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Show on stand 872.



# Improving longevity and sustainability of tribologically stressed systems

By Gregor Patzer, Optimol Instruments Prueftechnik GmbH, Munich, Germany

## 1 How tribometry contributes to net zero emissions

An emission-free energy and mobility supply requires not only changes in technology and resources, but also developments in the creation and life cycle of products. From this, very simple and undoubtedly very clear fields of action for tribological research, development and optimisation can be derived. Wherever energy is transformed into movement, friction occurs and with it associated energy losses in the form of heat, sound, material loss or chemical reactions.

### Selection of sustainable, low friction tribo-systems

An important aspect of a sustainability strategy is the selection of materials. In the sense of an optimal sustainability strategy, they should

- not consume any fossil raw materials if possible
- be 100% recyclable and
- be energy-saving in their production.

Both materials and operating materials in technical applications are often still far removed from this today. Example: aluminium alloys as high-performance lightweight materials, mineral lubricants produced from fresh crude oil. The parameters „coefficient of friction“ and „wear coefficient“ are meaningful functional characteristics when deciding on material selection and optimising friction systems in terms of energy efficiency and sustainability/longevity. These values can be determined by tribologists in the laboratory with manageable effort within a short time ([🔗 Read more](#)).

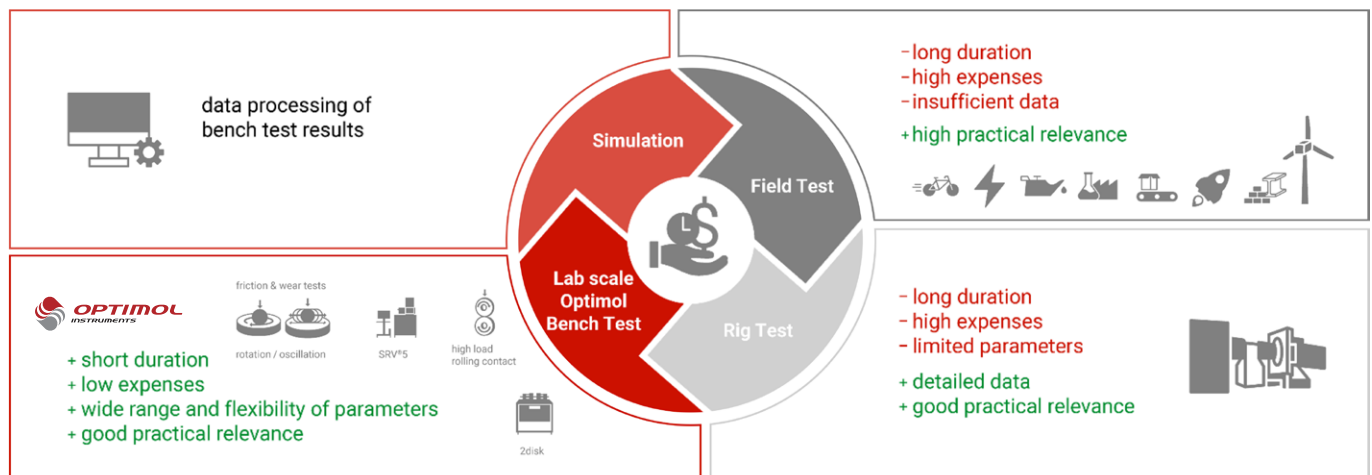
## Future moves and requirements for tribometric test methods

From our perspective as a solution provider for tribological issues, the requirements for modern tribometry systems are as follows:

- Quick tests - short test cycles
- Overall performance indication of tribo-elements
- Precise and easy to understand results

With modern tribometers and the comprehensive ready-to-use methodologies, on the one hand the testing cycles can be greatly simplified and shortened by suitable pre-selection on a laboratory scale, and on the other hand more precise data can be supplied for software simulations, as individual operating points such as temperatures or normal forces can be individually provided with data points. Product development and quality management processes can thus be simplified, speeded up and results optimised:

## Save time and costs in product R&D and QA



For further information on this topic and/or your individual question, please contact us!

### About Optimol

Optimol is a leading international company for the development and distribution of tribological model testing systems and test benches. We are a reliable partner for our customers with innovative technology, tried-and-tested solutions, competent advice and comprehensive services. With the world-renowned SRV® test system, we have created the industry standard for tribological model testing.

### To find out more about tribology and Optimol: *Improving longevity and sustainability of tribologically stressed systems*

- ① **How tribometry contributes to net zero emissions - Selection of sustainable, low friction tribo-systems - Future moves and requirements for tribometric test methods**
- 2 Save time and costs in product R&E and QA - Facing the challenges with ETS
- 3 Functional performance of used lubricants - Qualification of lubricants with regard to their service life in terms of acceptable energy losses and damage risks
- 4 Design of new nontoxic and water-resistant greases for water mixer taps
- 5 Reducing fretting wear in wind turbine bearings and gearboxes
- 6 Pre-qualification of materials with regard to fluid compatibility and reduction of fretting wear in the electric drive train in the stator-hairpin-housing system