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Case Study – Wireless - Kappa X Fan Bearing Lubrication Issue

Power Plant - Food Sector

Background

- Critical Gas Fan part of a power plant for a food production factory
- Machine has history of poor reliability. Bearing issues related to lubrication and light loading. Split Bearings fitted.
- Kappa X wireless sensors installed on the fan to monitor condition- 1 min short term trends, with power bands, spec, waveform
- HMI Software setup in control room for site Ops to monitor. Alarms setup based on current fan levels. System will email / text - key personnel when broken.

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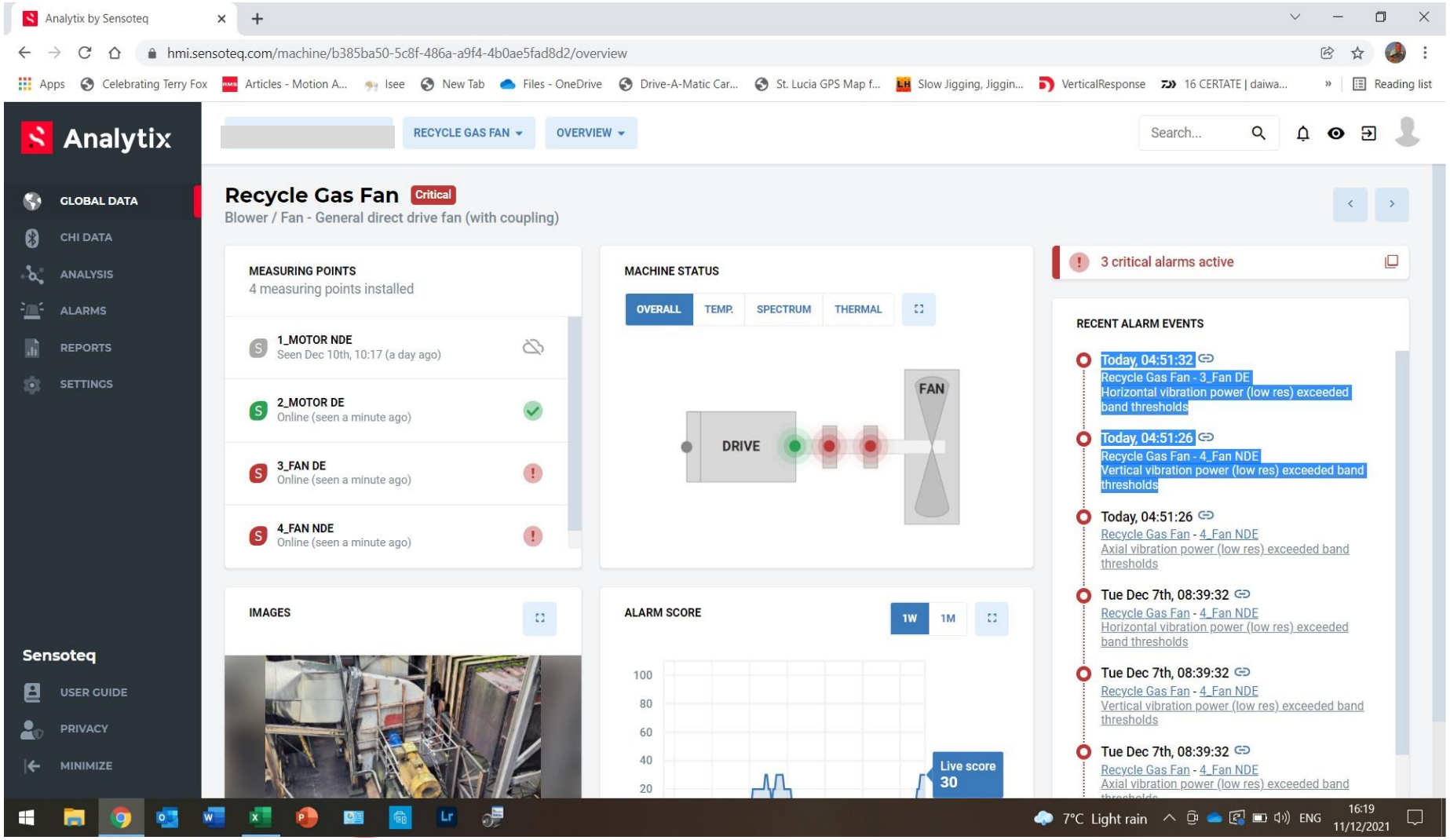
Fan Dashboard - HMI



Analysis

- Multiple alarms broken on the fan bearings.
- Increase in G levels indicating bearing related issue.
- Decision was made to grease the fan DE bearing and assess the reaction.

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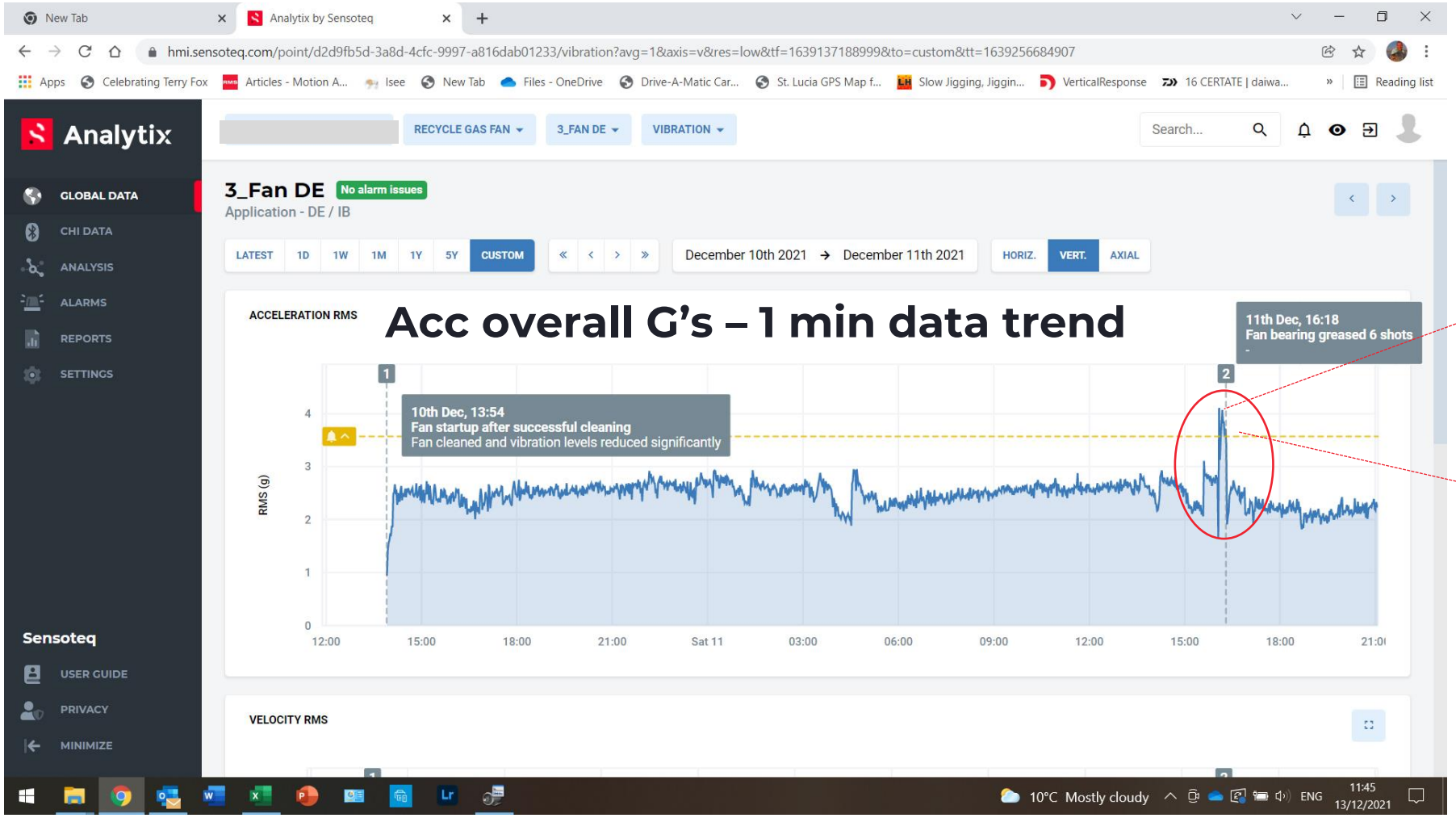

Analysis

- Sharp Increase in Overall G levels from 2.2G's to 4.1G's
- Fast reaction from operations - 6 Shots of grease added
- Overall Acceleration Distress levels reduced to normal quickly and stayed low.

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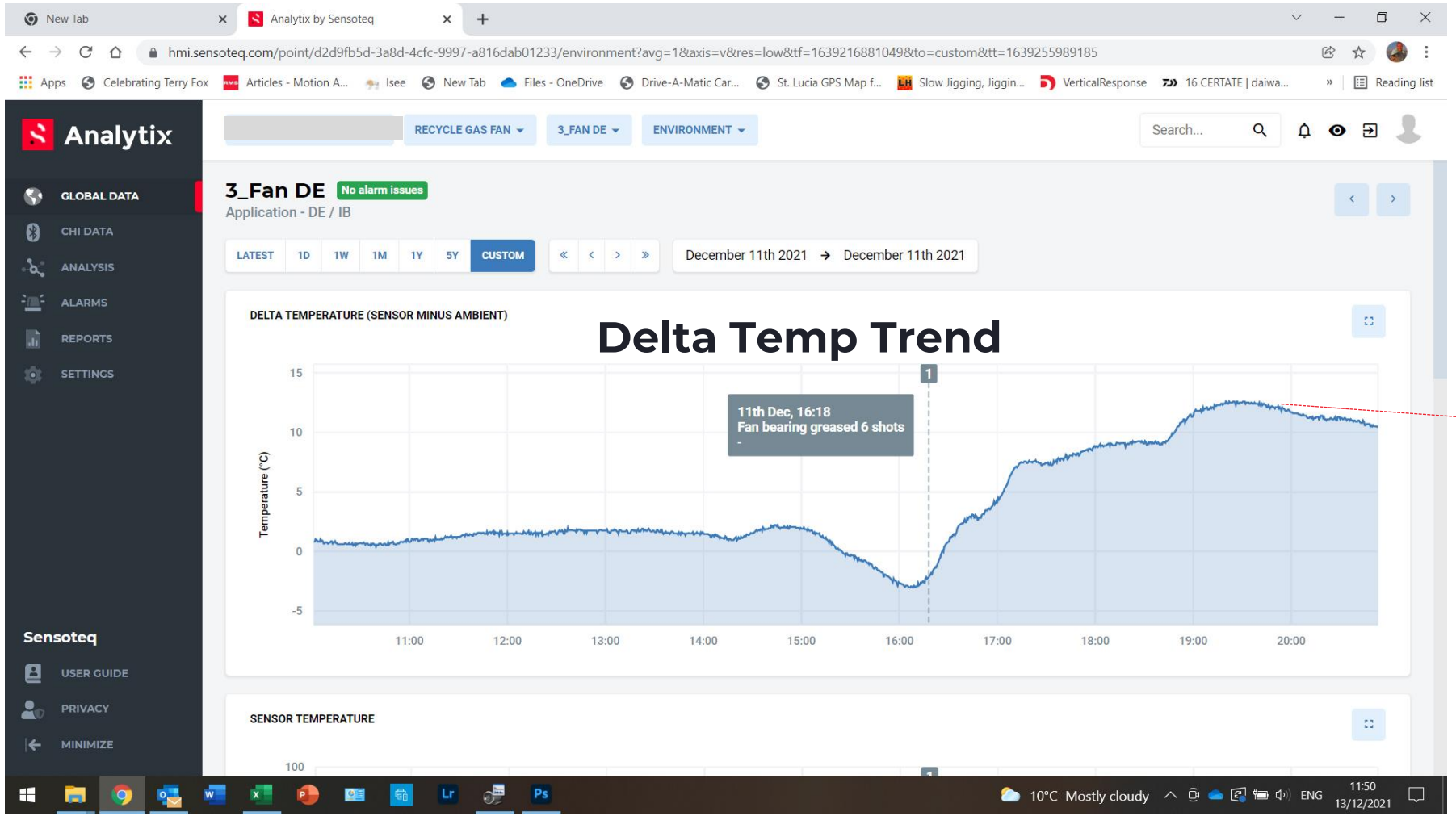

Analysis

- Expected temp increase after greasing
- Temp levels started to reduce after a number of hours.
- New fan bearing design (Mono Block) planned to replace split bearing design to improve reliability of this fan.
- Possible fan bearing failure avoided – **Estimated cost saving £56K**

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FURTHER INFORMATION

Customer Support

RMS Ltd. No.42 Goldcrest Close. Longridge Park.

Colchester. Essex CO4 3FN.

Company Reg No. 03808313. VAT No. GB 741737428.

Tel/Fax: +44 (0)1206 791917

Email: info@rms-reliability.com

rms-reliability.com