



UNIVERSITY OF
LEICESTER



Real-Time Oil Analysis

- **A new development in fast and efficient monitoring of oil lubricated equipment for tribological wear in machinery.**
- ***In situ* design reduces the time in analysis, helping reduce loss of production, damage to equipment and negative impact on business.**

Challenge

- The monitoring of tribological wear is important as it can ensure optimum and economical operation, predict impending failure of equipment and target maintenance.
- Non-optimal operation of machinery can reduce the lifetime of the machine, leading to potential equipment damage, financial loss, environmental damage and reduction in efficiency.
- Current monitoring methods of lubrication involve the removal of a sample or filters that are sent to a laboratory for a complex process of analysis of the elemental composition of lubricant and/or debris caught in a filter within a lubricant wetted machine.

The technology

- The development of equipment and a method to perform real-time *in situ* measurement of the elemental composition of lubricant and/or debris caught in a filter within a lubricant wetted machine.
- This new method of analysis can detect indications of wear, which may not have been detected by previous *in situ* methods.



Benefits

- Continuously monitors the occurrence and composition of particles generated from wear *in situ* for oil lubricated machinery.
- Use of cutting edge X-ray technology.
- Can operate at elevated temperature (~100oC).
- The removal of samples for complex methods of examination is no longer needed.
- Can help to reduce equipment maintenance costs and downtime due to damage.

Market

- This product simplifies the maintenance of oil lubricated machinery.
- Reduced costs, improved safety and improved mechanical performance.
- Improves the fuel efficiency of engines by optimising the lubricative operation.

IP status

A PCT filing was completed in August 2014, following a GB Priority application.

Are you an automotive, locomotive or aerospace company looking for a collaborative or investment opportunity? If yes, please contact:

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