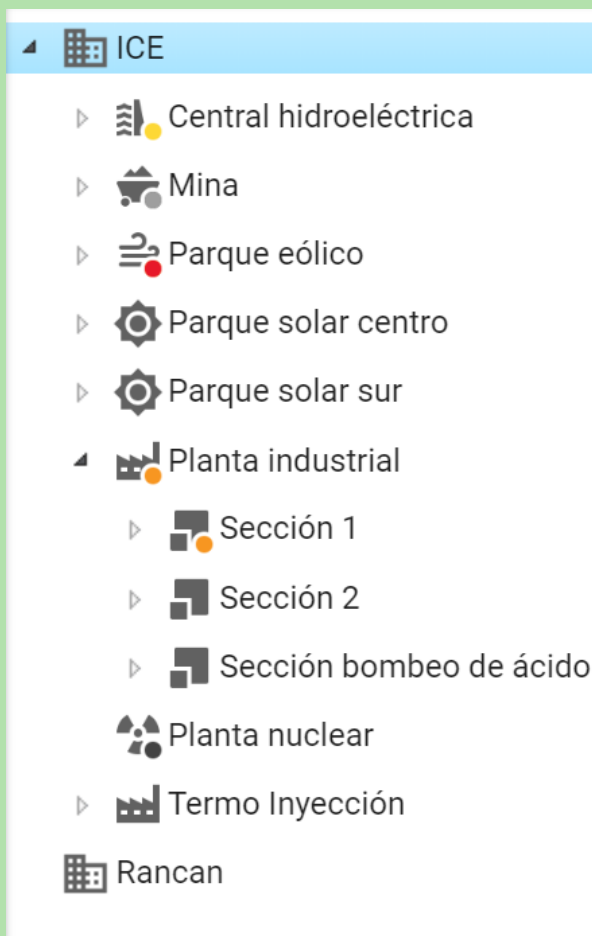# PRUEBA ✔

PRODUCT

★ ★ ★ ★ ★

INTRODUCTION

Inspection reports are a high-value element for an industrial maintenance organization. Condition reports resulting from the process of inspection become the source of information the maintenance departments require to plan and program most of their activities. An efficient report is the desire of every maintenance leader, those reports that really communicate the condition of the assets, the evolution and severity of the problems, the failure modes and the mechanisms that produced them, and ultimately are capable of communicating the actions that must be taken to correct the failures and avoid their repetition. An inspection report can make the difference between a timely maintenance activity or an unexpected failure, which is why the execution, management, and distribution of the inspection reports are key in the asset's comprehensive care process. However, this factor represents a weakness in many organizations, where there are ambiguous and late reports that provide very little to maintenance and reliability.

WHAT IS POWER-MI AND WHAT IT ISN'T?

It is a cloud-based application for the creation, management, following and communication of asset condition reports. The software does not substitute a CMMS, and it is not a predictive inspection software. It is an interface between these systems which is fed by the predictive analysts and used by the entire maintenance organization.

ASSETS HIERARCHICAL CLASSIFICATION (TAXONOMY)

TECHNOLOGY TO EASE THE WORK

Counting on tools that ease this data processing is a great help for professionals who are responsible for the cares and operation of industrial assets. In this first edition of the Products Test section, we have had the opportunity to evaluate a product designed to efficiently create, manage and distribute the asset condition reports derived from different inspection technologies. Power-MI is a cloud-based software application that promises to organize, standardize and share the industrial assets inspection reports systematically and directly. In this product evaluation work, we have tested its functions for 30 days, feeding it with condition data from several plants, different machines, and different inspection technologies, complying with the entire inspection, analysis, diagnosis, recommendations, and communication cycle. We put the product in the hands of professional inspectors, vibrations analysts and thermography analysts to evaluate the data entry and data generation process, we shared the information with the maintenance supervisors by using the communication tools in the software, which allowed us to obtain objective conclusions about the benefits of this technology and how it can ease and power the work. The use of it in different day-to-day situations has also allowed us to evaluate its improvement potential, so I believe the maintenance and reliability community can benefit from using it. Down below we present a summary of the main functions we had the opportunity to test.

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Predictive maintenance analysts generate reports in a standardized platform by associating each report to a unique asset; the reports are configured according to the corresponding type of predictive technology, therefore, for a determined machine, for example, vibrations analysis, thermography or oil analysis reports are defined.

In each report, the variables and the failure mechanisms (diagnosis) evaluated for the asset are defined. The analyst indicates his diagnosis, grades the severity of the problem and defines the maintenance recommendations in an intuitive platform.

Once the report is finished, it is published and transmitted to all the interested people defined by the user. The information is distributed via email, and the recipient will get a message with a link to the application to be able to check his report online with the information required to maintain and take care of the asset. **The fundamental objective is substituting the reports distributed via email in an** **electronic format or those printed, which lack an efficient coding system and makes it difficult to have follow-ups and updates. All the reports and key information on the machinery are stored on the cloud, and when updated, all the people involved are informed in real time.**

Termografía 29/05/2018

|	
Activo :	Grupo 1
TAG :	TAG-0002-004
Fecha de la medición :	28/05/2018
Fecha del análisis :	29/05/2018
Estado del activo :	A Bien

[EDITAR] [REVISIONES] [ELIMINAR]

Diagnóstico

Todos los elementos termografiados están en condiciones. El grupo alcanza una temperatura dentro de la normalidad, ya que la máxima registrada en la termografía es de unos 140oC y la temperatura máxima de servicio que indica la placa de características es de 180oC. Temperatura general correcta.

Diagnóstico de fallos

🌡	Alta temperatura	❗
▫	Punto caliente	❗
⫼	Conexión defectuosa	✅

Mediciones
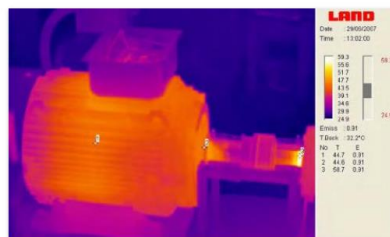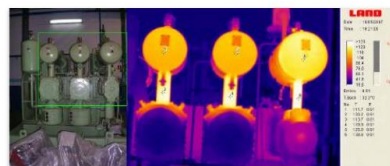
Otras técnicas

Análisis de vibración 25/05/2018	A

ASSET REPORTS SUMMARY SCREEN

INTUITIVE PLATFORM

We did not receive any training to use the system, only a username and a trial key with access to all the functions of the software. If you have worked in the inspection process and the creation of condition reports, you will find yourself in a friendly and familiar environment, being able to navigate naturally through the different options of the system to create and share your reports.

Each report, event or information is automatically assigned to a unique asset (the machine), and it is sequentially stored by time and date in a timeline. This greatly facilitates the access to the history of the asset, and it is one of the functions I have valued the most as a reports manager due to the high value it can provide to the follow-up of the health of the asset along with its life cycle.

The assets are created and stored in a typical hierarchy as in any other machinery database system, consistent with the structure and the taxonomical naming of an industrial plant. Key information referring to technical data and identification can be assigned to each asset, but it is also possible to attach pictures and documents in different formats, such as data sheets, blueprints, drawings…

The amount of information to store will depend on the type of subscription of the account.

THE REPORTS

The reports can be created individually, and by type of inspection technology, for example, reports are created for vibrations analysis, for thermography or for a visual inspection, among other options. Each report is configured to cover different mechanisms of failure (diagnoses) that the analyst selects from a list. It is possible to define the severity of the problem and the condition of the machine based on a severity and criticality system. It is the predictive analyst who ultimately defines the problem, provides the diagnosis and issues the corresponding maintenance recommendations by filling the predetermined fields and with the possibility of adding more fields according to his needs. Once a report is finished, or an event is notified, this information is published and automatically sent to the emails defined by the user. The recipient will receive a link to access the platform where he will be able to see the report. By being based on the cloud, all the updates, notes, comments and revisions are automatically communicated every time they are published, this way, all the people involved are informed in real time about the condition of the assets. The reports can be organized by dates, by inspection technology, by machine type, by criticality, by the severity of the problem, among other filters. The reports and the information of the machinery can be downloaded in PDF formats.

STATS

This is a great tool, the software organizes conditions stats by machines, by areas or by plants, showing the status of the condition, for example, by severity, by the type of failure presented, by machine type, etc. The stats are updated automatically every time a new report is generated.

IMPROVEMENT POTENTIAL

If I could influence the future improvement of this product, I would add a type of report directed to operational variables inspections. I would provide an option to add more diagnoses fields or customizable fields to include other mechanisms of failure. In the version we tested, the types of equipment are mainly rotative machines; I would add static equipment and instrumentation, such as valves or heat exchangers for future versions. Finally, I would add in the condition options "under maintenance" and "in reserve or standby" status.

CONCLUSIONS

During the trial period, we were able to work with the different tools of Power-Mi, generated some condition reports and distributed them to our clients. Objectively speaking, I can say that the application represents a significant improvement, the reports are done much more quickly, the format is intuitive, simple and clear. On the other side, the clients felt they were better informed and involved in the process. Power-Mi is a product created to cover a real need and to improve the efficiency and effectiveness of the predictive maintenance process, so I am grateful with its representatives for this opportunity to try it and share these comments. I hope they keep developing and make available this useful tool for the industrial maintenance and reliability community.

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