

Regulations continue to disrupt

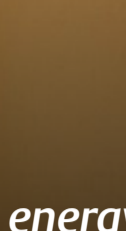
Energy, environmental and food safety regulations add complexity to every facet of cold chain operations.



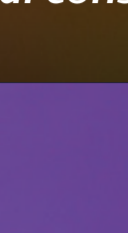
The average U.S. company spends the equivalent of **21 percent of payroll costs** on regulatory compliance



The DOE is mandating energy reductions from **5 to 50 percent** on various classes of commercial refrigeration equipment



197 countries agreed to a global HFC phase-down via the Kigali Amendment to the Montreal Protocol



Estimated annual costs of compliance with the Preventive Controls Rule will be **\$13,000 per facility**

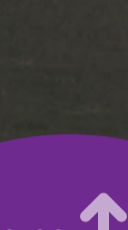
Enhancing energy efficiency and environmental conservation

Significant infrastructure and maintenance impacts

Rapidly evolving shopping behaviors are driving the emergence of updated, flexible retail formats with “always on” availability.



U.S. retailers are **investing billions** annually to update store formats



Workforce demographics are **increasing pressures** on an already dwindling skilled technician pool



An estimated **115,000 technicians** will be needed in HVACR by 2022



New strategies are needed to minimize service disruptions

Creating sustainable infrastructure

Consumers demand fresh, healthy convenience

As consumer preferences evolve, retailers attempt to meet rising expectations with new format and merchandising strategies.



Ingredient-savvy, **health-conscious consumers** demand fresh, organic and locally sourced foods



61 percent of millennials purchase prepared food at a convenience store at least once a month



67 percent of grocery stores' perimeter (fresh) categories sales have increased in the last 12 months

Ensuring human comfort and health

Mixed Retail – Fresh Food Expansion

As store formats change in response to consumer trends, flexible store systems are essential.

Adding fresh food to the retail mix

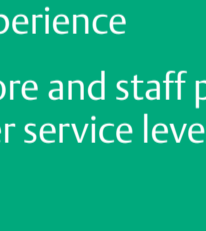
Challenge:

As part of its growth initiative, a major discount mixed retailer sought to introduce a “market” concept by offering fresh produce in 10 percent of its 14,000 national stores. The transition called for a refresh of its 14,000 national stores and refrigeration strategies.

Solution:

Emerson delivered a combination of equipment and facility management controls:

- Reliable compression technology for new refrigerated cases and displays
- Advanced facility controls provide demand-based HVAC, refrigeration and lighting
- ProAct software, Alarm Management and Resolution services enable remote monitoring



Results:

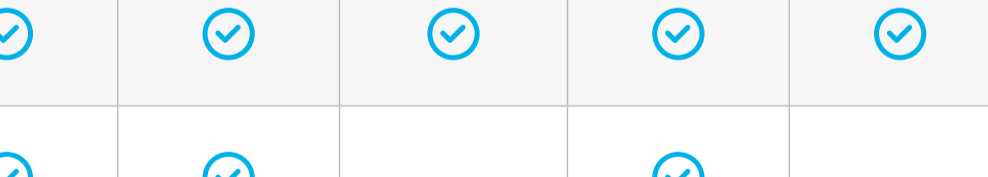
- 30 percent energy savings from optimized HVAC&R operation
- Assurance of food safety and consumer confidence in new offerings
- Fast issue resolution for an uninterrupted shopping experience
- Improved store and staff productivity and customer service levels

Emerson has solutions for critical areas, applications and markets

FUTURE

TODAY

End-to-end data, services and insights



	Harvest	Processing	Transportation	Distribution	End Users
Copeland™ Compressors and Refrigeration Systems	✓	✓	✓	✓	✓
Vilter™ Industrial Refrigeration	✓	✓		✓	
Facility Management Systems and Dixell™ Controls	✓	✓	✓	✓	✓
GO Loggers and Trackers	✓	✓	✓	✓	✓
Cooper-Atkins™, ProAct™ and White-Rodgers™ Temperature Management	✓	✓	✓	✓	✓
ProAct™ Connectivity, Insights and Services			✓	✓	✓
Project Management				✓	✓

Additional Emerson Solutions:

Conditions Control, Management and Insights

- Electronics and facility controls
- Oversight services for cargo
- ProAct connectivity and monitoring
- ProAct software, apps and services
- ProAct service center
- Transformative Wave HVAC and RTU management systems
- Cooper-Atkins temperature management systems
- REFCON vessel and terminal monitoring

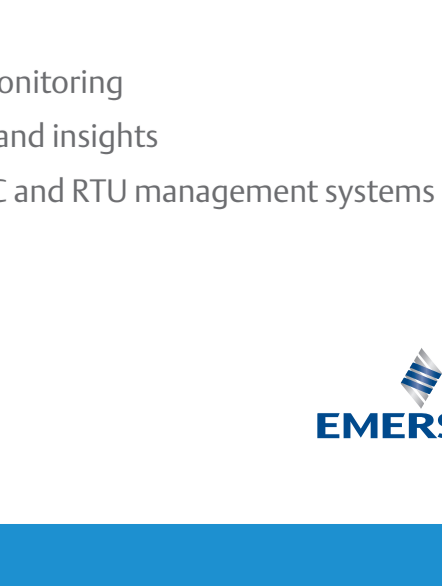


Food Safety and Quality

- Copeland efficient compressors and refrigeration systems
- Cooper-Atkins temperature monitoring and management
- Dixell parametric, system and facility controls
- Electronics and controls
- Cargo trackers and loggers
- ProAct connectivity and monitoring
- ProAct alarm management and food quality services
- Vilter industrial refrigeration
- REFCON vessel and terminal monitoring

Infrastructure and Maintenance

- Copeland efficient compressors and refrigeration systems
- Dixell parametric, system and facility controls
- Electronics and facility controls
- Project management services
- ProAct connectivity and monitoring
- ProAct Site Manager, apps and PSC services
- ProAct software, apps and services for facilities
- Transformative Wave HVAC and RTU management systems
- Vilter industrial refrigeration



Energy and Sustainability

- Copeland efficient compressors and refrigeration systems
- Copeland alternate refrigerant compressors and systems and refrigeration systems
- Dixell parametric, system and facility controls
- Electronics and controls
- Commissioning services
- ProAct connectivity and monitoring
- ProAct reporting, services and insights
- Transformative Wave HVAC and RTU management systems

