

# Wireless Remote Vibration and Temperature online condition monitoring: Application at a Chemical plant in Chile

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## ABSTRACT

In any industrial plant keeping an eye on your critical rotational assets at any moment is the key of your process reliability programme. This challenge needs a continuous and energy-consuming task for the reliability department in order to measure and cover the whole asset installation. This requires to go into a hazardous environments, enclosed places, moving elements, and far away.

Indeed, from our research 80% of the unplanned breakdowns are due to vibration issues on any of these assets. The costs to repair it will be important but not even compared with the production per hour you lose during the crash. Then if you could manage the reliability at any moment and from anywhere wirelessly it should be really profitable.

Nicolaides as innovative supplier for the industry in their tireless search for need solutions of our customers signed a partnership with I-Care to introduce the Wi-Care in Chile.

Wi-Care, is an efficient system - design and developed by I-Care (Belgium) – that consist in a Stand-alone Wireless vibration and temperature sensors together with a remote analysis web-based Software (ISEE) to know the health of your equipment at any place and any time.

A Chemical plant from one of the most important Company in Chile has rely on Nicolaides and I-Care to be the first and leader in this matter; putting in operation as a service 14 TRIAX vibration and temperature sensor on 14 different assets from four different zones inside the plant. These sensors are collecting vibration spectrum and temperature measurements every 2-3 hours; this is 672 measurements per day. This measurement and Network status can be visualized in the ISEE software; where you can see trends, alarms, faults, reports, analysis tools from any place at any moment; only need a device with internet connection.

The results so far has been detect early faults in machinery, take actions and plan about the reparation/maintenance and prevent unexpected failures. For example looseness, lubrication, imbalance among others faults remotely.

Finally, after one day and a half of installation and commissioning on site we start the system. This application is just the first one in Chile and it adds to the other +3500 sensors worldwide from I-Care installation.

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