

Condition Monitoring on Edger Bearings at Tata Steel

December 2020

Together we make the difference

Agenda

1. Introduction
2. Journey to Reliability
3. AMDC
4. HD Technology
5. Analysis
6. Visualization
7. Condition Monitoring
8. Question



Introduction

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Introduction



Introduction

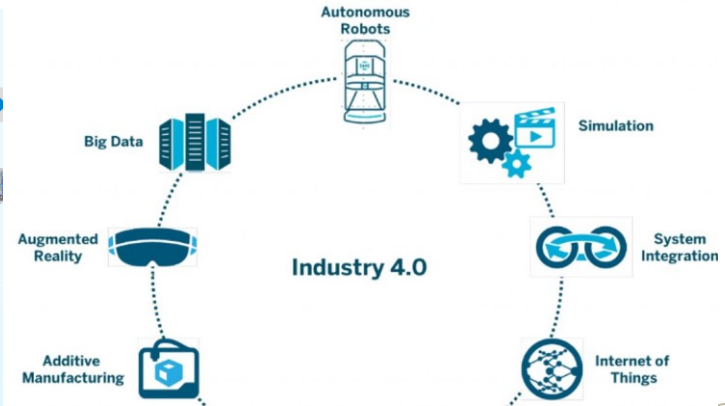
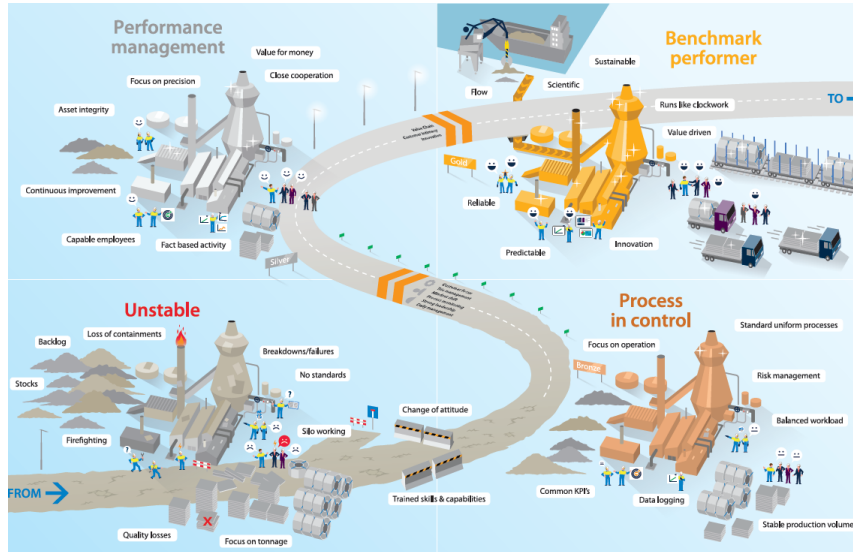


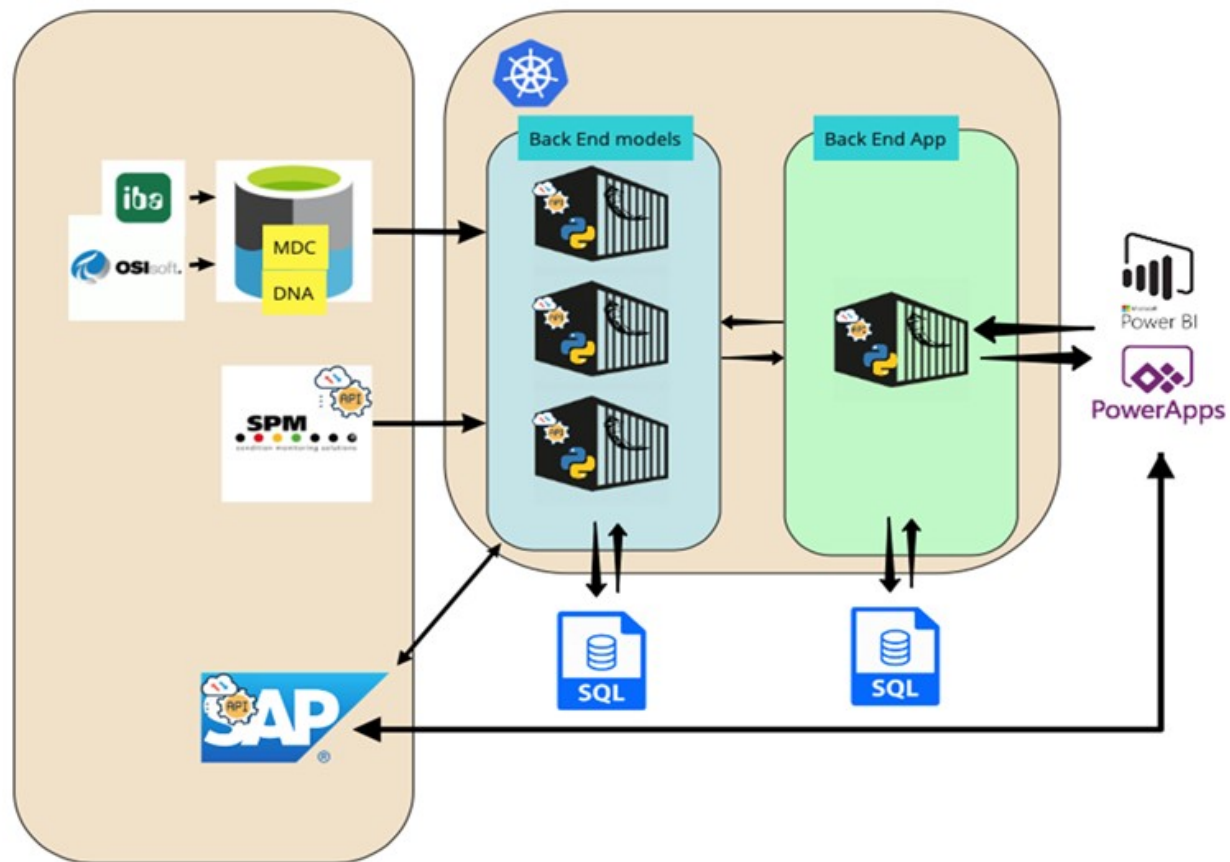
Introduction



Journey to Reliability

Leverage Industry 4.0 to increase uptime and optimize maintenance costs





AMDC Dashboard



Maintainer App



HD Technology 1



HD Technology 2

Normal

1

2

3

4

SURFACE



Healthy bearing



Crack initiation



Crack network



Loose parts



Spall

SUBSURFACE



Healthy bearing
with hard inclusion



Crack initiation



Crack network

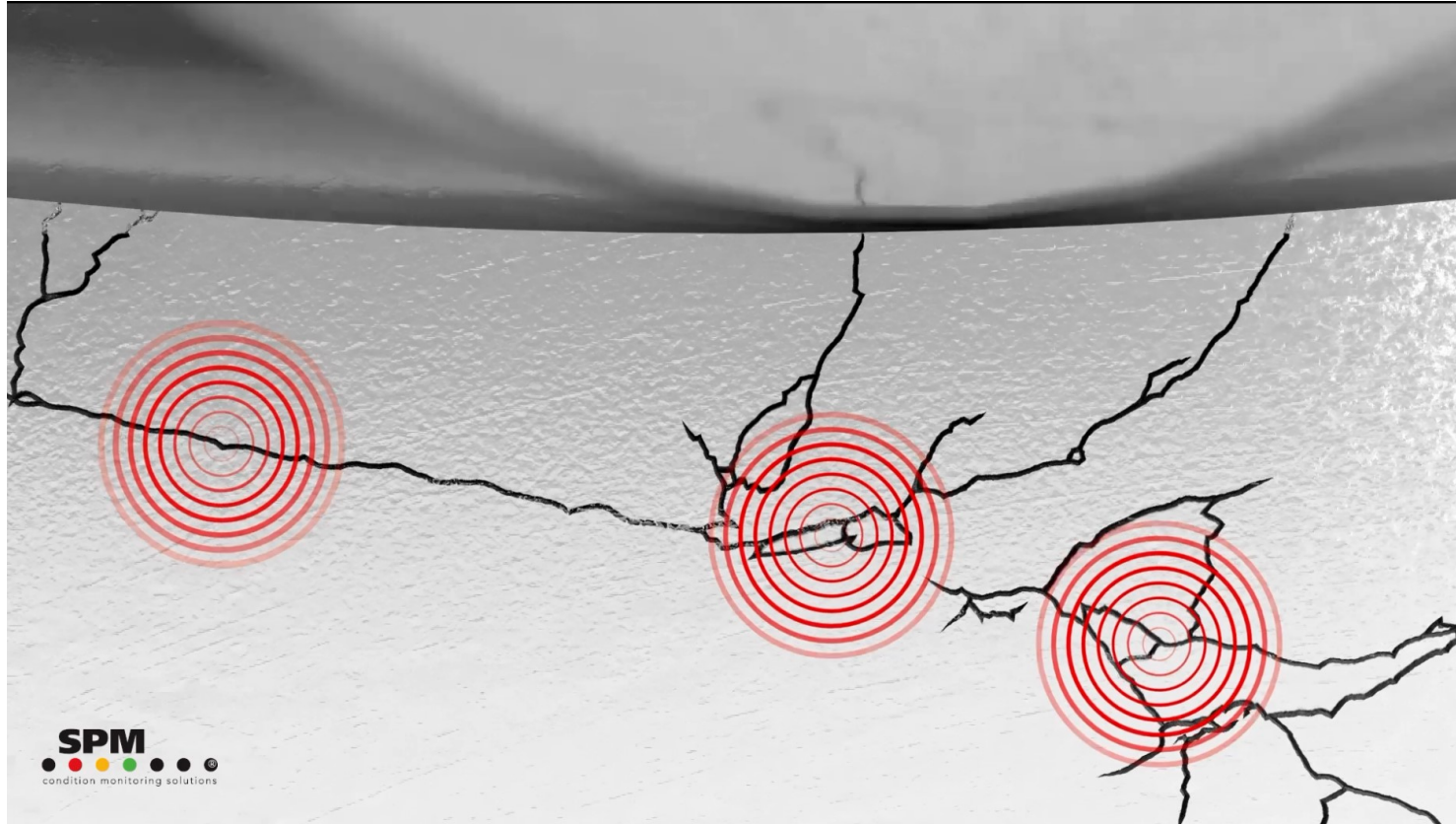


Loose parts

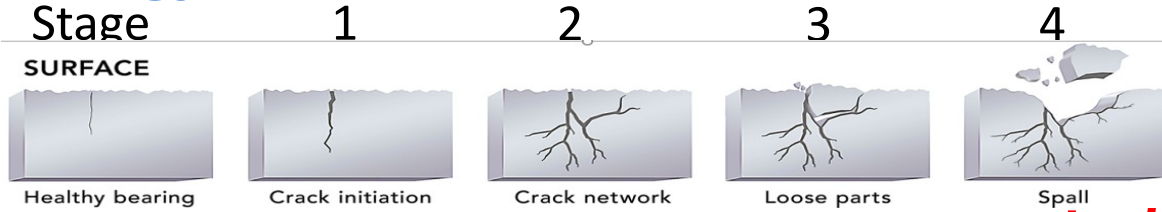


Spall

HD Technology 3

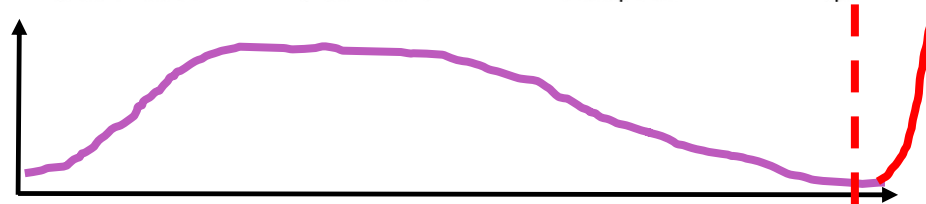


HD Technology 4



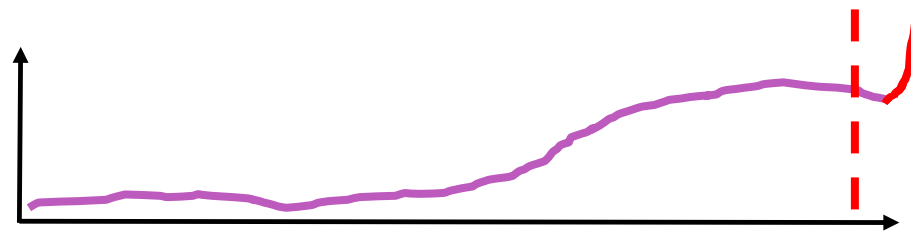
Filter 4

5 KHz – 40 KHz



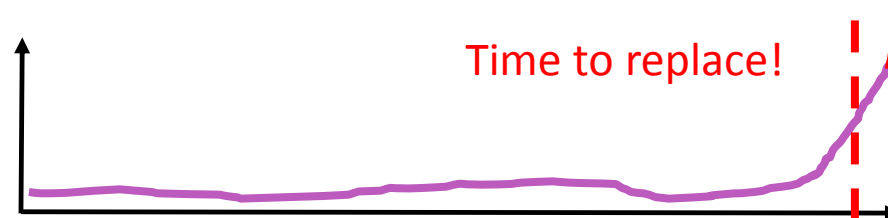
Filter 3

500 Hz – 10 KHz

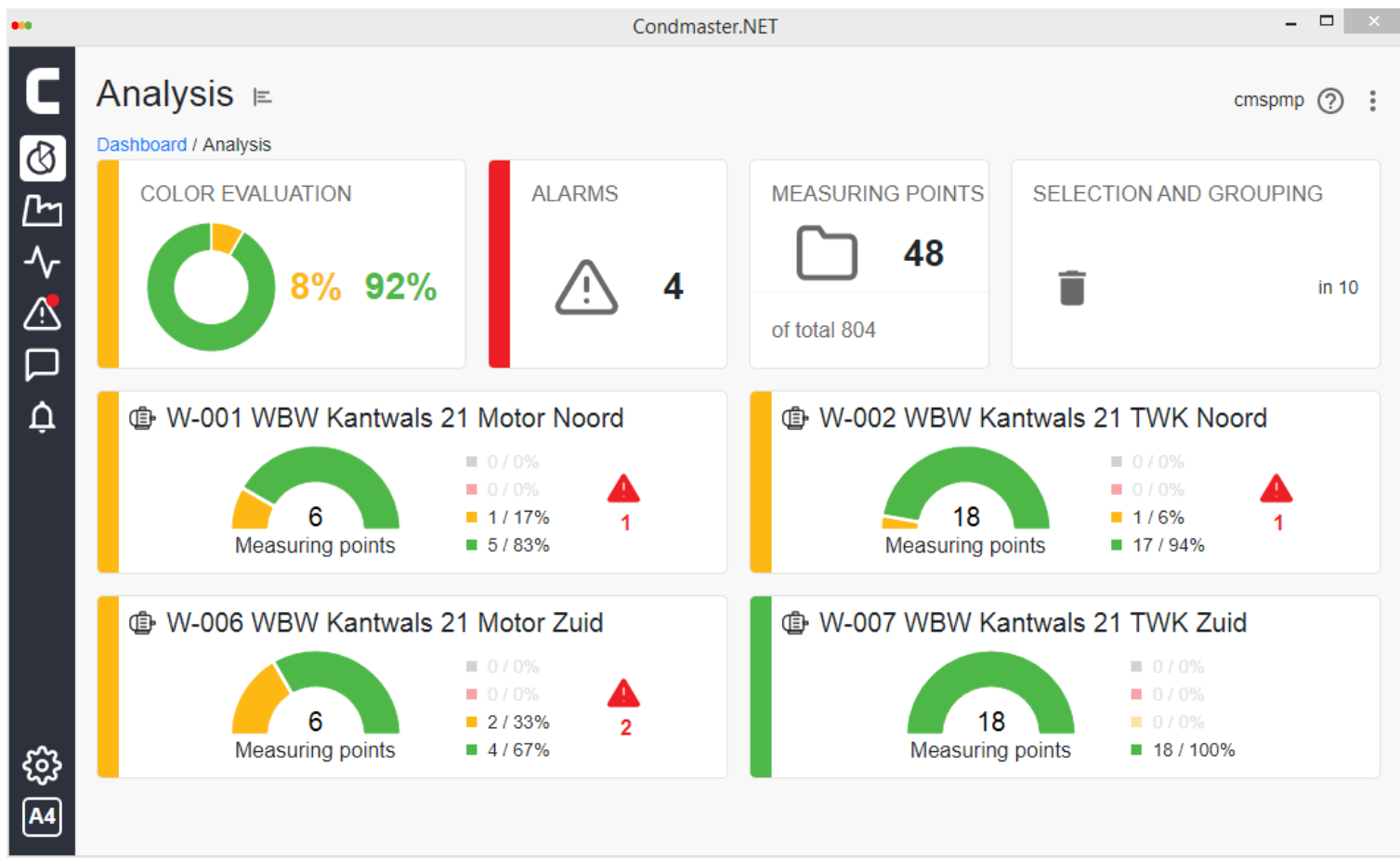


Velocity

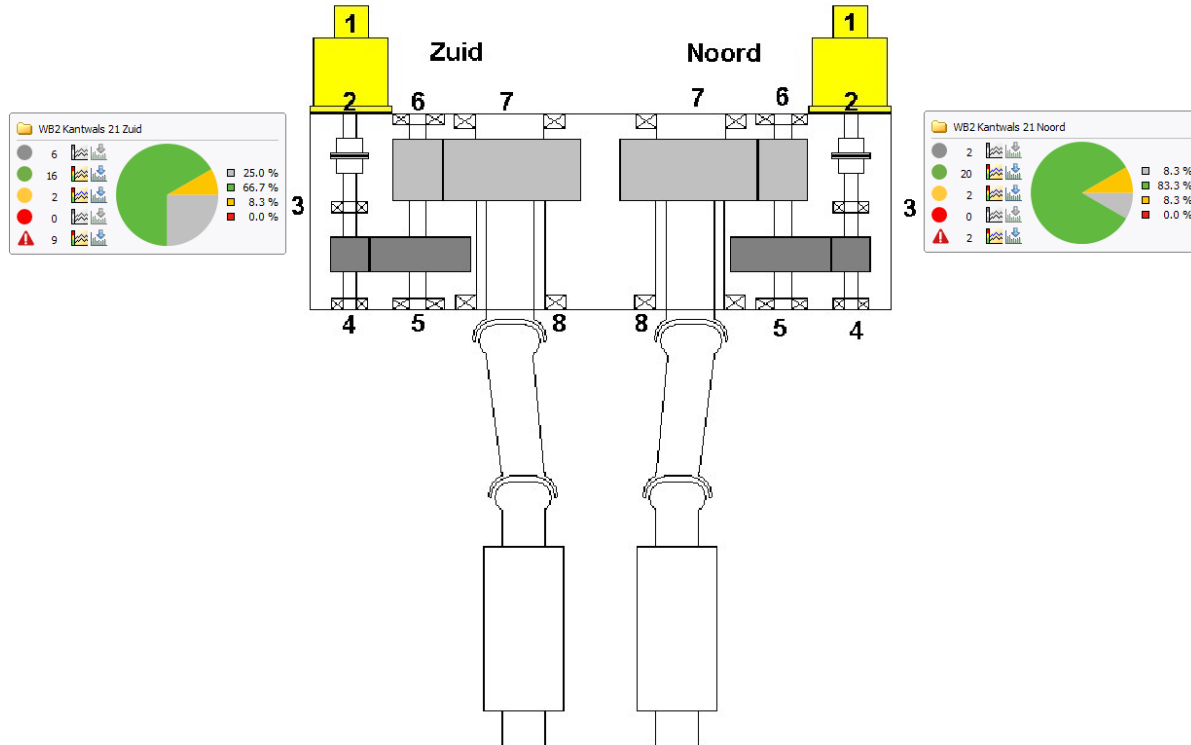
No envelope filter



Analysis

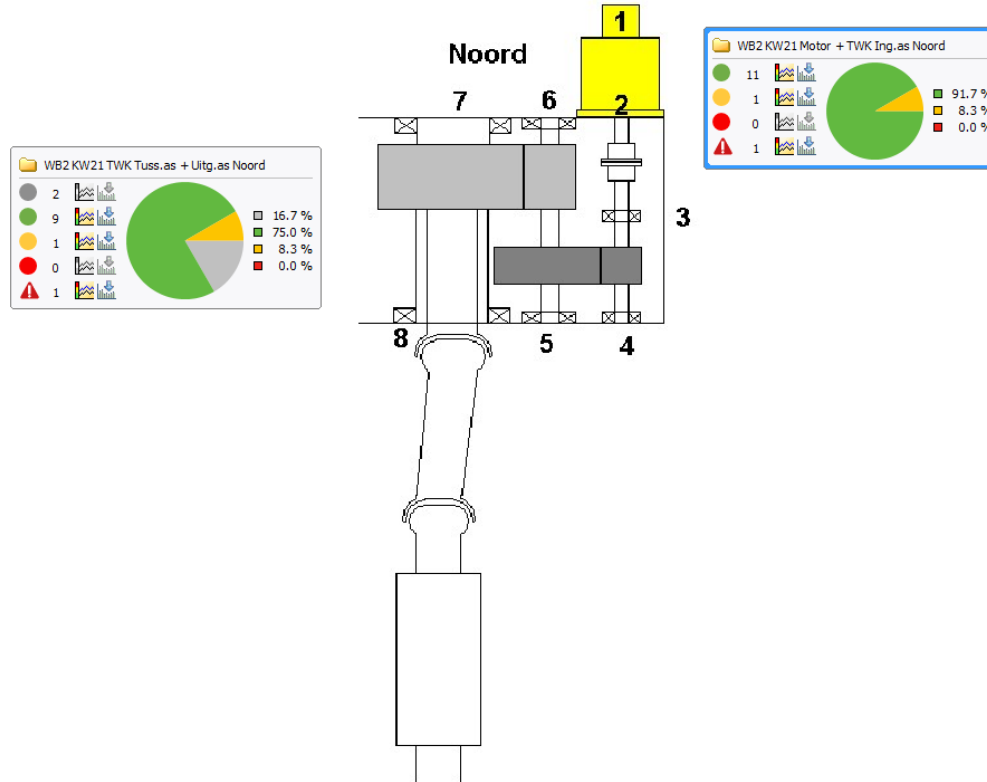


Visualization Edger 1



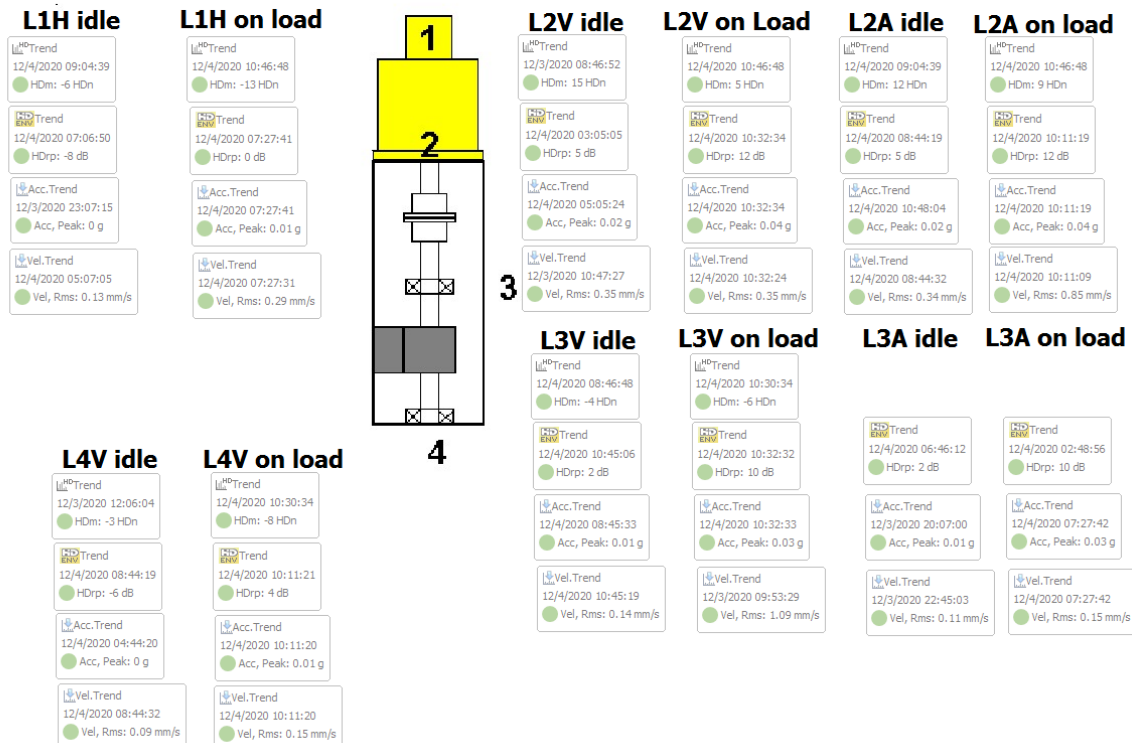
Visualization Edger 1 North

WB2 Kantwals 21 Motor + Tandwielkast Noord



Visualisation in detail

WB2 Kantwals 21 Motor + Ingaande as Tandwielkast Noord



Condition Monitoring results 1: Edger 1 gearbox



Old Edger 1



New Edger 1 since august 2019

Condition Monitoring results 2: Edger 1 motor



Do you have any questions?

Tata Steel

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