

# CASE STUDY

**Industry:** Recycling  
**Customer:** Car Shredder Operator in Sweden

OFF-HIGHWAY  
**POWERTRAIN SERVICES**

## ▶ Online Condition Monitoring ensures continuous operations of a critical powertrain system

### ▶ Case description:

The customer has been a Off-Highway Powertrain Services (OHP Services) customer for several years. We supply heavy duty shafts for their high performance car shredder machine. This machine is supplied by cars coming directly off a container ship which needs to be unloaded on time to ensure continuous operations, making the machines' operational uptime even more critical.

During the car shredding process, the cardan shaft has to withstand high and dynamic torques. An unexpected breakdown of the powertrain may cause a complete shutdown of operation. Repairs are extremely time consuming and due to the significant financial and operational consequences of a complete shutdown, this powertrain is the most crucial part of the recycling process.

### ▶ Technology snapshot:

#### Online Condition Monitoring System

The machine components requiring monitoring (e.g. cardan shaft, motor, gearbox or bearing) are equipped with acceleration sensors. The sensors are connected to a multi-channel measurement system.

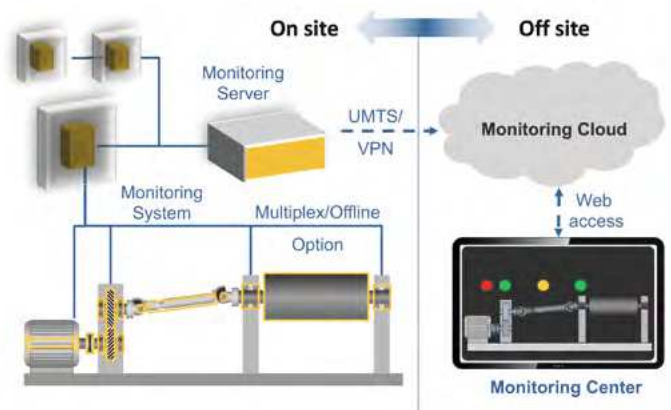
The measurement systems are interconnected with central monitoring servers using a local network. The data is transferred through a secure VPN connection and stored in the Monitoring Cloud. OHP Services condition monitoring specialists perform regular vibration analysis and diagnosis from the remote monitoring center and based on the findings, corrective maintenance services such as alignment, repair, overhaul, inspection etc. are carried out.

In order to maximise the uptime of this critical machine, OHP Services offered a complete package with product, commissioning, condition monitoring, service and in time replacement. Condition Monitoring Service enables early detection of cardan shaft failure and provides preparation time for the follow-up actions.

Our customer is extremely satisfied with the solution provided by the OHP Services and had a return on investment (ROI) within 11 months.

Now, the customer relies on OHP Services Online Condition Monitoring service to keep his machine up and running!

Our Monitoring Cloud solution enables 24 hour monitoring and notification functionality.



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► **Challenge:**

- Avoid significant production losses due to breakdown of the powertrain
- No free maintenance capacity available on-site to react on breakdowns
- Early detection of potential breakdowns required to ensure uptime

► **Solution:**

- Initial vibration measurement was taken on all powertrains to evaluate machine health right from the start
- Optimal measurement position was identified using minimum number of sensors, reducing time and costs
- Online condition monitoring system was installed and a detailed installed base report was provided to the customer
- 24/7 monitoring of machine condition with monthly remote diagnosis and reporting of machine health

► **Customer Value:**

- Machine availability and reduced risk of shutdowns
- Better maintenance planning
- Reduced spare parts stock
- Diagnostic services for the complete powertrain system
- Return on invest (ROI) within 11 months

► **What's special?**

- OHP Services provides the best possible customised solution. We provide our customers with a flexible and customised condition monitoring system tailored to their requirements. We are also able to integrate our solution into an existing condition monitoring strategy.



OFF-HIGHWAY  
**POWERTRAIN SERVICES**

**WORLDWIDE**

Off-Highway Powertrain Services collaborates with manufacturers and logistics partners worldwide: benefit from our extensive network. By means of our Service Parts Availability Module, you can define which part are to be available, and how quickly they can be delivered to your location – regardless of manufacturers. We also offer customized spare parts to our clients on stock.

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This case study is exemplary only. Any and all information, data, values, products, procedures etc. which are mentioned in this case study vary from case to case and can be different. For calculation pertaining to your business, please refer to a Off-Highway Powertrain Services employee.