SUCCESS CASE

FISHING INDUSTRY. PONTEVEDRA, SPAIN

INTRODUCTION

The rapid technological advancement of today makes Business Intelligence tools readily available to integrate industrial refrigeration as a key element for Industry 4.0, food safety, and energy efficiency.

This transforms the individual management of traditional industrial assets into an intelligent system for agile and efficient operations.

Food safety is a critical aspect due to its direct relationship with health. Building consumer trust is essential, so preventing, eliminating, and reducing the risk to the lowest possible level throughout the product value chain, from producer to consumer, is crucial.

OBJECTIVES

The food industry demands maximum efficiency with minimal energy and maintenance costs for its production process. At a strategic level, it is no longer a choice but an obligation.

Refrigeration 4.0, therefore, involves evolving from a maintenance approach reliant on 100% field interventions without data to a maintenance strategy where 70% of actions are automated preemptively before a failure occurs.

This document is an example of the optimization of the refrigeration system and the reduction of energy costs achieved as a result of the actions taken with our software..

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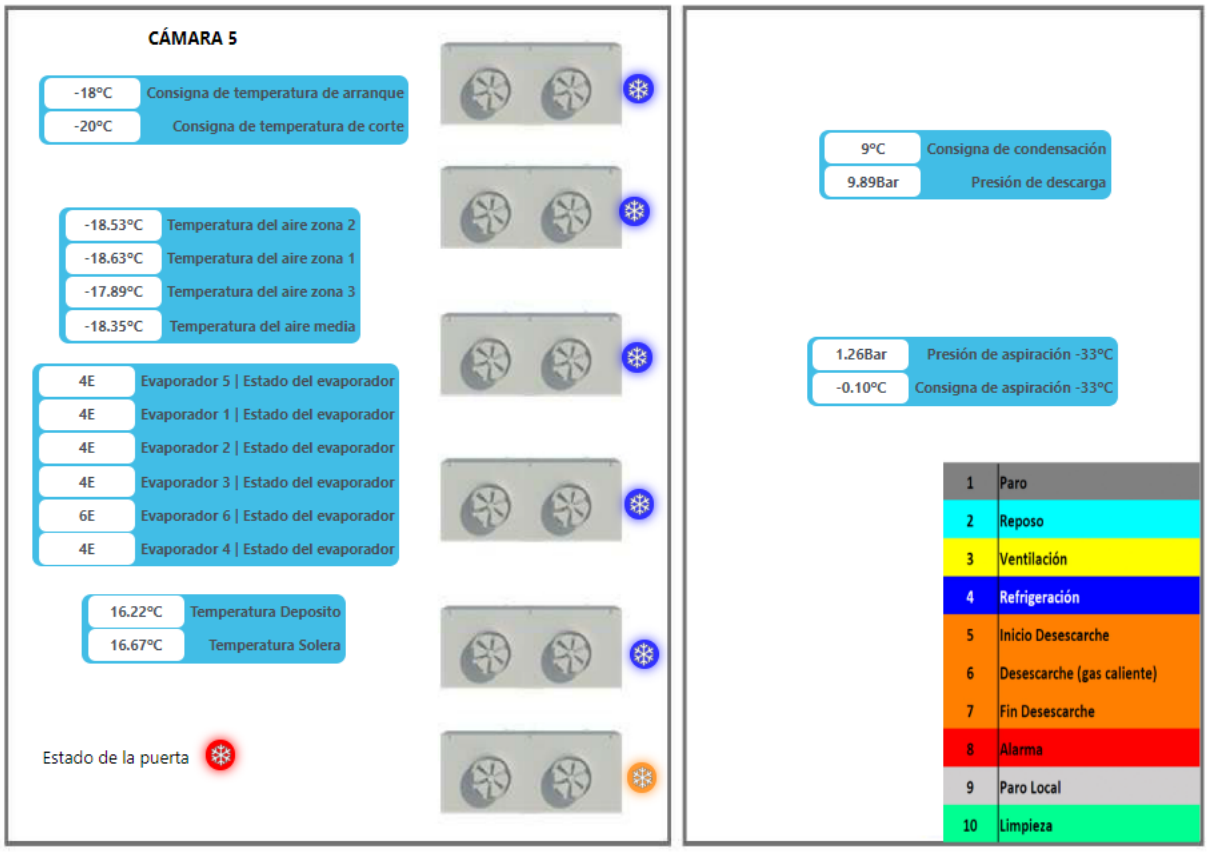
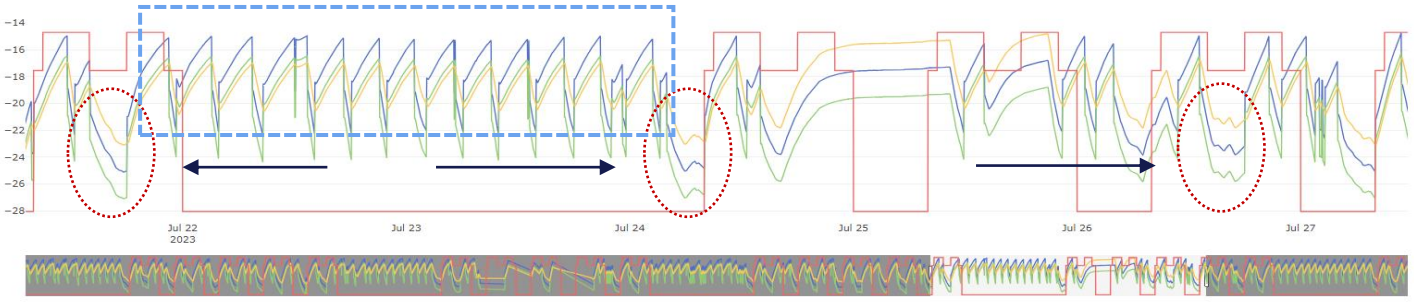
Success case. Fishing industry. Pontevedra, Spain

This installation features 3 fresh cold chambers (average temperatures above 10°C) and one negative cold chamber (average temperatures close to -20°C), all operating with ammonia. Since cold chamber 5 is the largest and demands the most energy, we will focus on it for this analysis.



To see how the implementation of the optimizer affected the system, let's look at the following graph:



Activo	Señal	Media	Min	Max	Frec	Ult. lectura	Ejes
Cámara 5	Consigna de temperatura de arranque	-19.22	-26.05	-14.70	3	-15.79	L R
Cámara 5	Consigna de temperatura de corte	-20.93	-28.05	-16.20	3	-17.31	L R
Cámara 5	Temperatura del aire	-19.51	-24.10	-14.79	3	-17.79	L R
Contador de Compañía	Precio fijo de la energía eléctrica ·	0.11	0.08	0.14	60	0.13	L R

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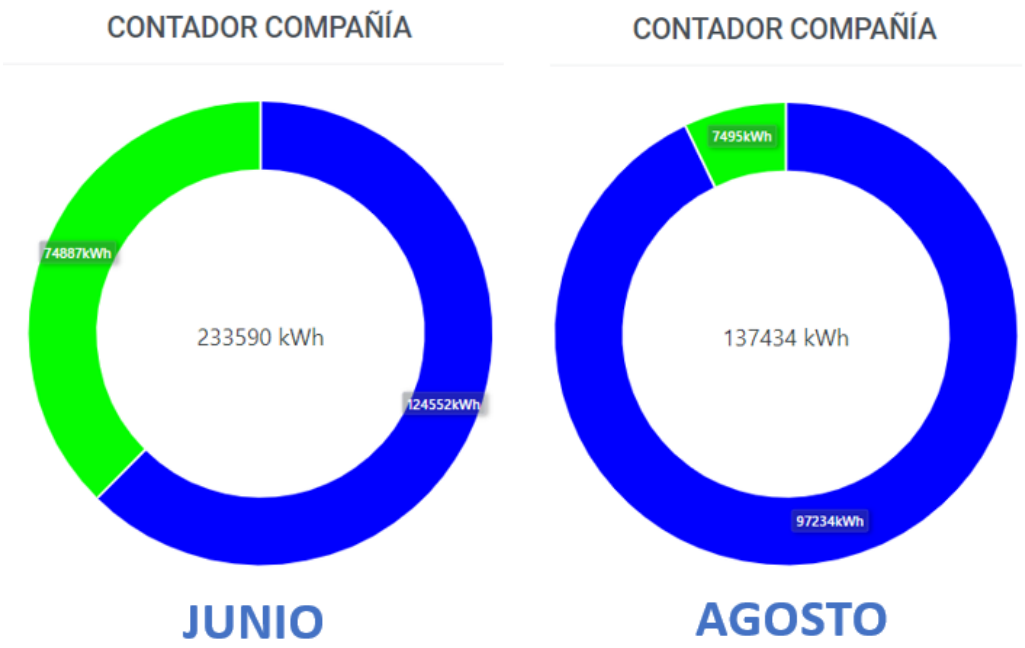
Caso de éxito: Industria pesquera, Pontevedra, España

In the graph, we can observe how the different setpoints change concerning the electricity price. In the red circles, it can be seen that, thanks to the optimizer, when energy is cheaper, the system takes advantage to accumulate cold (lowering the cold chamber temperature), and in the blue box, we see that during the period of cheaper energy (weekend), defrosting of the evaporators in the cold chamber is carried out.

The optimizer was set up in mid-July. If we compare the consumption from the month before and after its implementation, we will see a significant difference:



A 41% reduction in consumption post-optimizer installation, especially considering the typically higher energy demand in August due to higher temperatures, is quite remarkable.

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