

We improve the performance and safety of gearboxes by implementing intelligent technology for predictive maintenance. Our vision is to increase sustainability and set a new standard in gearbox monitoring.

### Innovation start-up

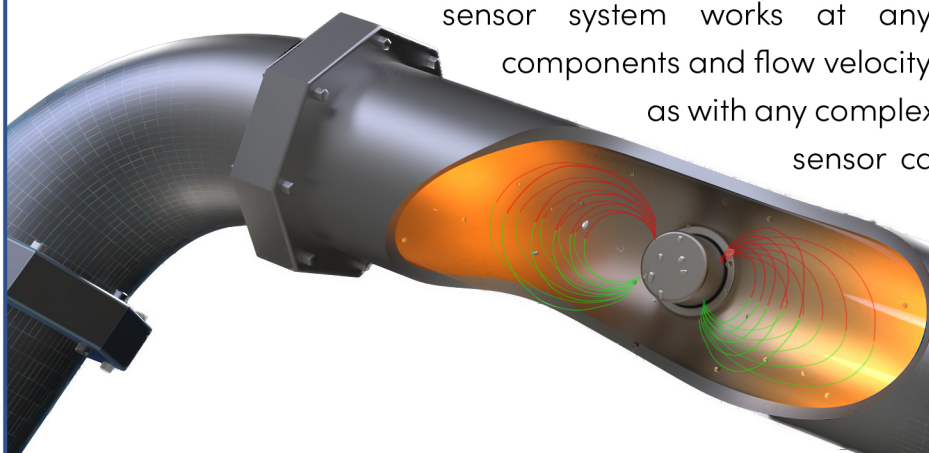
A team of former students at TU Wien in Vienna (Austria) started to work on new concepts of condition monitoring for aviation transmissions in 2019. The goal was to increase safety during operation and give operators and pilots information about failures as fast, detailed, and reliably as possible. The discussion of the effectiveness of existing chip detector systems in the EASA rulemaking task RMT.0725 provided additional motivation to push the development of a new solution. A concept-phase of more than a year resulted in a proof of concept introducing a new generation of wear particle monitoring. INMOX, based in Vienna, was founded to market this new technology.

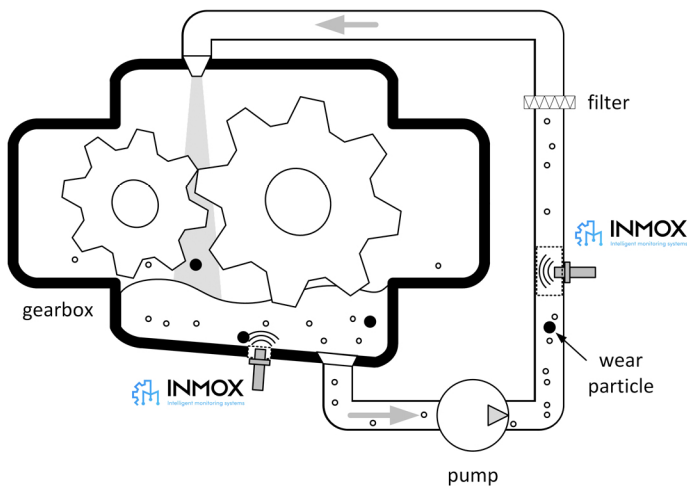


© TU Wien – IKP

### For increased safety

INMOX is developing a new technology for intelligent chip detectors to monitor wear particles and dangerous degradation of critical powertrain components. This technology uses magnetic effects and enables both detection and automatic characterization of wear particles during operation. The new sensor system is supported by machine learning and provides data for risk assessment of wear particles and their assignment to specific component groups. Specific information about the current status of the gearbox is available within a few seconds. The sensor system works at any rotational speed of components and flow velocity of wear particles as well as with any complexity of assembly. Thus, the sensor can also be implemented in oil bath-lubricated applications.





- » Intelligent gearbox monitoring enabled by machine learning
- » Monitoring of complex assemblies or slow-rotating components
- » Measurement principle independent of the flow speed of lubricant
- » Simple system integration

The retrofit design of the measuring device enables a simple integration of the sensor in new systems as well as in existing systems. INMOX provides precise gearbox monitoring for security of operation and optimised maintenance.



#### Particle characterization

during operation,  
within a few seconds



#### Real-time monitoring

24 hours a day,  
365 days a year



#### Considerable cost savings

by predictive  
maintenance



#### Additional indicators

for existing  
monitoring systems

### Cooperation is key

INMOX works in close collaboration with TU Wien. The research unit of Machine Elements and Transmissions for Aviation offers expertise and a highly specialised testing environment. The combination of entrepreneurial spirit of INMOX and longstanding experience of Prof. Michael Weigand at TU Wien offer a perfect environment for innovation in gearbox monitoring



#### Notes

#### Contact

Inmox GmbH  
DI Michael Aufreiter  
Maria-Jacobi-Gasse 1  
MQM 3.2/1. Stock  
1030 Wien  
office@inmox.com  
www.inmox.com

