

The Cold Chain Tracking and Monitoring Market

5th Edition

The Cold Chain Tracking and Monitoring Market is the fifth consecutive report from Berg Insight analysing the latest developments on the remote tracking solution market for refrigerated cargo and cargo carrying units (trailers, intermodal containers, air freight ULDs and rail freight wagons). This strategic research report from Berg Insight provides you with 180 pages of unique business intelligence including 5-year industry forecasts and expert commentary on which to base your business decisions.

Berg Insight™

The market value for cold chain tracking to reach € 2.0 billion in 2029

Perishable foods, vaccines, pharmaceuticals, chemicals and electronics are typically sensitive to exposure to temperature variations as well as shock, tilt, vibrations and light. These types of goods require a steady and controlled temperature environment throughout the entire supply chain. Cold chain is the most commonly used name to describe such supply chains. Refrigerated trailers, intermodal containers, air freight ULDs, rail freight wagons and other logistics units such as insulated cargo boxes and pallet shippers are used to maintain a steady cargo temperature during transportation. The global fleet of refrigerated trailers and intermodal containers amounts to about 5.2 million units combined. The number of temperature-controlled ULDs and rail freight wagons in use globally are in the tens of thousands.

Cold chain tracking and monitoring solutions that enable real-time data on cargo location and condition provide significant value for cargo owners and logistics service providers. About one third of all food produced for human consumption globally is wasted. It is estimated that up to 15 percent of the wastage occurs post-harvest and before reaching the retail store, i.e. mainly during transport. Temperature excursions during transport that are not managed properly is a common reason for spoilage. If there is no data available on temperature levels during transport, supply chain managers will not be able to prevent spoilage.

Berg Insight's definition of a real-time cold chain tracking solution is a system that incorporates data logging, satellite positioning and data communications to a backoffice application. The tracking device can be designed to track the cargo carrying unit (i.e. refrigerated trailer, intermodal container, air freight ULD, rail freight wagon etc.) or the cargo itself. Cargo carrying unit tracking devices are permanently or temporarily installed on the container unit while cargo tracking devices are typically placed with the cargo or attached to the cargo box or pallet during transport. A range of device form factors and technologies are available on the market serving different needs.

Berg Insight estimates that shipments of remote tracking systems with cellular or satellite communications capabilities for refrigerated cargo carrying units reached 865,000 units worldwide in 2024. Growing at a compound annual growth rate (CAGR) of 4.7 percent, shipments are expected to reach close to 1.1 million units in 2029. During the same period, the installed base of active remote tracking systems for refrigerated cargo carrying units is forecasted to grow at a compound annual growth rate of 9.1 percent from 3.1 million units at the end of 2024 to 4.9 million units by 2029. The number of active tracking devices and real-time data loggers in use for general cargo applications reached close to 4.5 million units at the end of 2024. The segment includes both multi-use trackers and single-use disposable trackers. The market is set for rapid growth in the coming years as prices are expected to decrease and smart labels and other devices with a very small footprint are being introduced. The number of active devices is forecasted to reach 14.7 million units at the end of 2029. Yearly device shipments in this category will grow from 6.5 million units in 2024 to reach 33.2 million units in 2029.

The cold chain tracking and monitoring market is served by a wide range of players. In terms of the number of active tracking units, ORBCOMM is the largest player with over 600,000 units installed on containers and trailers. Maersk has rolled out a system for real-time tracking of its entire fleet of around 360,000 refrigerated containers, making it the largest refrigerated container tracking project worldwide. The container tracking specialist Globe Tracker is the third largest provider of tracking solutions for refrigerated containers. The company has equipped the major shipping company Hapag-Lloyd's entire reefer container fleet with tracking units. Additional leading players in the refrigerated intermodal container tracking segment include BoxPlus (a subsidiary of COSCO Shipping Lines), Copeland and Envotech. Leading refrigerated trailer tracking players moreover include Schmitz Cargobull, Spireon, Samsara, EROAD, Krone, Cooltrax, Idem Telematics, CalAmp, Motive, Powerfleet, AddSecure, T Comm Telematics and SCALAR (ZF). Intermodal Telematics and SAVVY Telematics Systems are leading vendors of temperature-controlled tank container tracking solutions.

DeltaTrak, Sensitech (part of Carrier), Controlant, Tive, Frigga (part of Dewav Electronic Technology) and Copeland are leading players in the refrigerated cargo tracking segment, each with hundreds of thousands of deployed real-time tracking devices. These companies' solutions are based on trackers that are placed together with the cargo during transport and can be used for various modes of transportation, including air shipments. Additional players in the segment include OnAsset Intelligence, Decklar, Adapt Ideations, Tempmate, VISEMO, Onset, Escavox, 7PSolutions, Intelyt and Qualcomm. Sensos and Trackonomy are also part of this segment, offering smart label solutions. There are furthermore several cold chain logistics service providers that offer cargo location and condition tracking as a service for their customers, including Schenker, FedEx and UPS.

The cold chain logistics industry is currently experiencing a rapid surge in the adoption of real-time tracking and monitoring solutions. The solutions are becoming increasingly advanced, providing data on multiple metrics such as location, temperature, humidity, shock, tampering and more. At the same time, new AI-based software solutions are being developed and launched, helping fleet operators and logistics service providers reduce reliance on monitoring personnel while elevating service levels and operational efficiency. Real-time data on logistics operations will soon no longer be a differentiator but a fundamental requirement for competing in the logistics industry.

Installed base of active refrigerated cargo and cargo container tracking devices (World 2024–2029)

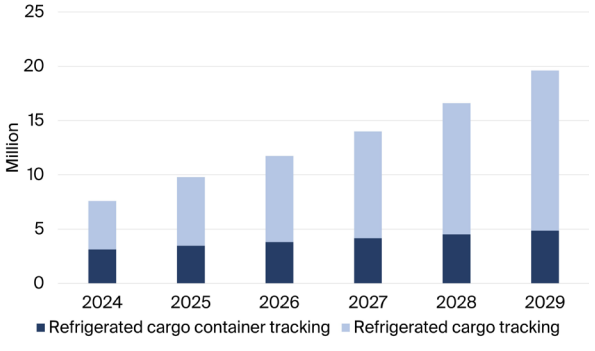


Table of contents

Executive Summary

1 Global Freight Transport Overview

1.1 International merchandise trade
1.1.1 Freight transportation modes
1.1.2 Logistics units and containerisation
1.1.3 Ports, terminals and trade lanes
1.1.4 Global container shipping companies and air cargo airlines
1.2 Containers, trailers, rail freight wagons and ULDs
1.2.1 Intermodal shipping containers
1.2.2 Trailers and semi-trailers
1.2.3 Rail freight wagons
1.2.4 Air freight unit load devices

2 The Cold Chain Industry

2.1 The cold supply chain
2.2 Goods transported in the cold chain
2.3 Cold chain regulations
2.3.1 North America
2.3.2 Europe
2.3.3 Rest of the world
2.4 Cold chain monitoring solutions
2.4.1 Cold chain tracking infrastructure
2.4.2 Benefits of using tracking solutions
2.5 Business models

3 Market Forecasts and Trends

3.1 Market analysis
3.1.1 Installed base and unit shipments
3.1.2 Regional markets
3.1.3 Market value
3.1.4 Vendor market shares
3.2 Value chain analysis
3.2.1 Refrigerated cargo and cargo carrying unit tracking solution providers
3.2.2 Refrigerated cargo container OEMs
3.2.3 Cold chain logistics service providers
3.3 Market drivers and barriers
3.3.1 Macroeconomic environment
3.3.2 Regulatory environment
3.3.3 Competitive environment
3.3.4 Technology environment
3.4 Future industry trends
3.4.1 Cold chain monitoring solutions lead the cargo tracking market
3.4.2 Factory-installation of tracking solutions to drive adoption
3.4.3 Exceptional years in the shipping industry accelerate the adoption of IoT
3.4.4 Sustainability goals can be reached by using real-time monitoring solutions
3.4.5 Incumbent data logger providers bet on real-time technologies
3.4.6 Network sunsets create opportunities for tracking solution providers
3.4.7 Smart labels may revolutionise parcel tracking
3.4.8 Shipment monitoring services become increasingly common

4 Cold Chain Tracking Solution Providers

4.1 Refrigerated cargo container tracking solution providers
4.1.1 AddSecure
4.1.2 ArrowSpot Systems
4.1.3 BoxPlus (COSCO Shipping Lines)
4.1.4 CalAmp
4.1.5 CLS Group
4.1.6 Contguard
4.1.7 Cooltrax
4.1.8 Copeland
4.1.9 Envotech
4.1.10 EROAD
4.1.11 G7 Connect
4.1.12 Globe Tracker
4.1.13 Idem Telematics (BPW)
4.1.14 Intermodal Telematics
4.1.15 Kirsen Global Security
4.1.16 Motive Technologies
4.1.17 ORBCOMM
4.1.18 Powerfleet
4.1.19 Samsara
4.1.20 SAVVY Telematic Systems
4.1.21 SCALAR (ZF)
4.1.22 Sensolus
4.1.23 Spireon (Solera)
4.1.24 Swinnus
4.1.25 T Comm Telematics
4.1.26 Ubidata
4.1.27 Zenatek
4.2 Refrigerated cargo tracking solution providers
4.2.1 7PSolutions
4.2.2 Adapt Ideations
4.2.3 Berlinger Monitoring Solutions (Carrier)
4.2.4 Controlant
4.2.5 Decklar
4.2.6 DeltaTrak
4.2.7 Digi International
4.2.8 ELPRO (Bosch)
4.2.9 Escavox
4.2.10 Frigga (Shanghai Dewav IoT Technology)
4.2.11 Hanhaa
4.2.12 Intelyt
4.2.13 OnAsset Intelligence
4.2.14 Onset (LI-COR Environmental)
4.2.15 ParkourSC
4.2.16 Qualcomm
4.2.17 Sendum Wireless
4.2.18 Sensitech (Carrier)
4.2.19 Sensos
4.2.20 Tempmate
4.2.21 Tive
4.2.22 Trackonomy Systems
4.2.23 Transparent Path
4.2.24 VISEMO
4.2.25 TSS
4.2.26 Xsense
4.3 Refrigerated cargo container OEMs
4.3.1 Carrier
4.3.2 China International Marine Containers (CIMC)
4.3.3 Cold Chain Technologies
4.3.4 Cryoport
4.3.5 CSafe Global
4.3.6 Daikin Industries
4.3.7 Envirotainer
4.3.8 Krone
4.3.9 Maersk Container Industry
4.3.10 Mitsubishi Heavy Industries
4.3.11 Schmitz Cargobull
4.3.12 SkyCell
4.3.13 Thermo King (Trane Technologies)
4.3.14 ThermoSafe
4.3.15 Utility Trailer Manufacturing
4.4 Cold chain logistics service providers
4.4.1 COSCO Shipping Lines
4.4.2 FedEx
4.4.3 Hapag-Lloyd
4.4.4 Maersk
4.4.5 Mediterranean Shipping Company (MSC)
4.4.6 Schenker
4.4.7 UPS
4.4.8 ZIM

Glossary

Highlights from the report

Insights from 30 executive interviews with market leading companies.

Comprehensive overview of the refrigerated cargo tracking value chain and key applications.

In-depth analysis of market trends and key developments.

Summary of major refrigerated cargo tracking initiatives worldwide.

Updated profiles of 76 cold chain tracking solution providers.

Detailed forecasts by market segment lasting until 2029.

The latest trends on cold chain logistics and the tracking of cargo and cargo carrying units including trailers, intermodal containers, ULDs and rail wagons.

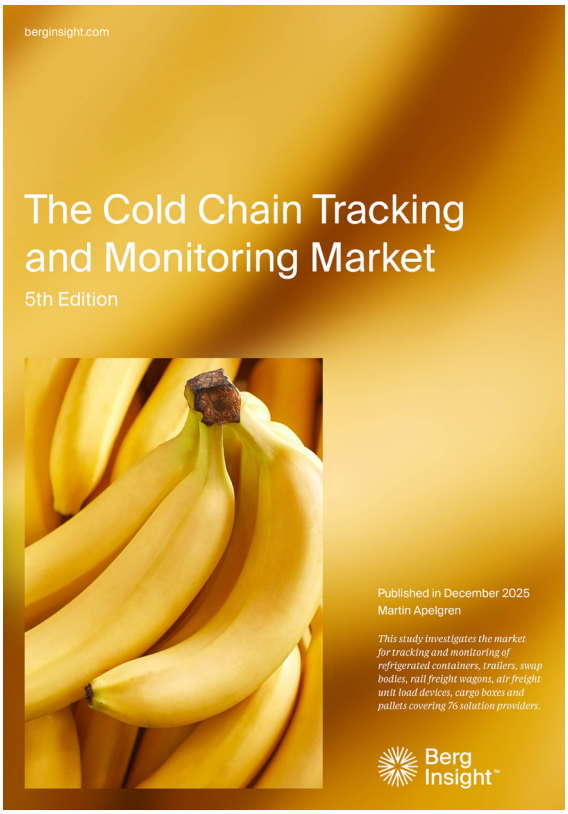
This report answers the following questions

- Which are the leading providers of cold chain tracking solutions?
- What offerings are available from device vendors and service providers?
- Which modes of refrigerated transport have the highest penetration rates?
- What impact will regulations and legislations have on the market?
- What are the key drivers behind the adoption of refrigerated cargo tracking solutions?
- What are the latest trends on the cold chain tracking market?
- What impact will technology advancements have on the market?
- How will the cold chain tracking industry evolve in the future?



About Berg Insight's IoT market research

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TRANSPORT & LOGISTICS

The Cold Chain Tracking and Monitoring Market

This study investigates the market for tracking and monitoring of refrigerated containers, trailers, swap bodies, rail freight wagons, air freight unit load devices, pallets and cargo boxes. Perishable foods, vaccines and pharmaceuticals, chemicals and electronics can benefit greatly from these solutions as they are typically sensitive to exposure of temperature variations during transportation. Get up to date with the latest information about vendors, products and markets.

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Who should read this report?

The Cold Chain Tracking and Monitoring Market is the foremost source of information about the adoption of tracking solutions for refrigerated cargo and cargo containers, including trailers, intermodal containers, air freight ULDs and rail wagons. Whether you are a tracking solution provider, device vendor, cargo transportation stakeholder, telecom operator, investor, consultant, or government agency, you will gain valuable insights from our in-depth research.

AUTHOR

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Martin is a principal analyst who specialises in IoT applications for the smart homes and buildings, transportation and security markets. He joined Berg Insight in 2018 and is the lead author of numerous research reports. In addition to published research, he has provided bespoke research to clients ranging from IoT solution providers, management consulting firms, private equity firms and others. Prior to joining Berg Insight, Martin worked as a supply chain analyst at Volvo Group. Martin holds a Master's degree in Industrial Engineering and Management from Chalmers University of Technology.

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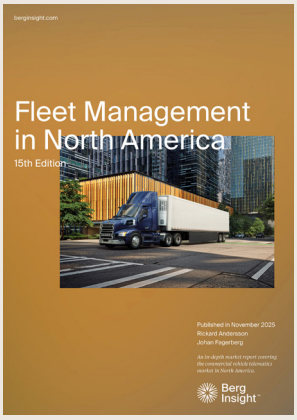
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