Engine trend monitoring (ETM)

Increased efficiency and lower cost through innovative and independent expertise!

MTU's engine trend monitoring (ETM) is an independent and proprietary system that monitors specific data sets from flight operations. We combine these with shop visit data. We introduced ETM over twelve years ago and continue to optimize the system. The foundation is a full thermodynamic engine model for each engine type.

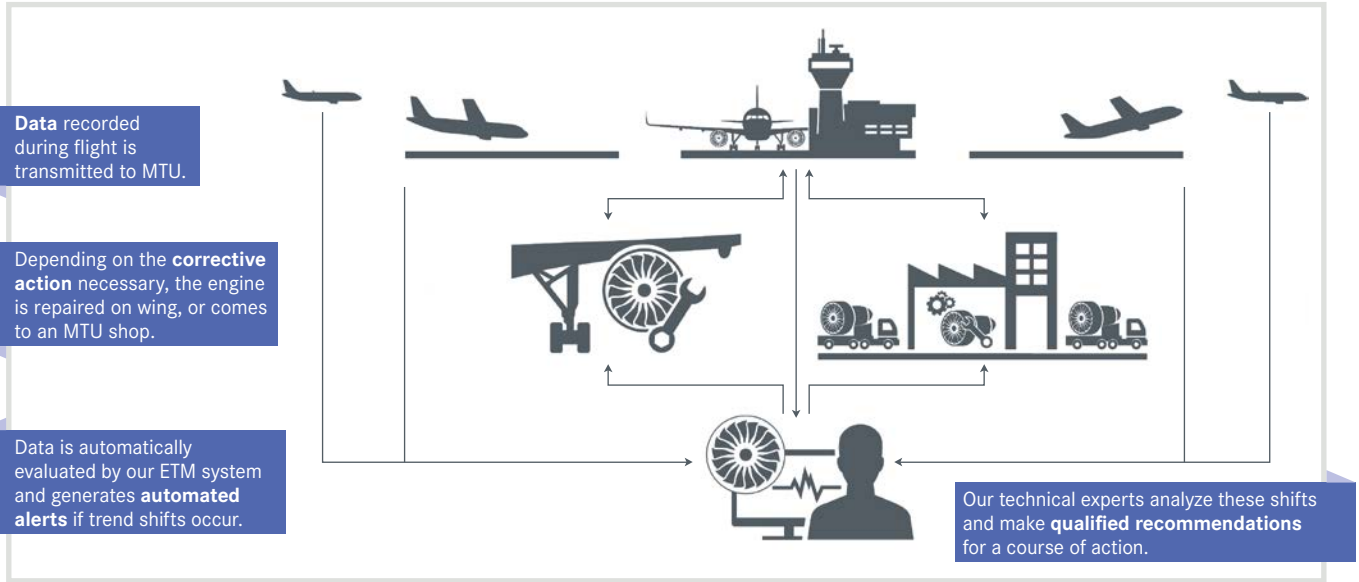
As an independent service, our ETM system has an interface that can accommodate a wide range of engine types. For instance, we can monitor a customer's GE90 and V2500 fleet with the same tool. This is particularly helpful for engineers and technical managers and unusual in the industry.

We monitor CF34, CF6-80, CFM56, GE90, LEAP, PW2000 and V2500. Other engine types can be supported on request. Customers rely on high-quality trend analysis and customizable solutions – as part of a larger MRO arrangement, such as PERFORM^Plus, or as a stand-alone service.

Each customer, engine and fleet is unique – and they all create individual data patterns. We identify these patterns for our customers and, as a result, can detect failures early before secondary damage occurs and prevent AOGs.

With ETM data we are able to better schedule shop visits and adjust the respective work-scopes right down to module level. Also, on-wing maintenance and engine washes can be planned in such a way that engine efficiency and performance are improved and cost is minimized.

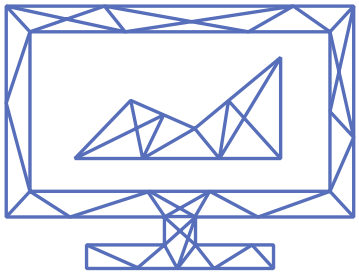
Predictions of remaining on-wing time augment fleet management abilities, as, for instance, purchasing material for a planned shop visit can start months before the actual removal. We combine ETM with our engineering and workscope expertise to optimize solutions for our customers. It is always a holistic and highly-customized process.



MTU Maintenance

How does it work?

The system observes various aircraft engine parameters, such as exhaust gas temperature (EGT), fuel flow, shaft speeds, oil parameters and bleed settings, and detects abnormalities. Any trend deviations are alerted to our expert engineering team, who will assess the data and make qualified recommendations for a course of action to our customers.



Continual development

We are always improving our ETM system and are currently focusing on the integration of continuous engine operational data and the management of very large data sets in near real time. Furthermore, we are developing a new web-based graphical user interface, which will work on both mobile devices and PCs. The next big development step is a module based deterioration diagnosis, which will enable us to improve workscope planning tremendously.

Service features

- Real-time visibility and customer log-in
- 24-hour support from worldwide locations
- Automatic diagnosis to identify the root cause of a trend shift
- Regular and individualized reporting
- Prognosis of remaining on-wing time based on critical performance parameters, like EGT margin
- Quick fleet analysis tool to review on-wing deterioration per ESN and effects on shop visits

Your benefits

- Better engine performance with reduced specific fuel consumption through recommended actions based on ETM
- Expert analysis by MTU engineers
- Longer and optimized on-wing times
- Minimized downtime and lower spare levels
- Reduced cost of ownership across the lifecycle
- Reliable and predictable planning

MTU Maintenance

www.mtu.de
www.linkedin.com/company/mtu-maintenance/