ProAct™ Transport

Actionable insights for an efficient cold chain

ADVANCED REEFER CONTAINER MANAGEMENT

EMERSON™

ProAct™ Transport

Operational excellence drives healthy profits

In the face of constant price pressure and ever-fluctuating costs, the difference between surviving and flourishing in the global container business comes down to having a plan to measure, manage, optimize and sustain operational performance.

For over 35 years, we have been working with our clients to help them extract maximum commercial value from their reefer container operations. Based on that experience, we are servicing the industry with the most significant and powerful remote container management solution: ProAct™ Transport.

Actionable insights deliver real results

ProAct™ Transport is a package of our well tested data collection devices, a software base package andadvanced software applications - all designed to provide insights that help you optimize every aspect of your reefer container operation: in storage, during trip preparation, on the dockside, underway or at the loading or unloading points.

Many of the actions traditionally carried out by people can be automated, leading to tangible efficiency benefits like reducing unnecessary Pre-Trip-Inspections. You can automate routines to set the right economy mode for each container. And you can even receive real-time information about container use and the quality of workmanship in your operation.

What's more, ProAct™ Transport supports automatic approval of USDA shipments and provides automatic event and alarm alerts. All of which helps you to make the right decisions at the right time to further improve the efficiency of your container operation.

Minimizing risk, maximizing efficiency and profitability

Throughout their journey and at the intermodal shifts, your reefers depend on human intervention to minimize the risk of loss resulting from cargo damage or other causes.

We use the power of proven and tested technologies to minimize potential human and manual errors to optimize the efficiency of your operations – giving you the real-time business intelligence you need to protect your margins, maximize your profits and provide your customers with the best possible service.

About Emerson Transportation Solutions

We have over 25 years of experience in container cold chain management. During that time, Emerson has continuously supported the industry's quest for refrigeration efficiency improvements. Our solutions include highly sophisticated refrigerated controllers, marine-grade Copeland compressors and advanced remote management capability.

Today, Emerson solutions are used in over 650,000 containers, 2,600 ships and 90 terminals – ensuring transparency and giving shipping companies easy access to accurate data along the entire container cold chain.

Introducing ProAct™ Transport

What's in it for you?

Built on over 35 years of experience, ProAct™ Transport is an integrated hardware and software cold chain management solution. We designed it to provide you with actionable insights that will translate into a more robust and profitable container cold chain business.

Key benefits

Reduced operational costs and minimized manual operations
Remote monitoring minimizes the cost of manual reefer inspections. Automated features, such as datalog downloads and controller software updates, virtually remove direct cost to depots and ensure timely and correct handling of those important operations. Accountability reports highlight weak spots in your operation while enabling you to measure the quality of workmanship and equipment and take any necessary action.

Energy savings and CO_2 emission reductions
Through powerfull business intelligence management, ProAct™ Transport minimizes cargo loss in the container cold chain and makes overall processes and operations more efficient. This not only helps you maximize container usage. Improved logistics planning and tracking will contribute to minimizing environmental impact and reducing cargo losses and waste.

Improved cargo quality with proactive alerts
Because you receive alerts – even before anyone has physically noticed a problem – the risk of spoiled perishable cargo is greatly reduced. Proactive alerts ensure that you spot potential issues early and improves both shelf life and customer satisfaction with your service.

Improved personnel safety
Terminals and vessels are exposed places to work. ProAct™ Transport automates many routine reefer operations that are traditionally carried out manually. In this way, both individual employee and overall workplace safety are significantly improved.

Reduced human error
ProAct™ Transport automatically verifies all manual trip settings and issues early warning alarm notifications in the event of a mismatch. As well as reducing the risk of human error, the system offers a wide range of automated settings such as setpoints and efficiency operation modes.

Easier and more accurate documentation
All reefer container and cargo condition data is automatically logged for documentation and claims purposes.ProAct™ Transport ensures that any irregularities, malfunctions or cargo threatening conditions are notified during transport and documented once the voyage is complete. This benefits your operation while offering the potential for providing customer transparency, if required.

ProAct™ Transport in action

Delivering measurable cost savings

Emerson Transportation Solutions specializes in assisting already efficient shipping lines and container operators to become even stronger. Along with our customers we work on uncovering   possibilites, surfacing latent issues and ultimately achieving sustainable cost savings through the potential in our connected solutions.

ProAct™ Transport works on the points at which marginal gains translate into maximum profit.

The illustrations show the cost centers for a typical large shipping line and the potential savings we can help you achieve.

Without ProAct™

■ **Margin**

■ **Capital Costs**
- Depreciation reefer unit
- Depreciation container

■ **Handling Costs**
- Reefer trip loading/discharging
- Reefer plug/unplug
- Reefer trip electricity
- Terminal and Vessel monitoring
- Repositioning loading/discharging
- Dry backhaul loading/discharging
- Storage (empty)

■ **Claims Costs**
- Claim administration
- Claim pay out

■ **Energy Costs**
- Vessel power
- GenSet power

■ **PTI, Maintenance & Repair**
- Labor
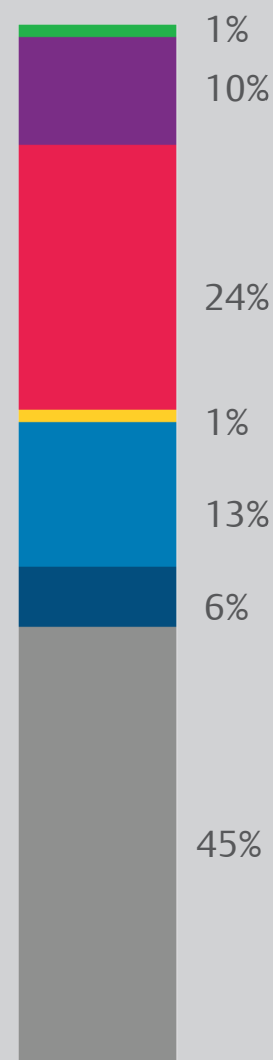- Parts
- Reefer trip PTI
- Reefer trip Cleaning

■ **Vessel & Overhead Costs**
- Vessel operation
- Depreciation
- Bunker fuel

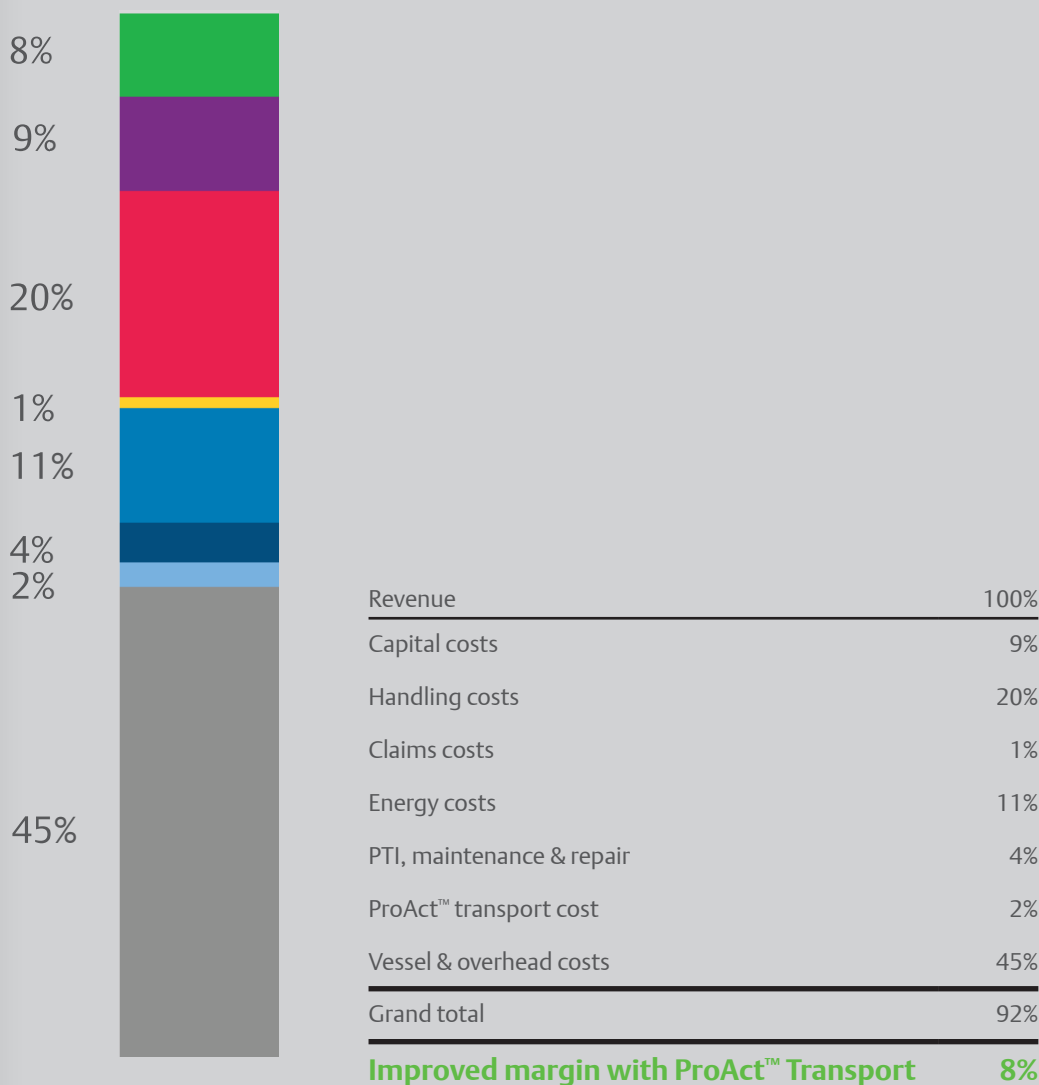|	
Revenue	100%
Capital costs	10%
Handling costs	24%
Claims costs	1%
Energy costs	13%
PTI, maintenance & repair	6%
Vessel & overhead costs	45%
Grand total	99%
Average margin in normal operation	**1%**

1%
10%
24%
1%
13%
6%
45%

Put ProAct™ Transport to the test

Anyone can claim to help you achieve increased business efficiency and profitability. We can demonstrate it.

To help you see the advantages and uncover how ready you are to embrace all the new possibilities, we can run a pilot project involving at least 10 of your containers over a 6 month period. At the end of that time, you will have a good idea of what ProAct™ Transport can do for you.

We look forward to demonstrating ProAct Transport for you!

With ProAct™

8%

9%

20%

1%

11%

4%

2%

45%

Revenue	100%
Capital costs	9%
Handling costs	20%
Claims costs	1%
Energy costs	11%
PTI, maintenance & repair	4%
ProAct™ transport cost	2%
Vessel & overhead costs	45%
Grand total	92%
Improved margin with ProAct™ Transport	**8%**

ProAct™ Transport - optimization areas

Depending on your needs and aims, ProAct™ Transport gives you the flexibility to discover advanced software applications and their applicability to your operations.

Equipment Maintenance
Reduces maintenance and labor cost and optimizes fleet usage

Predictive maintenance
- Reduce maintenance and labor costs by assessing the condition of the reefer unit and its components, looking for the warning signs of impending issues
- Reduce maintenance costs through predictive maintenance to avoid major component failure and repair

Need-based PTIs (Pre-Trip Inspections)
- Reduce unnecessary terminal PTI repair costs by performing remote health checks and determining whether repair is necessary
- Reduce the number of PTIs by decisions based on prior PTI performance

Smart firmware update
- Apply new firmware updates automatically, reducing costs and human errors while allowing fast implementation of new firmware benefits, such as energy-saving algorithms

Trip reports
- Assess performance of reefer
- Create failure risk profile
- Track alarms & maintenance history
- Achieve full insight into reefer container trips

Operational Efficiency
Boosting container fleet use and operational management

Verification of trip settings
- Setpoint, ventilation and humidity automatically verified against the parameters set in the booking system
- Ensures proper conditions, reducing the risk of claims

Utilization Optimizer
- Increase annual trips per container
- Identify under-used containers (by terminal, geozone, etc)
- Determine wear distribution of your entire fleet

Real-time monitoring
- Eliminate manual monitoring costs and inaccuracies
- Reduce maintenance labor costs
- Reduce customer claims

Accountability reports
- Reduce monitoring charge
- Identify quality of workmanship on vessels and terminals
- Reduce handling costs

Four optimization areas
Sixteen advanced software applications
One integrated solution

Energy Efficiency
Reducing energy costs and CO2 emissions

Energy-saving mode activation
- Automatic economy mode setting based on commodity type
- Maximize use of reefer containers' "energy saving" modes
- Reduce energy costs and emissions

Energy cost report
- Reduce electricity costs
- Cost charged v. actual cost – only pay for what you actually get

Energy-efficiency calculation
- Identify which of your containers are running most efficiently
- Reduce energy costs and emissions

Energy-efficiency benchmark
- Establish and monitor best-in-class parameters
- Reduce energy costs and emissions

Cargo Care
Optimizing cargo clearance procedures and improving customer satisfaction

Supervised Cold Treatment
- Continuous status updates on cold treatment shipments
- Setup under and over warning limits
- Remote change of temperature setpoint to avoid breach of protocol
- Reduced handling cost
- Increased cargo shelf life

Governmental server interfaces
- Automated USDA approvals for faster cargo clearance
- Avoidance of quarantine time in terminal
- Reduced handling cost
- Increased cargo shelf life

Shipper/Receiver real-time information
- Provide customers with real-time information as per shipping line discretion

Shipper/Receiver post-trip analysis
- Provide customers with post-trip temperature records as per shipping line discretion

ProAct™ Transport solution

Applications
- Data-driven applications for efficient daily operations and container fleet management
- Data driven decision-making base
- Seamless integration into shipping line booking system for enhanced processes and decision making
- Emerson can act proactively on your behalf
- API portfolio for system integration

Base package
- Enterprise-level tools for data access on individual reefer containers
- 1:1 access to reefers for further manual analysis of data
- Search functionality – alarm overview – condition overview – detail view - among other watchlists
- Tracking / geo fencing – remote commands – history log – trend curves – export to Excel/KML

Infrastructure and data hosting
- Data acquisition and warehousing infrastructure to gather data for the fleet
- Data hosting, maintenance, backup in Cloud and enterprise security
- Provides global roaming coverage of secure two-way data network based on Vodafone M2M partner network
- Connectivity in more than 170 countries

RMM-W
- Real-time monitoring, tracking and control – anytime, anywhere.
- Enables global communication via cellular services

REFCON 6
- ISO10368 monitoring infrastructure for vessels and terminals
- Enables data transfer to ProAct™ Transport, when container is at sea
- Wireless monitoring using REFCON Portable Modem infrastrukcure for vessel and terminal

Applications

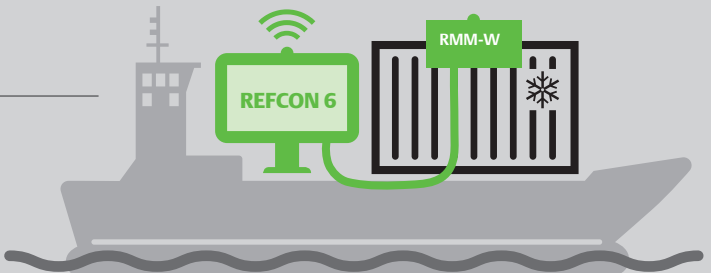|	
Smart firmware update	Trip reports
Predictive maintenance	Need-based PTIs
Verification of trip settings	Utilization Optimizer
Real-time monitoring	Accountability reports
Energy saving mode activation	Energy cost report
Energy efficiency calculation	Energy efficiency benchmark
Governmental server interfaces	Shipper/Receiver real-time information
Shipper/Receiver post-trip report	Supervised Cold Treatment

Base package

Infrastructure and data hosting

GSM

SAT

RMM-W

REFCON 6

RMM-W

ProAct™ Transport
Actionable insights for an efficient cold chain

Strengthen your margins and grow profits

Our solutions already help hundreds of thousands of sea containers arrive safely and profitably in port – every day. With ProAct™ Transport, we work with you on reaching a new level of efficiency and visibility.

Put ProAct™ Transport to the test in your operation

We will run a pilot involving at least 10 of your containers over a 6 month period. At the end of that time, you have seen what ProAct™ Transport can do for you.

We look forward to uncovering your full potential!

EMERSON. CONSIDER IT SOLVED.