

The right business solutions for your cold chain needs

Solving your cold chain challenges, from source to use





Introduction to cold chain

It is estimated that almost one third or 1.3 billion tonnes of the annual food produced worldwide is lost or wasted. A major factor of food wastage is due to an underdeveloped and inefficient cold chain. From food producers, shippers, storage facilities and retailers, Copeland's cold chain solutions help maintain quality and extend the shelf life of perishable products reducing the chance of precious food ending up in our landfills.

Challenges

- Minimizing food loss and waste
- Reducing operations and maintenance cost
- Maximizing equipment efficiency
- Optimizing inventory management



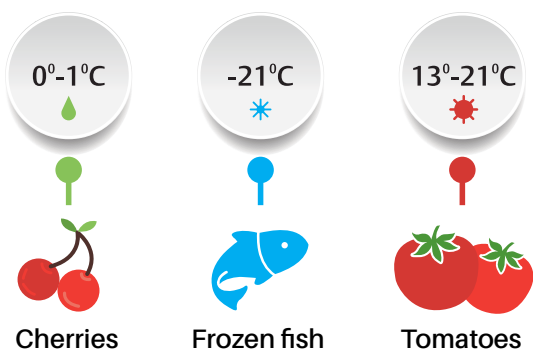


The cold chain effect

A dependable cold chain, now more than ever, plays a critical role in our lives. Not only do they ensure the optimal preservation of fresh produce, they make food easily accessible for consumers. The cold chain allows food to be available at our own convenience whether at the large scale hypermarkets or at your neighborhood grocery. An extensive and reliable cold chain is critical for any growing community.

Best practices

Below are just some of the ideal temperature ranges to retain peak freshness and taste.



Source



Challenges

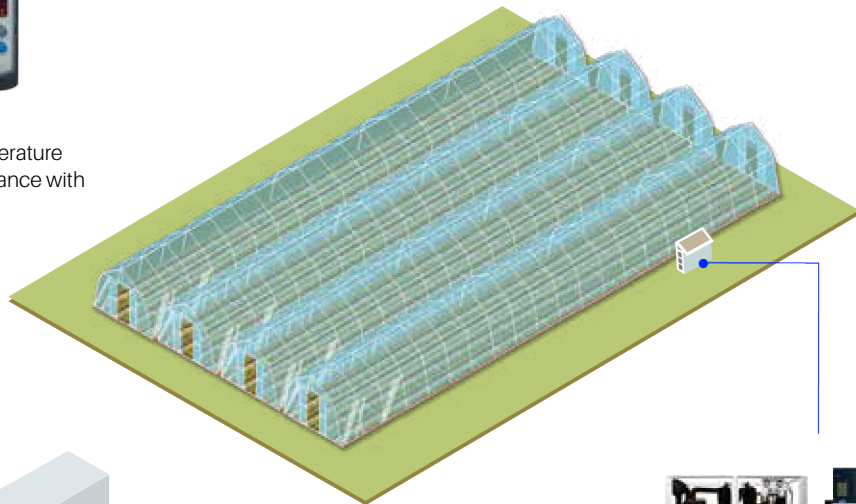
- Keep operating expenses low
- Reducing harvest spoilage
- Operating a sustainable and responsible agriculture

Our solutions help maintain precise temperature control and humidity suitable for growing and storing quality produce.



Cold room controllers

Enable precise control of temperature and humidity to ensure compliance with strict rules and regulations.



Cargo solutions

Hardware and software solutions help track temperature and location of your product throughout the value chain in real-time.



Scroll

Semi-hermetic

Compressor racks

A refrigeration unit made up of our reliable Copeland compressors which can fine tune operations to different load levels, delivering flexibility and efficiency.



Success case

A Southeast Asian nation's marine agricultural ministry asked Copeland to help develop the country's cold chain infrastructure. With reduced food spoilage, the living standards of small-scale fishermen improved. By storing their catch at the right temperature, the fishermen are able to sell at 30% higher price.

Processing



Challenges

- Keep operational expenses low
- Ensure reliability and long system uptime
- Precise control of temperature and humidity to reduce spoilage
- Safeguard compliance to industry standards

Proven through years of service, our solutions provide highly reliable refrigeration, ensuring shelf life, quality and regulatory compliance.



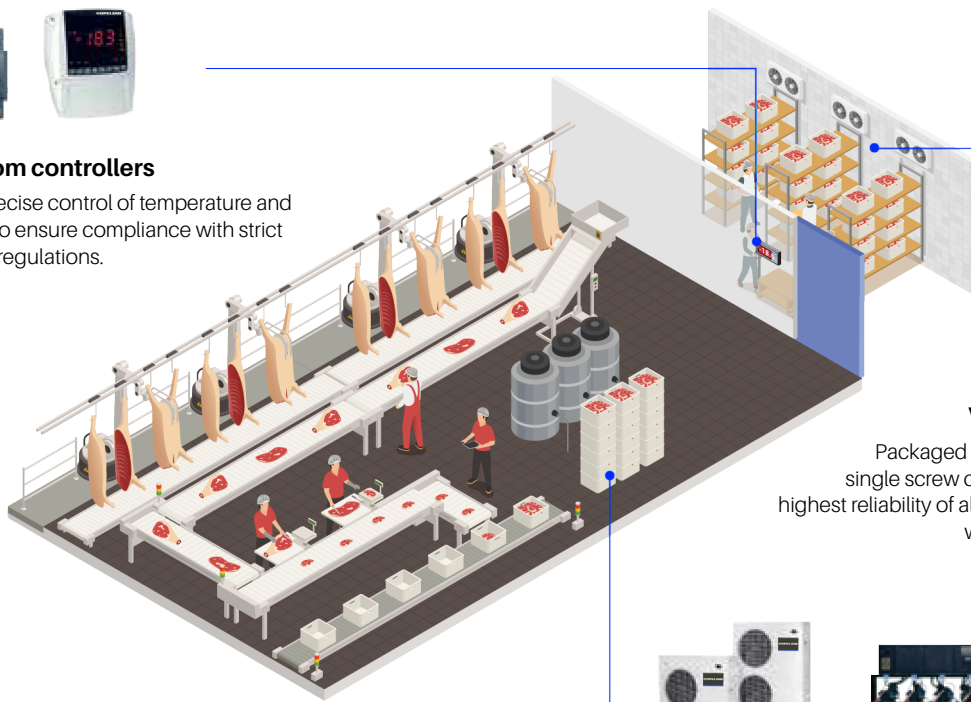
Cold room controllers

Enable precise control of temperature and humidity to ensure compliance with strict rules and regulations.



Temperature monitoring kit

Highly accurate thermometer with step-down, thin tip design provides fast and accurate response time of less than two seconds.



Vilter package unit

Packaged units with our patented single screw compressor provide the highest reliability of all industrial refrigeration with low life cycle costs.



ZX condensing unit



Compressor rack



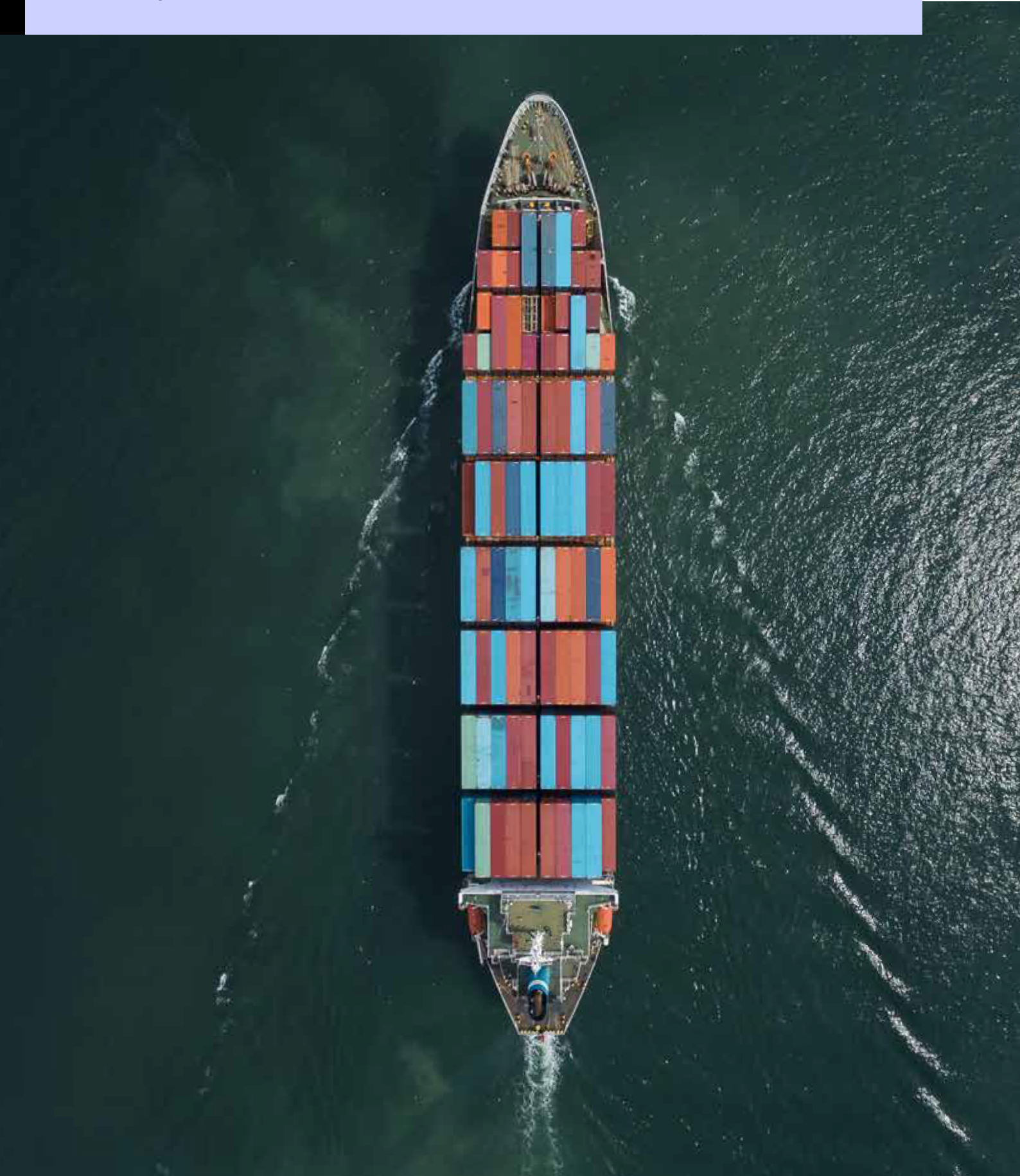
Vilter compressor

Our products cover a wide range of cooling requirements from small to large scale refrigeration applications.



Success case

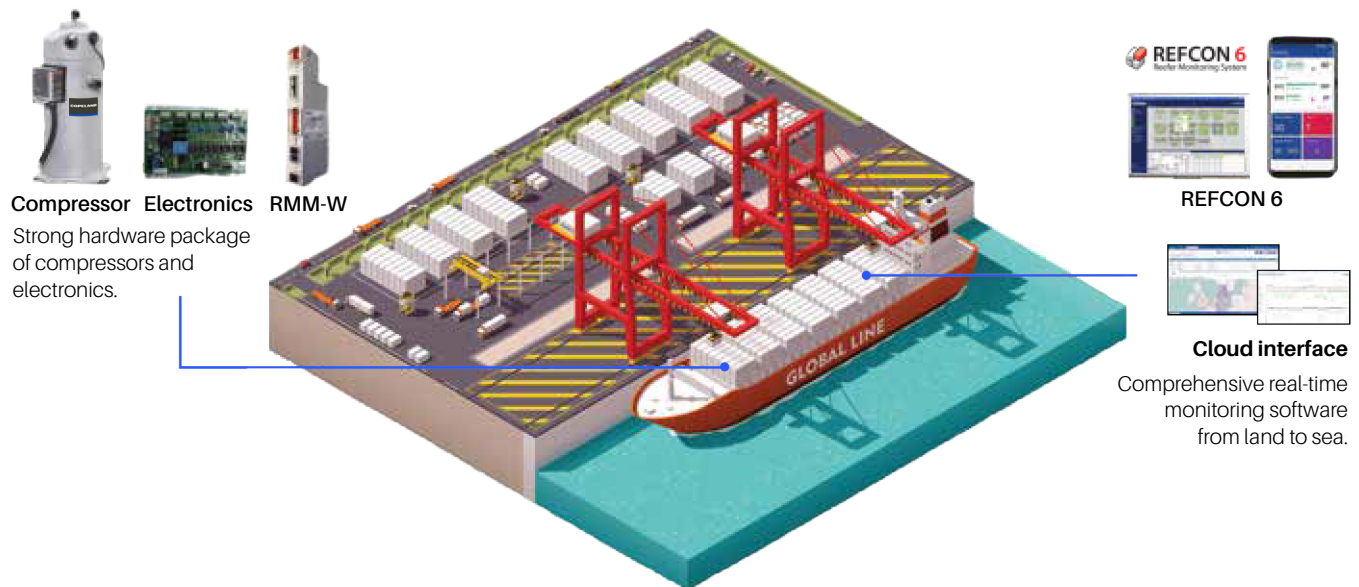
A major Philippine meat processing plant chose Vilter compressors to power its 9 hectares of refrigerated production lines and cold storage. Vilter technology optimizes compressors efficiency at part load condition so when load profile changes, the refrigeration system will keep pace without wasting energy.



Challenges

- Regulatory compliance
- High energy and maintenance cost
- Lost manhours on manual monitoring of reefer conditions

With over 35 years of experience, ProAct Transport is a proven integrated hardware and software solution for container cold chain management.



Success case

When a Belgian-based shipping line introduced 20 new specialized reefer vessels into their fleet, they chose Copeland's REFCON 6 system. The automatic monitoring of reefer containers ensured continuously supervised cargo conditions at land & sea and received immediate notifications on reefer issues. Our transport solutions enabled safe cargo conditions throughout the shipment's entire journey from source to end destination.

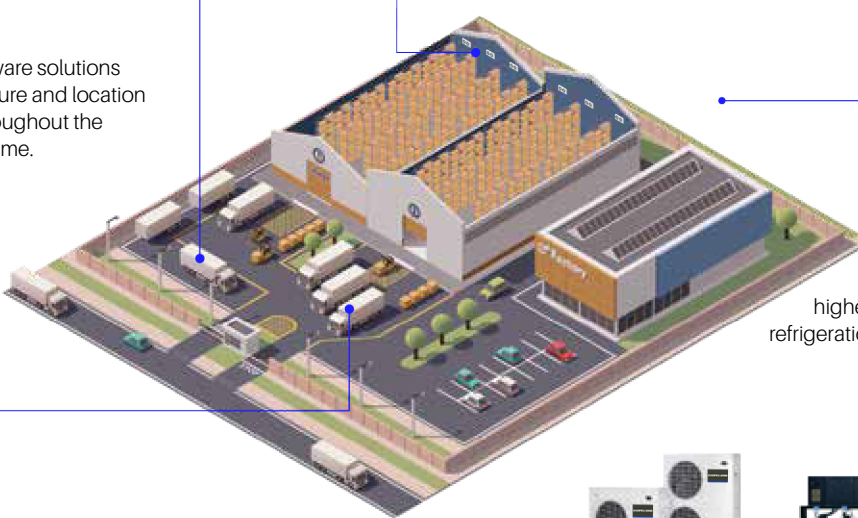
Storage and distribution



Challenges

- High energy/operating cost
- Food waste/loss
- Maintaining consistent temperatures across the facility
- Equipment breakdown and system uptime
- Regulatory compliance to industry standards

Our solutions ensure freshness of perishable goods while reducing total life cycle cost.



Cargo solutions
Hardware and software solutions help track temperature and location of your product throughout the value chain in real-time.

Cold room controllers
Enable precise control of temperature and humidity to ensure compliance with strict rules and regulations.

Trailer refrigeration compressor
Compact, lightweight and durable scroll compressors specially designed for the transportation industry. Providing unmatched efficiency by utilizing precision temperature control ensuring maximum quality and extending product shelf life.

Vilter package unit
Packaged units with our patented single screw compressor provide the highest reliability of all industrial refrigeration with low life cycle costs.

ZX condensing unit
Compressor rack
Vilter compressor

Our products cover a wide range of cooling requirements from small to large scale refrigeration applications.



Success case

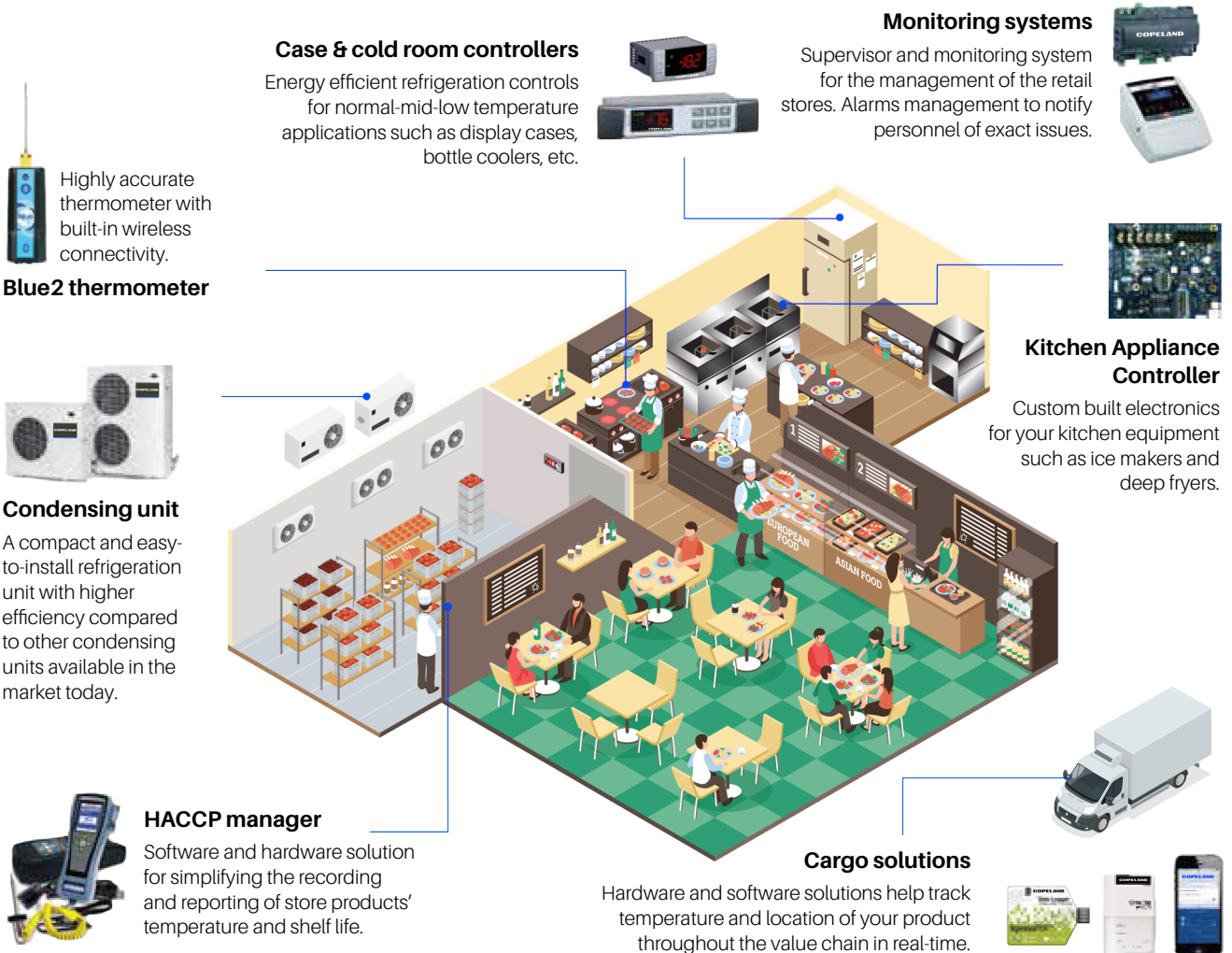
To prolong the shelf life of grapes, it is critical for these to be cooled down right after harvest. A grape growers association in India chose Copeland's specially designed condensing units to cool down grapes to 4°C within 4-6 hours of harvesting, minimizing food loss and maximizing profits in the process.



Challenges

- Food quality
- Maintain shelf life
- Energy cost
- Minimizing equipment downtime
- Reducing maintenance costs

Our end-to-end connected kitchen solutions provide best-in-class energy efficiency and help ensure food safety across the board.



Success case

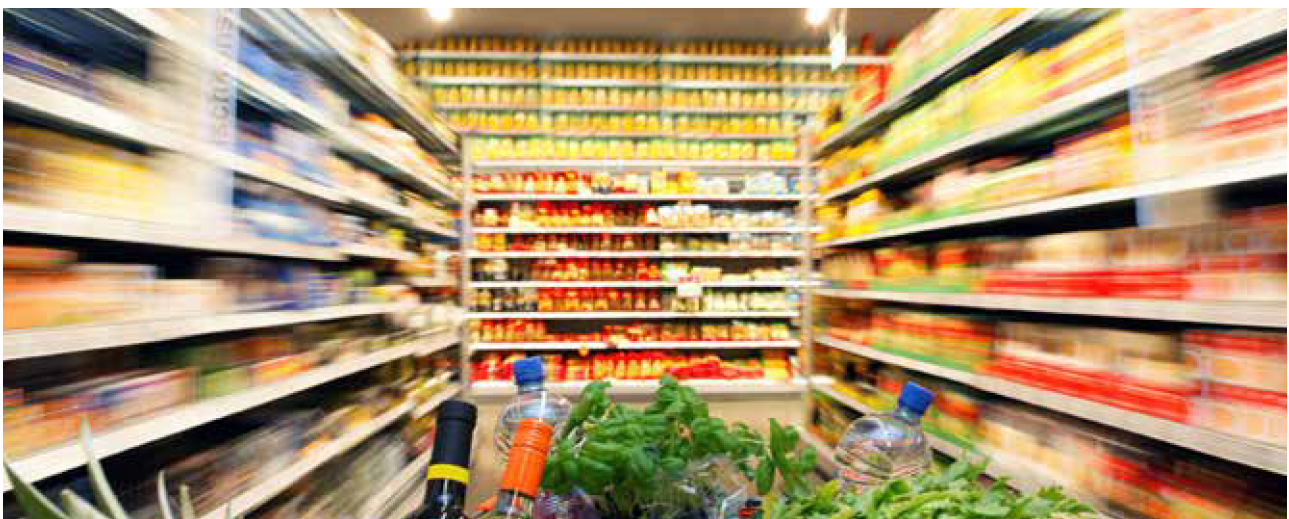
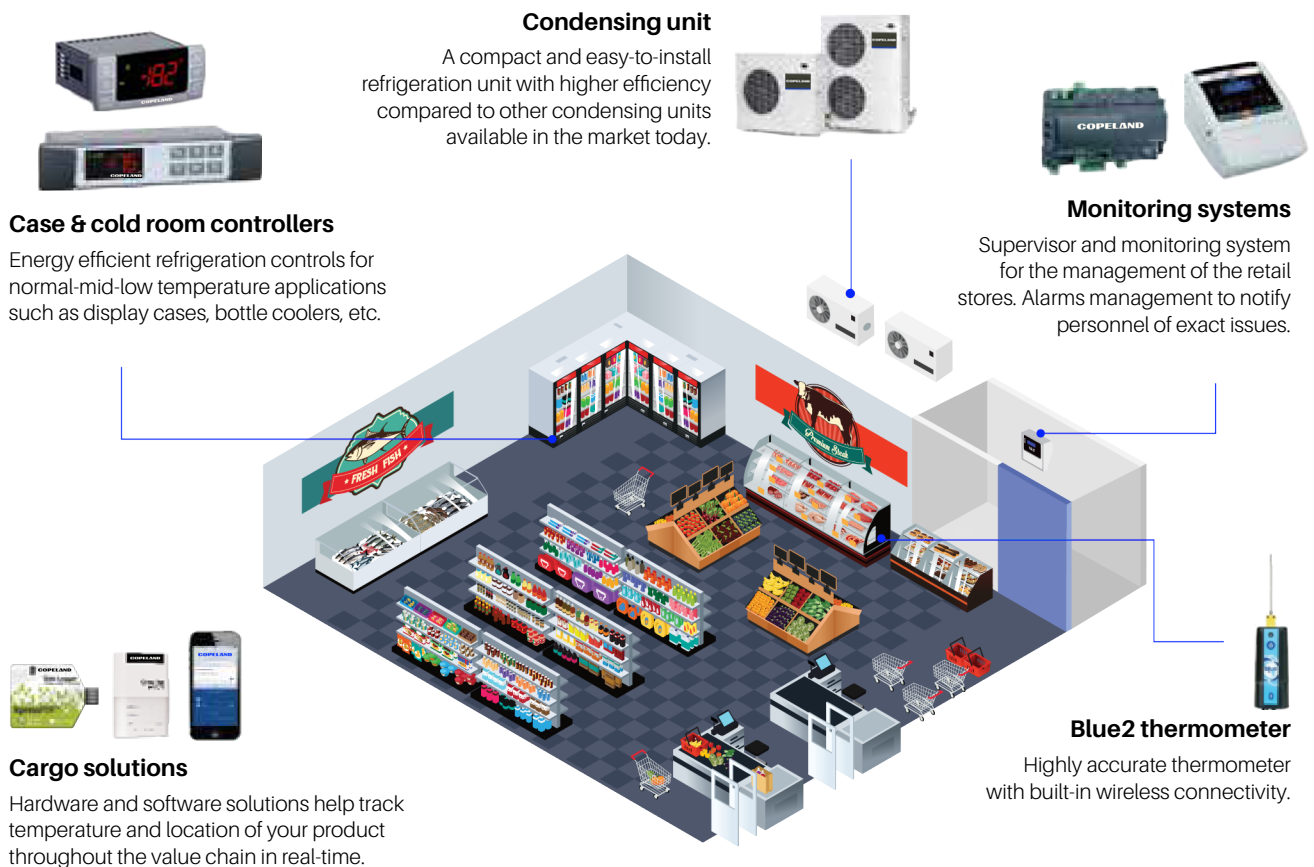
A fast food chain in the Philippines recently upgraded their chillers and freezers to the highly efficient Copeland ZX condensing units. Branches with newly installed units saw a drastic drop in monthly energy consumption in their chillers by 50.5% and freezers by 9.4% versus their old refrigeration system.



Challenges

- Refrigerant leaks
- High energy consumption
- Reducing maintenance costs
- Maintaining shelf life
- Minimizing equipment downtime
- Inconsistent store standards

Our Intelligent Store solutions help manage disparate refrigeration and HVAC systems to deliver reduced life cycle cost.



Success case

Copeland helped a large supermarket chain in China reduce their energy costs by managing better their facility operations. Each store, on average, saved 24% on their energy bills as a result from a more efficient and effective control of refrigeration, air-conditioning and lighting.



About Copeland

Copeland is a global leader in sustainable heating, cooling, refrigeration and industrial solutions. We help commercial, industrial, refrigeration and residential customers reduce their carbon emissions and improve energy efficiency. We address issues like climate change, growing populations, electricity demands and complex global supply chains with innovations that advance the energy transition, accelerate the adoption of climate friendly low GWP (Global Warming Potential) and natural refrigerants, and safeguard the world's most critical goods through an efficient and sustainable cold chain. We have over 18,000 employees, with feet on the ground in 50 countries - a global presence that makes it possible to serve customers wherever they are in the world and meet challenges with scale and speed. Our industry-leading brands and diversified portfolio deliver innovation and technology proven in over 200 million installations worldwide. Together, we create sustainable solutions that improve lives and protect the planet today and for future generations. For more information, visit copeland.com.



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