

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, Emerson'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

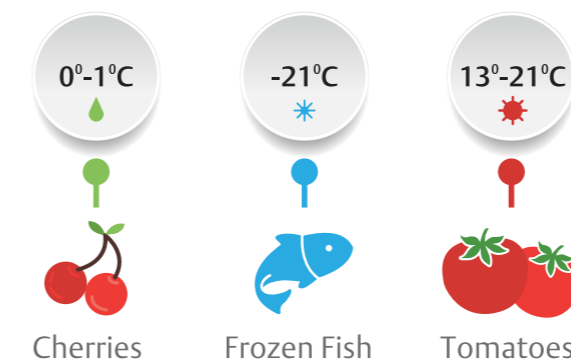


The Cold Chain Effect

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

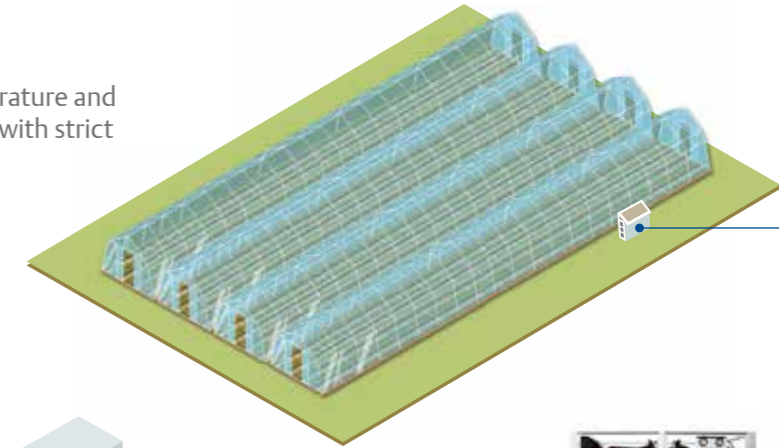
- Keep operating expenses low
- Reducing harvest spoilage
- Operating a sustainable and responsible agriculture

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.



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 Emerson 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 operating 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.



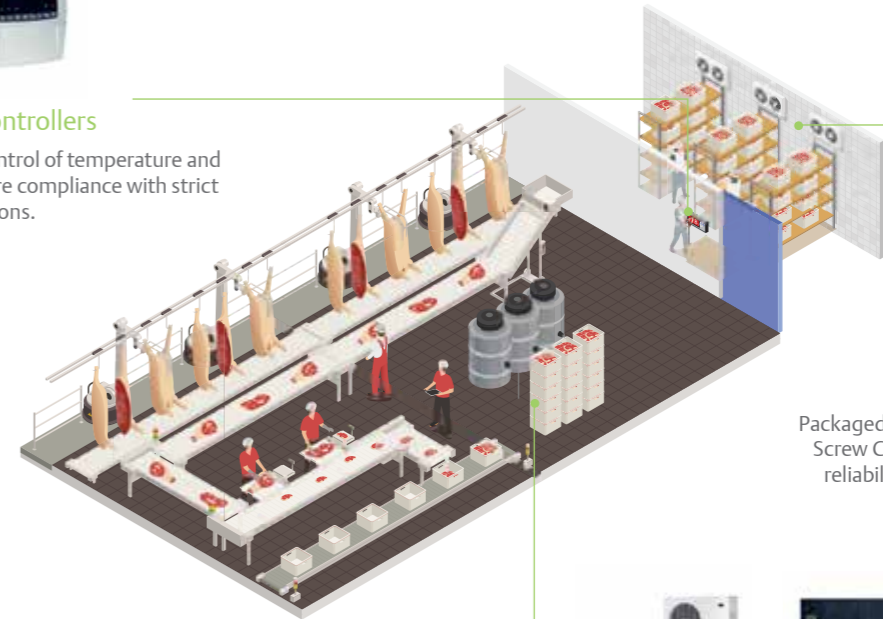
Cold Room Controllers

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



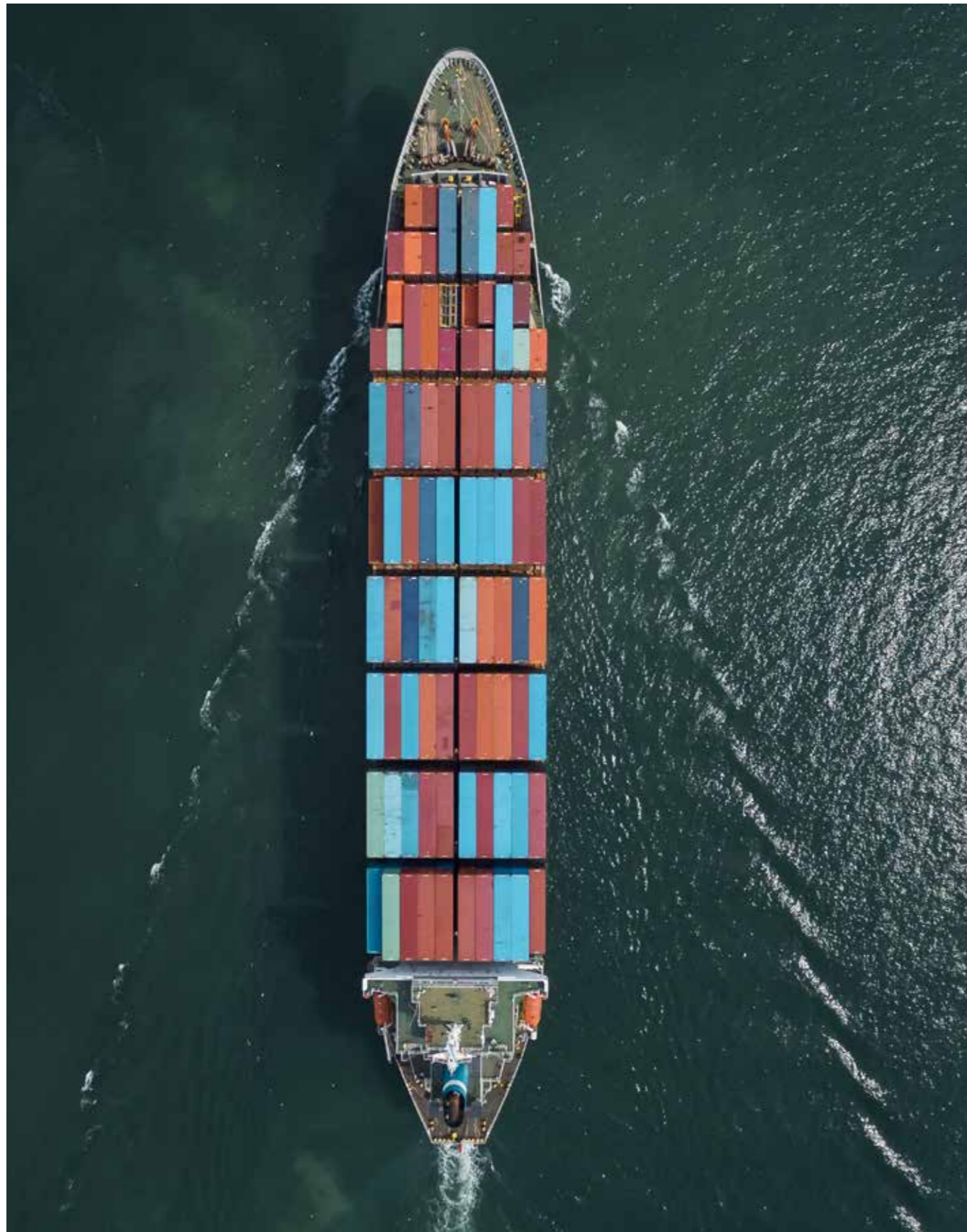
Vilter Compressor

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.

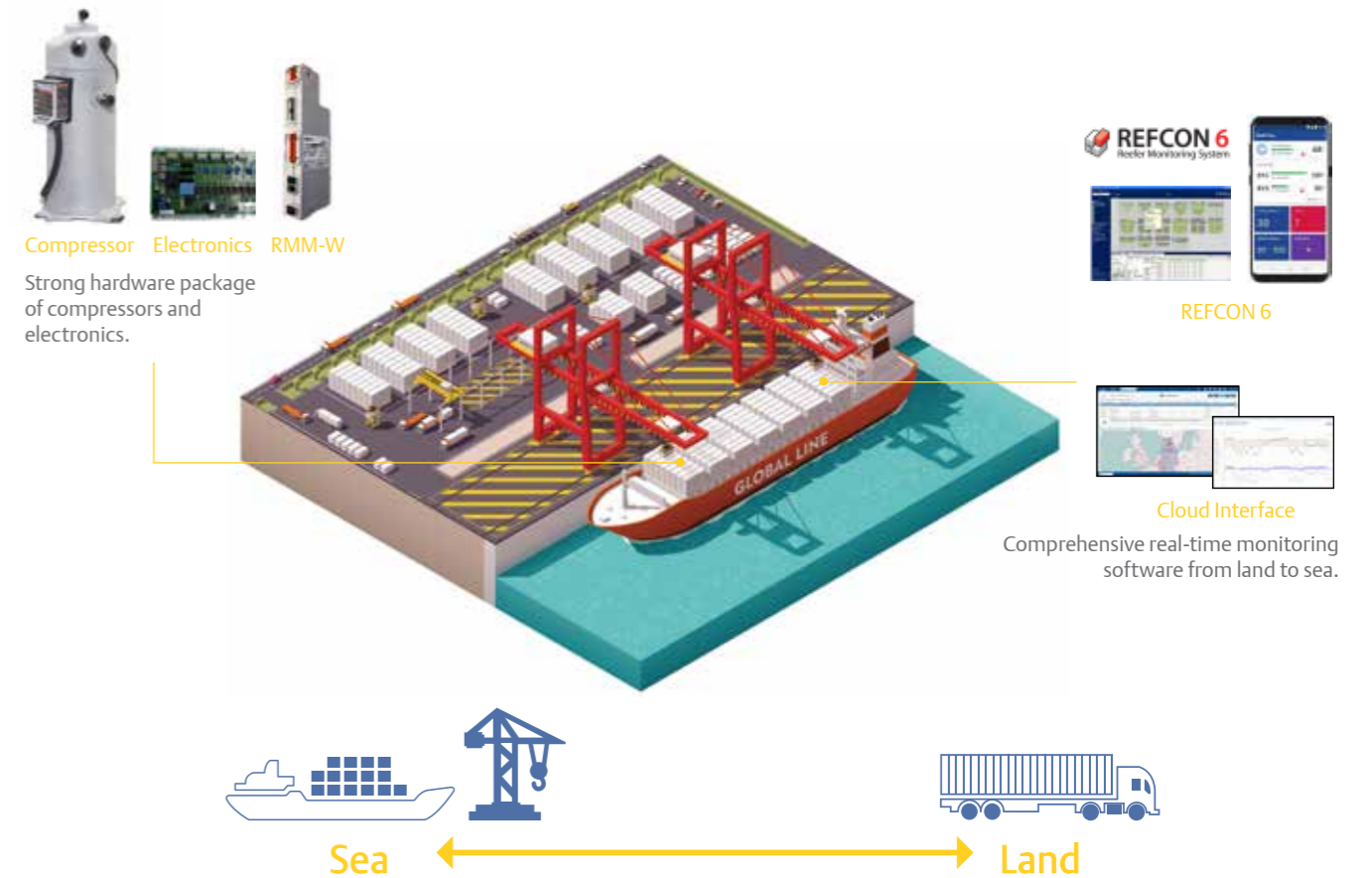


Transport

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 Emerson'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.

Vilter Package Unit
Packaged units with our patented Single Screw Compressor provide the highest reliability of all industrial refrigeration with low life cycle costs.

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.

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 Emerson'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.**

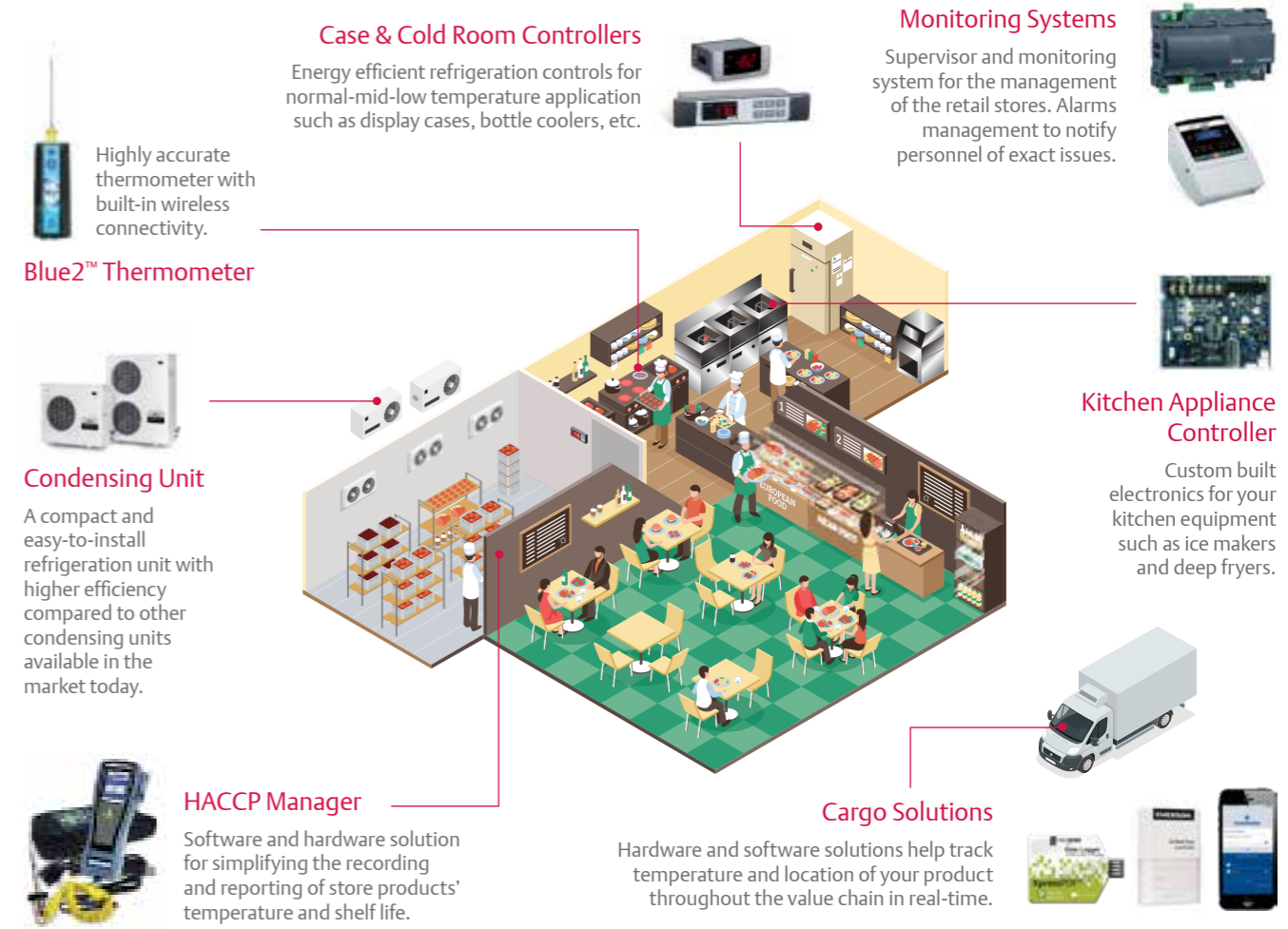


Food Service

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 Emerson 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.

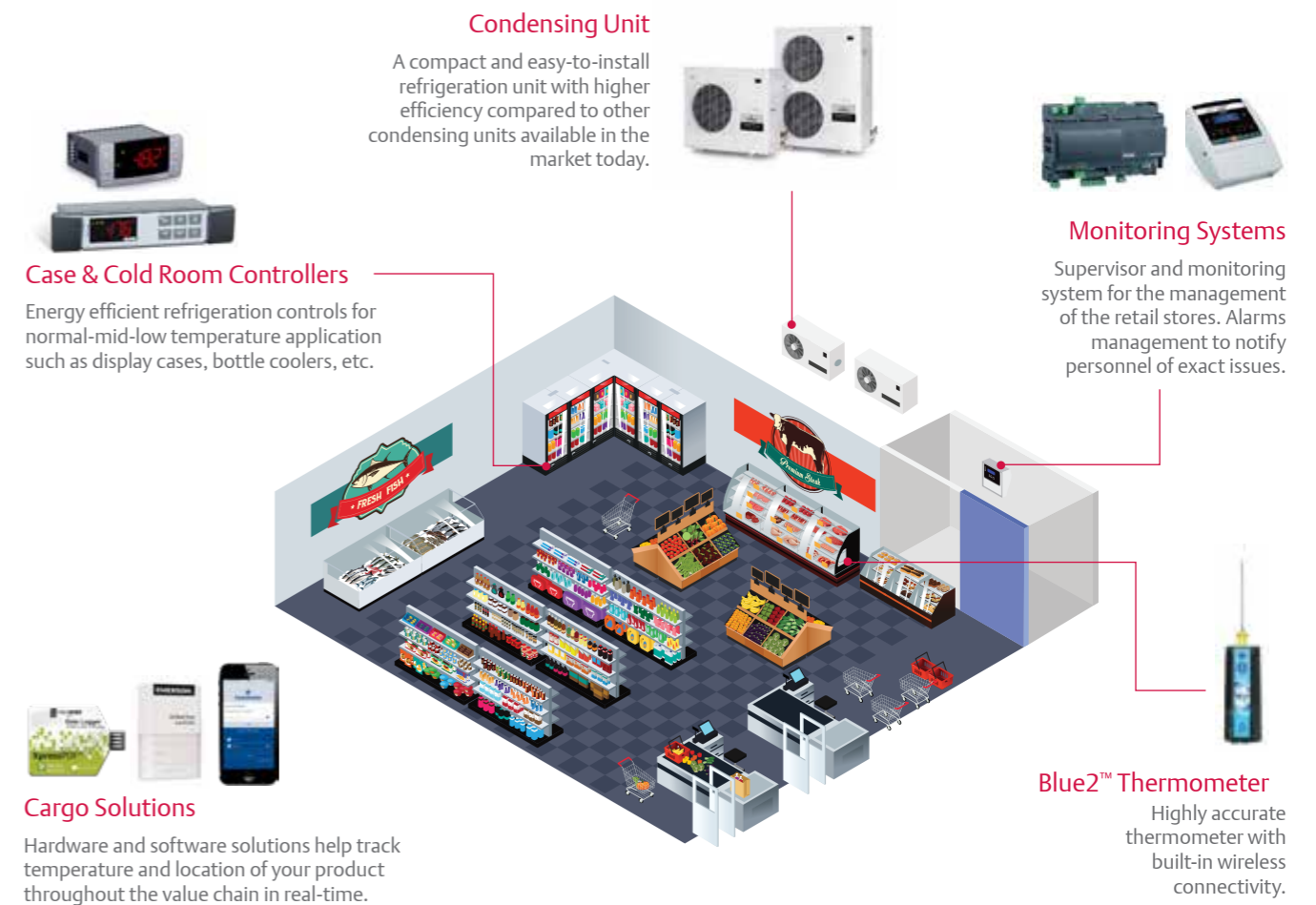


Food Retail

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

Emerson Integrated Solutions 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.

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