



Refrigeration Redefined:  
**Intermarché's  
Winning Strategy  
for Lowering  
Refrigeration Costs**



## Introduction

Intermarché in Saint-Maixent-l'École, a supermarket in Deux-Sèvres, Nouvelle Aquitaine, recently undertook a significant project to modernize its refrigeration system. Managed by the Gourdeau family for 23 years, the project was driven by the store's overarching objectives: to enhance sustainability, reduce operational costs, and comply with environmental regulations.

## Key System Facts

- Location: Intermarché de Saint-Maixent-l'École, covering 2800 m<sup>2</sup>.
- Refrigerant Used: Very low-GWP Opteon™ XL20 (R-454C).
- System Architecture: Semi-centralized with stand-alone Copeland™ ZX units supplying 22 cold rooms.



## The Project

In partnership with Westfalen, installers F2C Equipements (Groupe Carré d'Energies) evaluated key system aspects before landing on the optimal solution:

- High Energy Efficiency: Reduce energy consumption and associated costs.
- Environmental Compliance: Transition from outdated refrigerants (e.g., R-404A) to sustainable alternatives.
- Minimize Maintenance: Address refrigerant leaks and reduce maintenance expenses.



***“We wanted a modern, efficient refrigeration system that aligns with our commitment to sustainability.”*** — Mr. Gourdeau, Store Manager, Intermarché de Saint-Maixent-l'École.

Equipment distributor Rolesco carried out technical studies for the proposed system, which included sizing and selecting products (units/control/accessory components) that best meet the store's refrigeration specifications.

## Installation Process

The project aimed to replace the existing R-404A refrigeration units, which were prone to leaks and required costly repairs. The new system involved placing condensing units on the store's roof to optimize space utilization and reduce the refrigerant load by almost 50%. After evaluating all options, the technical team decided on choosing Opteon™ XL20 (R-454C) refrigerant as the best option, due to its low GWP and high performance. The semi-centralized architecture ensured efficient cooling across the 22 cold rooms, guaranteeing optimal temperature control and redundancy for perishable goods. The project team conducted risk assessments and designed the system, keeping safety and environmental regulations in mind to ensure compliance.



## Operational Approach

The store installed multiple Copeland™ ZX units to ensure consistent temperatures. Regular monitoring and preventive maintenance help to avoid leaks and optimize system performance.

## Alternative Solutions Considered

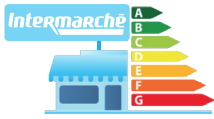
Several options were evaluated:

1. Waterloop for the cold room with a condensing unit.
2. Full Centralization: implement a fully centralized refrigeration system.
3. Hybrid Approach: combine centralized and stand-alone units.

## Solution Adopted

The combination of Copeland™ ZX units with Opteon™ XL20 refrigerant was selected for its low GWP, energy efficiency, and the ability to offer individual cooling capacities to different sections of the store, optimizing overall energy use. This modular, flexible approach allows the customer to control individual condensing units for energy efficiency and easy troubleshooting, without needing an installer.

## Summary Outcomes



**Energy Savings:** The new system demonstrated a significant 30% reduction in total electric consumption compared to the old R-404A units, according to Store Manager Mr. Gourdeau.



**Reduced Leaks:** The use of Opteon™ XL20 minimized refrigerant leaks, resulting in lower maintenance costs and also lower indirect cost from energy savings.



**Environmental Impact:** Intermarché de Saint-Maixent-l'École anticipates environmental regulations and contributes to reducing greenhouse gas emissions.

## Conclusion

The successful modernization of the refrigeration system at Intermarché in Saint-Maixent-l'École serves as a model for other supermarkets. By prioritizing sustainability and efficiency, the store has improved its costs while minimizing its environmental footprint.

Currently, Intermarché Saint-Maixent l'École is reporting a reduction of **30% on the total electric consumption** of its cold rooms since the launch of the new installation, according to the Store Manager, Mr. Gourdeau.



**"Our customers appreciate the fresh produce, and we're proud to offer it sustainably." — Mr. Gourdeau, Store Manager, Intermarché de Saint-Maixent-l'École.**

Contact our team and discuss adopting similar solutions for your business to enhance energy efficiency, reduce costs, and increase sustainability.

