis



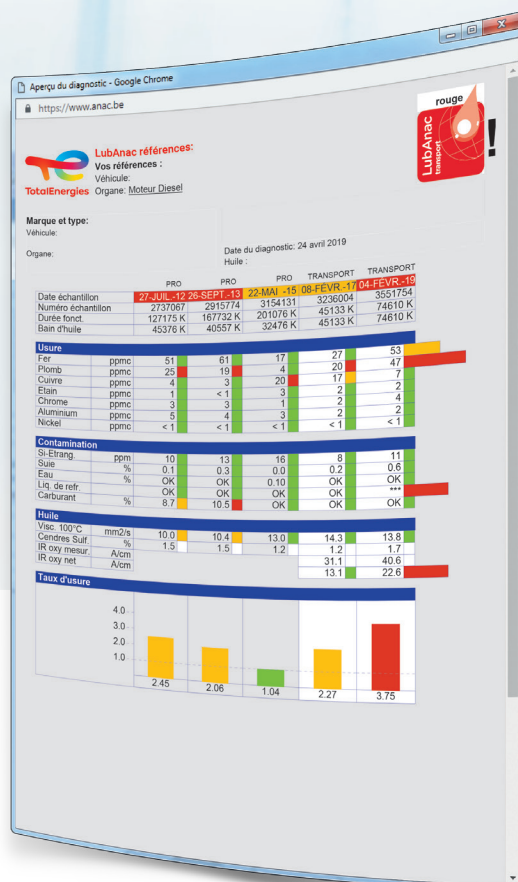
Slight deviations



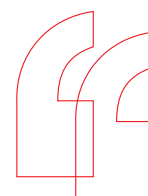
Anomaly observed



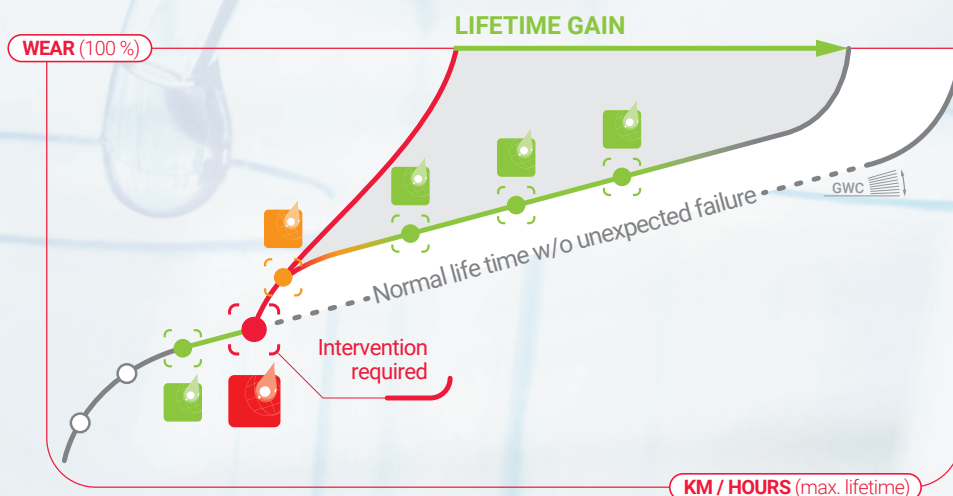
Dangerous situation



Available also via LubAnac customer portal and its QR code system.



Our customers talk about us



The **General Wear Coefficient (GWC)** indicates any deviation from normal average wear.

LubAnac ensures rapid detection of defects. It allows a quick and efficient intervention to **bring the GWC back to normal** and **results in a significant gain in lifetime.**

How a diagnosis is made

By internally developed algorithms based upon years of experience and feedback of OEMs and customers:

- **Compensation** of measured values with respect to:
 - Oil drain intervals
 - Service conditions
- Comparison with statistical **references** calculated on historical data per component type

With this **unique and in-house developed algorithm**, LubAnac is a real **fleet management** system rather than an OCM (Oil Conditioning Monitoring) service.

Alejandro C.
Agricultural Division Manager / Engineer,
SER SAN ANTONIO - Nicaragua

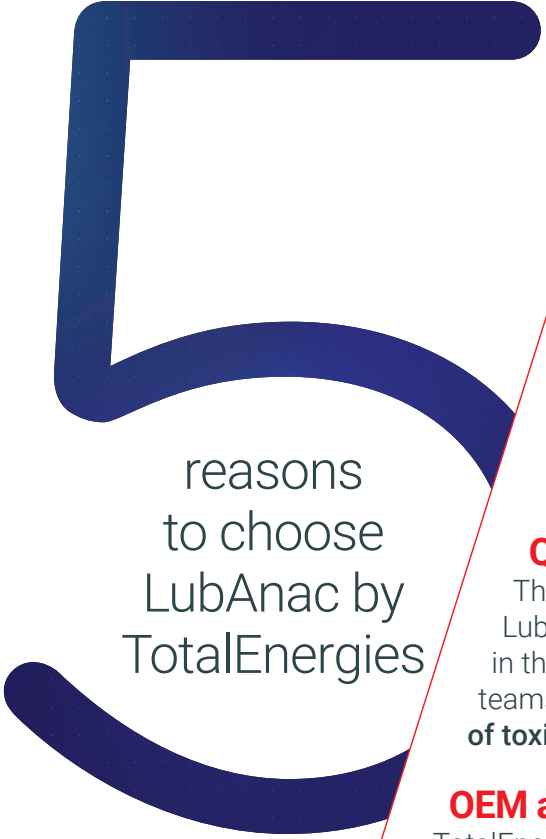


We use the LubAnac service every year to check motor, axles oil quality and to spot and prevent potential premature wear.

Philippe P.
CEO, PREMAT Transport
France



Since we've been using LubAnac's services, our vehicle fleet is regularly monitored and we can get out ahead of any problems. As a result, our vehicles are worth more when we sell them. We're planning to introduce routine sampling before oil changes to further shorten vehicle downtime.



5 reasons
to choose
LubAnac by
TotalEnergies

A major actor

Our production facilities, our supply chain and our commercial presence over **160 countries** enable us to deliver a complete line of lubricants to meet all your needs.

Support and partnership

Thanks to our local implementation, we are committed to **optimize** your productivity and **reduce your maintenance costs**.

Innovation and Research

TotalEnergies invests in cutting-edge technologies to find raw materials that always bring you **more energy savings**.

Quality and environment

The **ISO 9001** quality certification of TotalEnergies Lubrifiants guarantees a long-term commitment in this area. From creating a new product, our R&D teams develop formulations to **minimize the risks of toxicity** and the environmental impact.

OEM and references

TotalEnergies Lubrifiants works with manufacturers and OEMs to create high-tech products, ensuring optimum **performance and protection for your machines**.



TotalEnergies



lubricants.totalenergies.com/business/oil-diagnosis-lubanac