

# WearDetect

## Oil Debris Sensor

Real-time ferrous wear detection – discover machinery failures faster





## DETECTING MACHINERY FAILURES FASTER

WearDetect Oil Debris Sensor is proven in use by some of the world's leading manufacturers, to provide the earliest warning of the initial stages of machine failure.

## DAILY OIL HEALTH CHECK

Provides a "daily" check into the condition of your machine

## NO EXPENSIVE TRAINING PROGRAMS

No expensive training programs or expert knowledge to interpret the results, unlike most other technologies in the condition monitoring field.

## SMART MAGNETIC DRAIN PLUG

Replace the existing drain plug with WearDetect Oil Debris Sensor and wire into your PLC or SCADA system. Alternatively use our "inflow" adaptor to install the sensor in the oil flow line, before any filters.

## PREDICT AND SCHEDULE MAINTENANCE ACTIONS

Use the data from WearDetect to predict and schedule maintenance actions. From determining the need to increase the frequency of lab oil samples to full machine shutdowns, WearDetect is always on guard.

## Product Description

WearDetect Oil Debris Sensor comprises of two key elements. The sensor probe, that comes with multiple thread adaptor options, is coupled with the gearbox in place of the standard magnetic drain plug. The probe is then connected by wire to the separate electronics module, which turns the sensor signals into useful data. This data is then relayed via analogue or digital communications protocols for display or post processing. The electronics enclosure is available in a premium option which includes a local, high intensity, LED scale to display the captured debris levels.

### THINK FOR A MINUTE

**How long would a critical asset need to be shutdown before you lost \$1,000?**

**How long before you have lost \$10,000?**

**How long before reliability is under the management microscope?**

In most large industrial factories \$1,000 can be lost in less than half an hour. If you invested \$1,000 in a device with the capability to monitor your assets 24 hours a day 7 days a week how many minutes of downtime would it have to save to pay for itself? Not many.

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## Product Success

Four of the top five largest global manufacturing companies have tested WearDetect and are running active installation programs on key manufacturing assets.

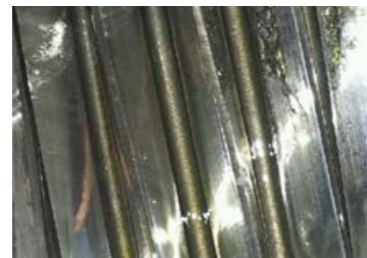
One particular customer turned to Gill to solve a problem that they could not trace in time with vibration sensing.

WearDetect outperformed the company's vibration sensors in their speed reducer gearbox application. The images below show damage that has occurred on the asset, which was not picked up by the company's vibration sensors. If it wasn't for WearDetect the damage could have been catastrophic.

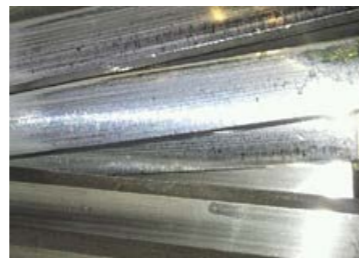
Top 5 largest manufacturing companies by revenue.

No.	Company Name	Revenue (by US\$ m)
1	Volkswagen Group	288,888
2	Toyota Group	265,172
3	Apple	229,234
4	Samsung	211,940
5	Daimler	185,235

Ref CNN Money – Fortune 500 global

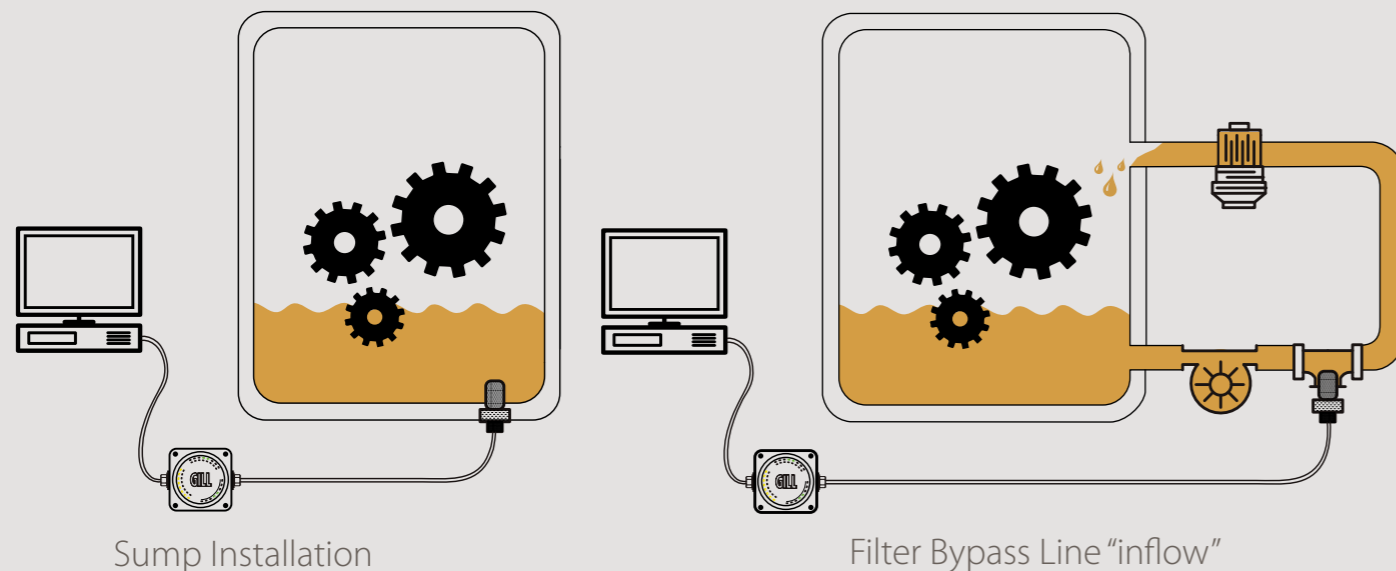


Gear flaking



Heavy polishing

## Installation Location

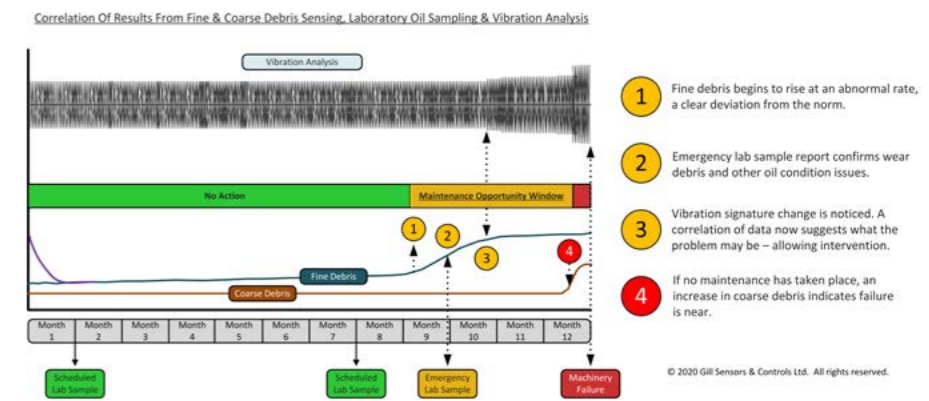


## Product Trials

WearDetect Oil Debris Sensor was trialled by one of the top 5 Fortune 500 companies.

The sensor was trialled side by side against oil acidity sensors and vibration sensors in accelerated destructive tests.

The graphic above shows that the sensor outperformed other technologies detecting failures significantly earlier.



### Did you know?

Real-time analysis of oil condition has been identified by independent assessors as the fastest growing sensor technology in the condition-based monitoring industry.

Ref Bureau Veritas – SMRP Conf. 2019

## Product Review

### What our customers say:

“Our [WearDetect] sensor shows that fine particles had increased before abnormal vibration. We used a device capable of real-time vibration frequency analysis, and the [WearDetect] oil sensor reacted before the [vibration manufacturer] sensor did.”

- Reliability engineer | top 5 Fortune 500 list of largest manufacturing companies.



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## Easy to install

### How to set up

WearDetect Oil Debris Sensor can be installed 'out of the box'. If you want to adjust the sensor parameters, Gill provide a free to download and use Windows application with a handy setup wizard. See the support pages of [www.gillsc.com](http://www.gillsc.com) for details. You will also find a training video on our [YouTube channel](#).

### Typical Applications

- Gearboxes
- Engines
- Hydraulics
- Transmissions
- Differential Gears
- Final Drives
- Speed Reducers
- Planetary gears
- Track Drives

### Application Story

One of the UK's largest manufacturers of own label chilled pizza, with a 43% market share, relies on high production availability to meet the freshness and just-in-time delivery requirements of its customers. The costs, reputational damage of unplanned downtime, and consequent supply disruption are so significant that the company invests in WearDetect in order to protect both its reputation and profits.

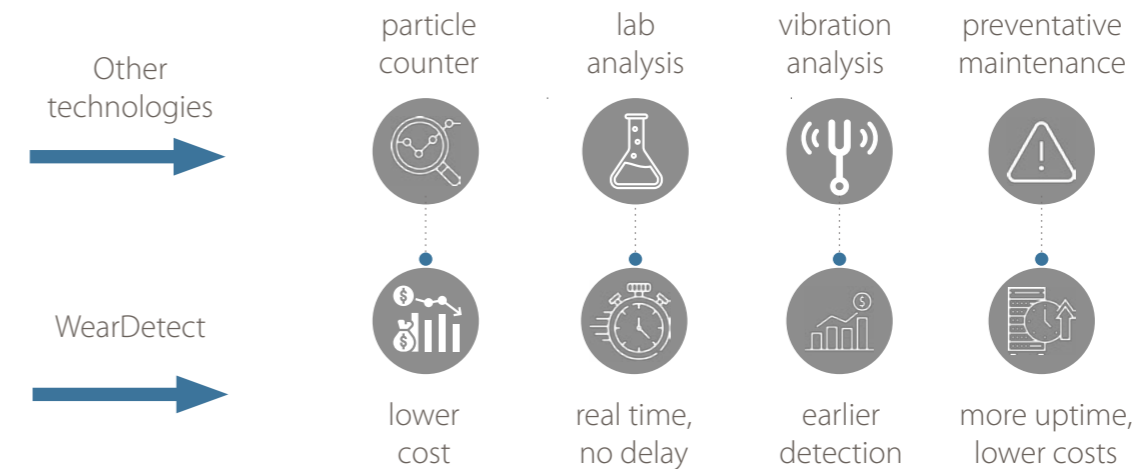
Installed on the company's operationally critical gearboxes, a suite of WearDetect sensors are protecting the assets of one of the UK's most loved food production lines. [\[Read full story\]](#)



## Condition Based Monitoring

### How does WearDetect measure up against competitive technologies?

There are so many condition monitoring technologies in market, maybe you already have some of these installed. So, how does WearDetect Oil Debris Sensor measure up?



### Ultimate Solution

Did you know that an optimum condition based monitoring assessment should be made by comparing multiple data points? That means that lab oil analysis, and WearDetect, Oil Debris Sensor, can work hand in glove for the ultimate analysis suite.

### Multiple Point Analysis



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# Product Range



*WearDetect with display*



*WearDetect without display*

## Sensor with display models

Oil Debris Sensor with Display 4-20mA

Oil Debris Sensor with Display 0-10v

Oil Debris Sensor with Display CAN

## Sensor without display models

Oil Debris Sensor 4-20mA

Oil Debris Sensor 0-10v

Oil Debris Sensor CAN

## Sensor head fittings

Sensor Head Fitting M22x1.5 6g to BS3643

Sensor Head Fitting M24x2.0 6g to BS3643

Sensor Head Fitting 3/4" x 16UNF class 2a to ASME/ANSI B1.1

Sensor Head Fitting 1/2" BSPP to BS EN ISO 228-1

Sensor Head Fitting M20x1.5 6g to BS3643

## Options

Inflow Adaptor for M20 x 1.5 sized sensor

Inflow Adaptor kit with Valves for 1" diameter pipe

Inflow Adaptor kit with Valves for 1.5" diameter pipe

Conduit kit for display models (Sensor to electronics)

Demonstration Kit



*Adaptor kit (sensor not included)*



*Adaptor (sensor not included)*

## Where to buy

Gill sells its products through a worldwide network of trained [distributors](#), so you can count on the very best advice for your application.

**For further information on WearDetect Oil Debris Sensor range, including manuals and datasheets, please click below.**

[> Technical Specifications](#)