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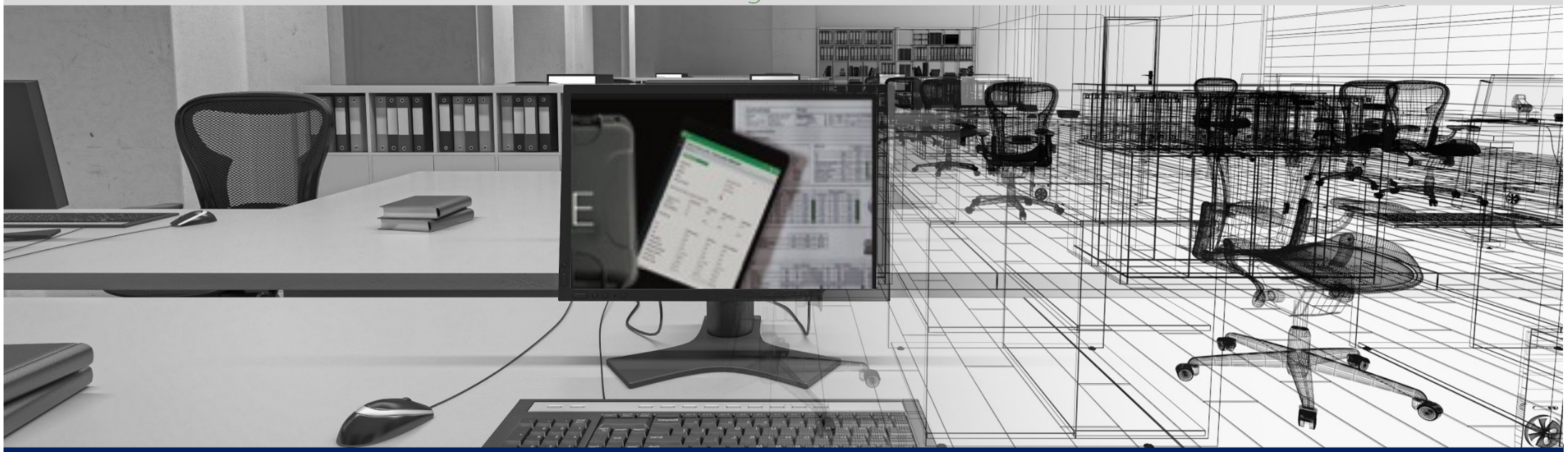
GROUPE ADF SMART INDUSTRIAL SOLUTIONS

Discover The XCASE

by novexa



My maintenance partner !

Analysis

In a competitive economic context requiring a growing demand for responsiveness while guaranteeing compliance with environmental rules, the efficient monitoring of production equipment in an industrial environment is a key parameter for all our customers.

This is why NOVEXA has chosen to develop and give access to its XCase gear wear monitoring program.

The first and only tool to adopt a predictive maintenance approach

The different monitoring tools currently used in the industry are:

1) *Manufacturers audits – most of the time not objective, they often conclude with the necessity of new equipment supply.*

1) *Lubricant suppliers audits – lack of technical information and do not take into account the potential issues linked to gears geometrical characteristics.*

1) *Vibrations analysis – only highlight the consequences of damages (foundation cracks, excessive bearing clearance, damaged anchor, root step clearance problem…)*

Thanks to this tool, your teams will stay autonomous and will gain technical knowledge.

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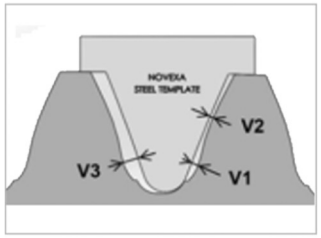
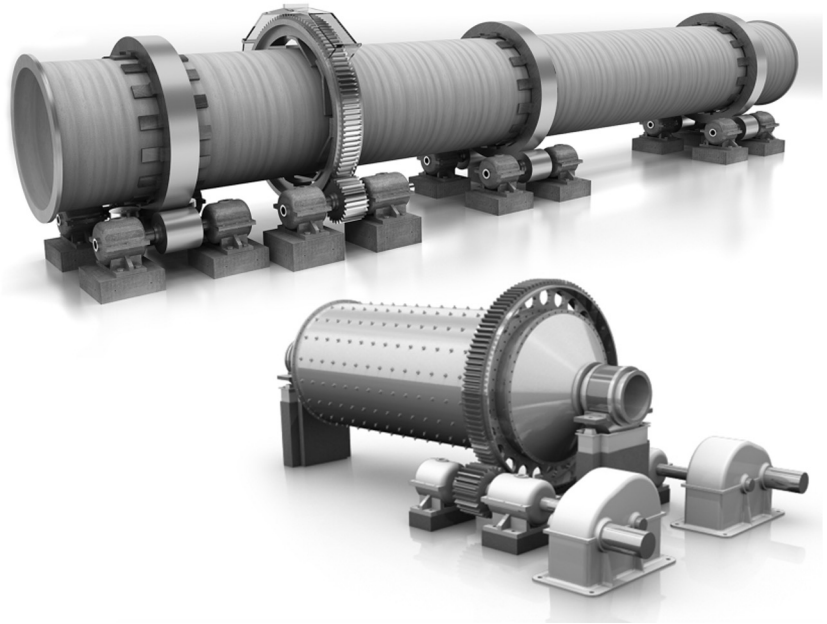
The XCase target





An objective analysis

Monitoring of vibrations or temperatures only allows highlighting damages
→ ***non preventive maintenance***

Gears profiles monitoring allows anticipating damages
→ ***preventive maintenance***

More than a simple tool, the XCase is a complete decision making solution

The XCase, the first tool gathering in 1 application the monitoring of:

- *Gears*
- *Vibrations*
- *Temperatures*
- *Technical characteristics*
- *History*

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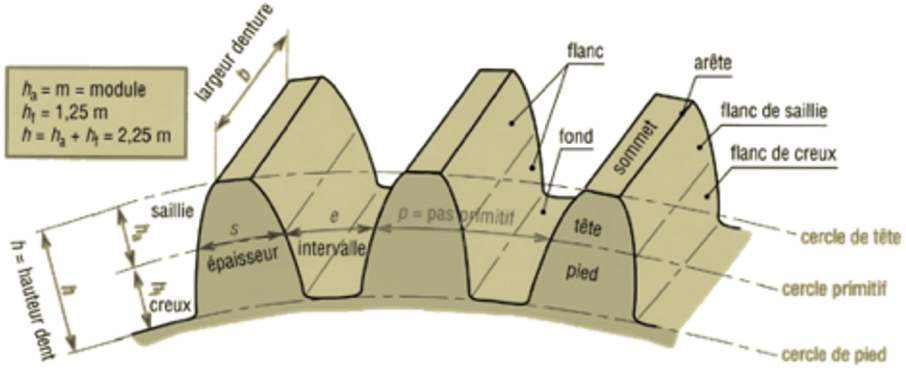
Required data



Désignation	Symbole	Proportion
Nombre de dents	Z	13 mini
Module	m	
Diamètre primitif	d ou d_p	d = m.Z
Diamètre de tête	d_a	d_a = d + 2.m
Diamètre de pied	d_f	d_f = d-2.5m
Pas primitif	p	p =Π.m
Hauteur de denture	h	h = 2.25m
Hauteur de saillie	h_a	h_a = m
Hauteur de creux	h_f	h_f = 1.25m

The following characteristics will have to be gathered for each equipment in order to manufacture the associated steel templates:

Module (m)
Pressure angle (α)
External diameter (da)
Number of teeth (z)
Helix angle (β)

Gear history is also required:

Date of installation
Date of gear reversing / reprofiling
Date of pinion replacement

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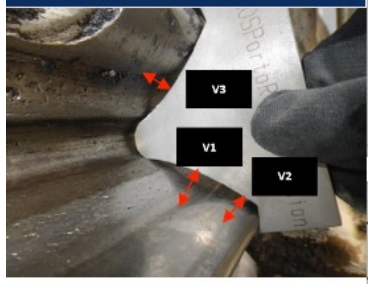
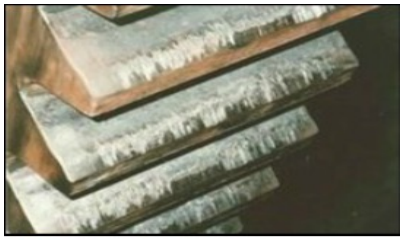
Parameters to measure during audit

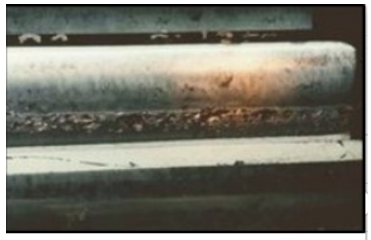
Wear measurements



- ✔ V1:active flanc maximum wear
- ✔ V2:active flanc minimum wear
- ✔ V3:non working side maximum gap

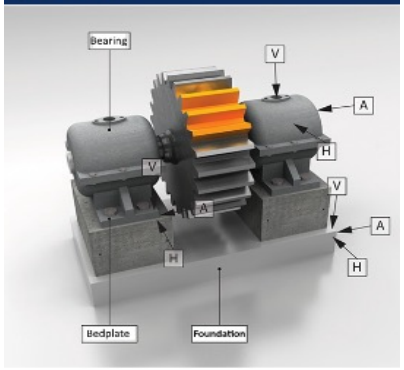


Scuffing is a damage related to a metal/metal contact during the meshing resulting in tearing of material. Scuffing occurs when the lubricating film breaks. They can be localized at a precise point, on the sliding zones only or finally on the whole surface.



Spalling is a dangerous damage whose representation is the removal of metal by plates. This is linked to a too high hertz pressure very often linked to a bad distribution of the load. For this type of damage, waiting is detrimental because the extension is done in the under layer.

Vibrations



XCase is based on the use of control templates. They allow to accurately measure the profile deformation through 3 simple measurements:

- *V1 = maximum wear*
- *V2 = minimum wear*
- *V3 = non working side maximum gap*

To complete the analysis *:*

- *Vibrations readings on bearings, bedplates and foundations*
- *Pinion / gear temperature readings*
- *Surface damages pictures*

With this simplified control, all color codes are automatically calculated and appear instantly on the application.

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What you will find in the XCase

All in One

The XCase includes :

Transportable briefcase
User manual
Access code
Fealure gauge set
Gear and pinion steel templates (V1, V2 ,V3)
Vibration pen (mm/s - RMS)

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Create an audit

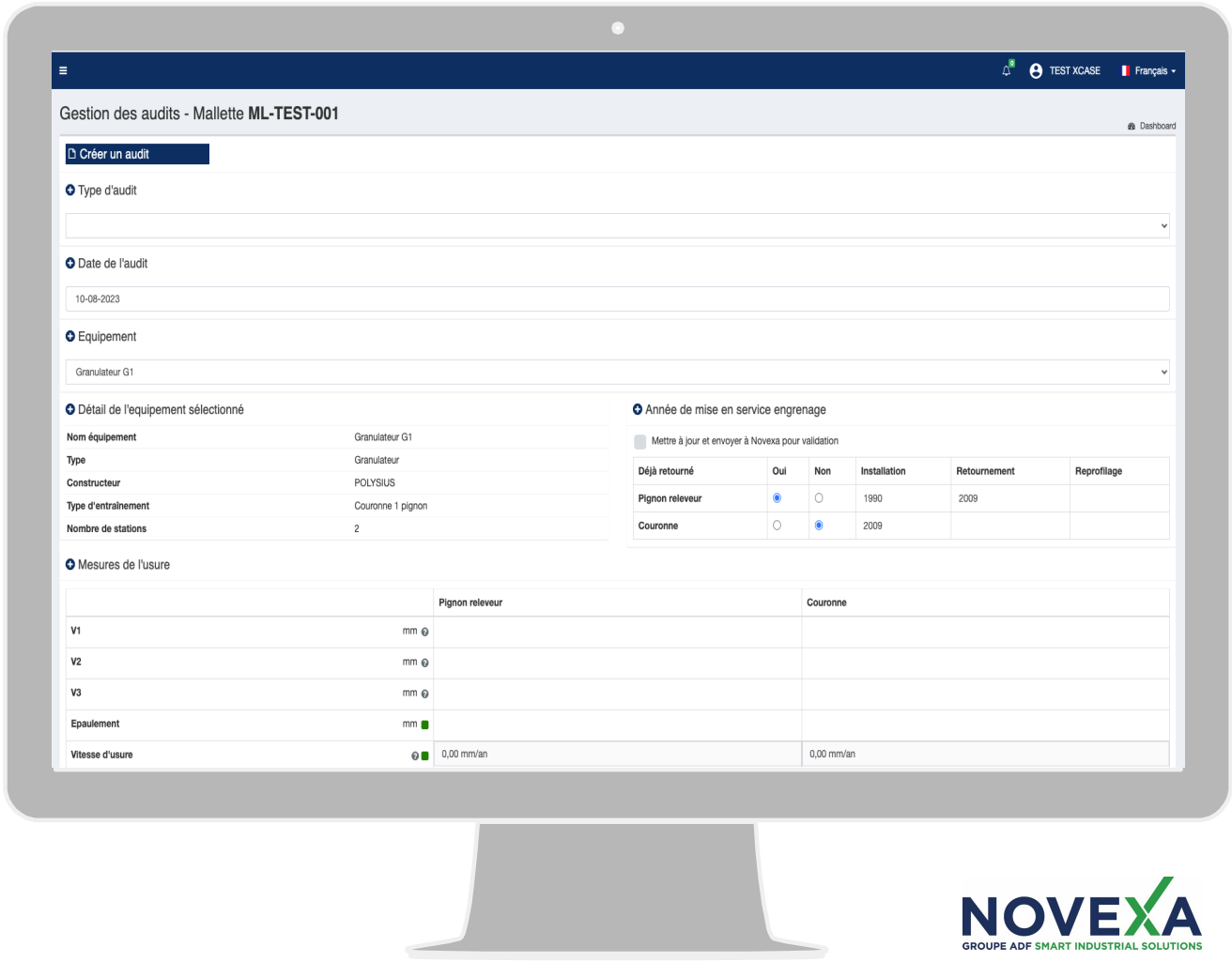
Creating a new audit with the "Audit Management" menu

*Audits reports are generated when **you** decide it (Remote access 24h a day, 7 days a week)*

*Your teams maintain control on audits and their maintenance schedule. **Experts on site stay autonomous***

Average time for measurements on site :

- *45 min with equipment stopped*
- *25 min in production*



XCase application

Direct access to main information:

- Simplified reading thanks to NOVEXA color codes

- History + wear projection through 2 separated graphs

- Cursor on the right helps you reading risks linked to equipment wear

- Date of last audit

- Access to technical data

- Switch to another equipment in one click through the drop-down menu

Audit records access

Accurate

Sorting is possible via 11 criteria available. This allows accurate and quick equipment monitoring, especially with:

- ***Remaining thickness*** → *helps deciding between replacement and reprofiling*
- ***Wear speed*** → *allows forecasting maintenance actions and budget*
- ***Wear distortion*** → *gives information on risk of vibration increase*

Sharing and security

Exportable

Novexa make it easy to share information with a reports structure sorted by files, and which can be downloaded in PDF format.

Communication

The API developed by Novexa offers the possibility of interfacing with your existing IT tools.

Data safety

Data are encrypted and stored according to HTTPS protocol, making them completely secured.

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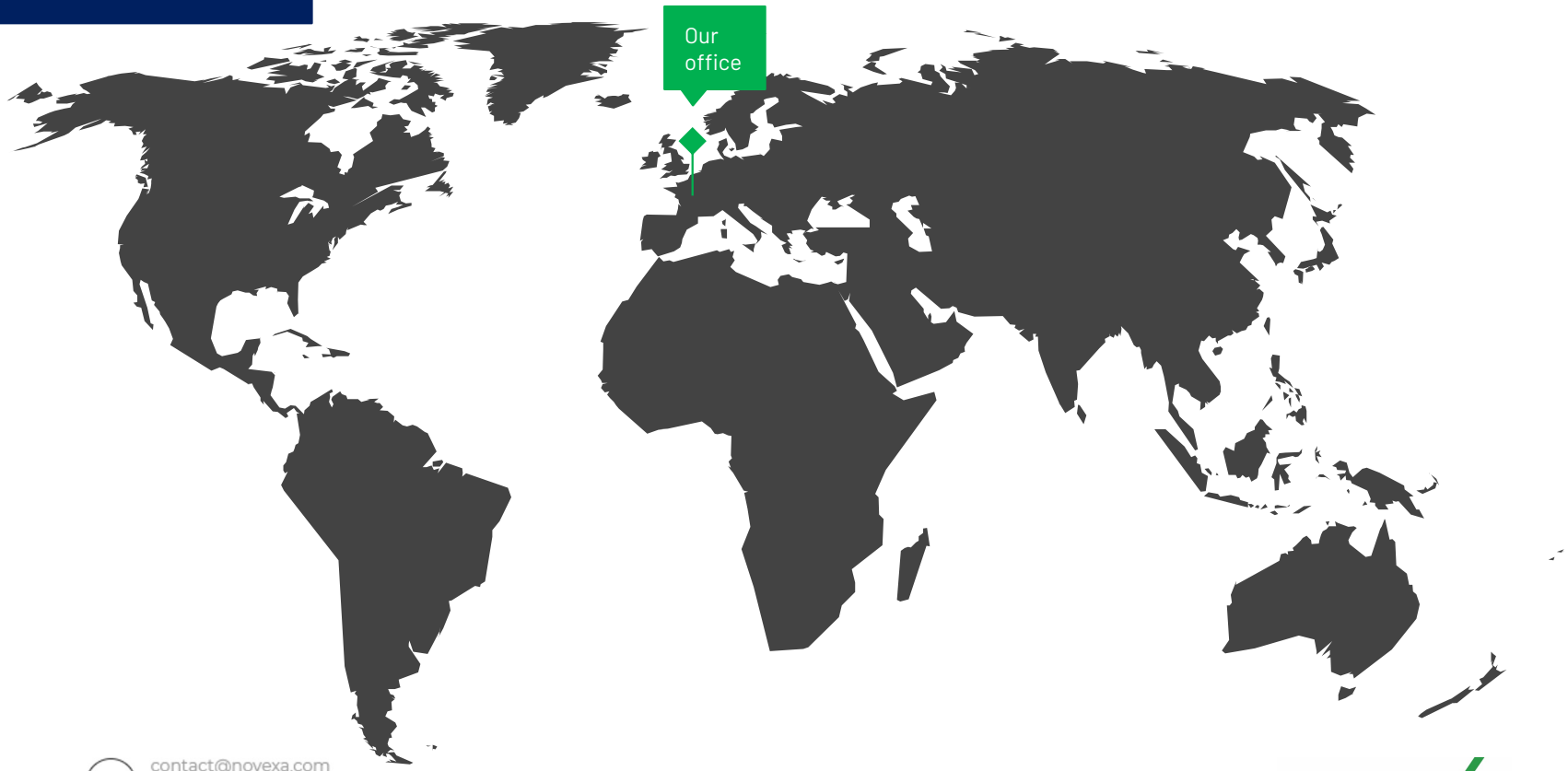
In the world



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