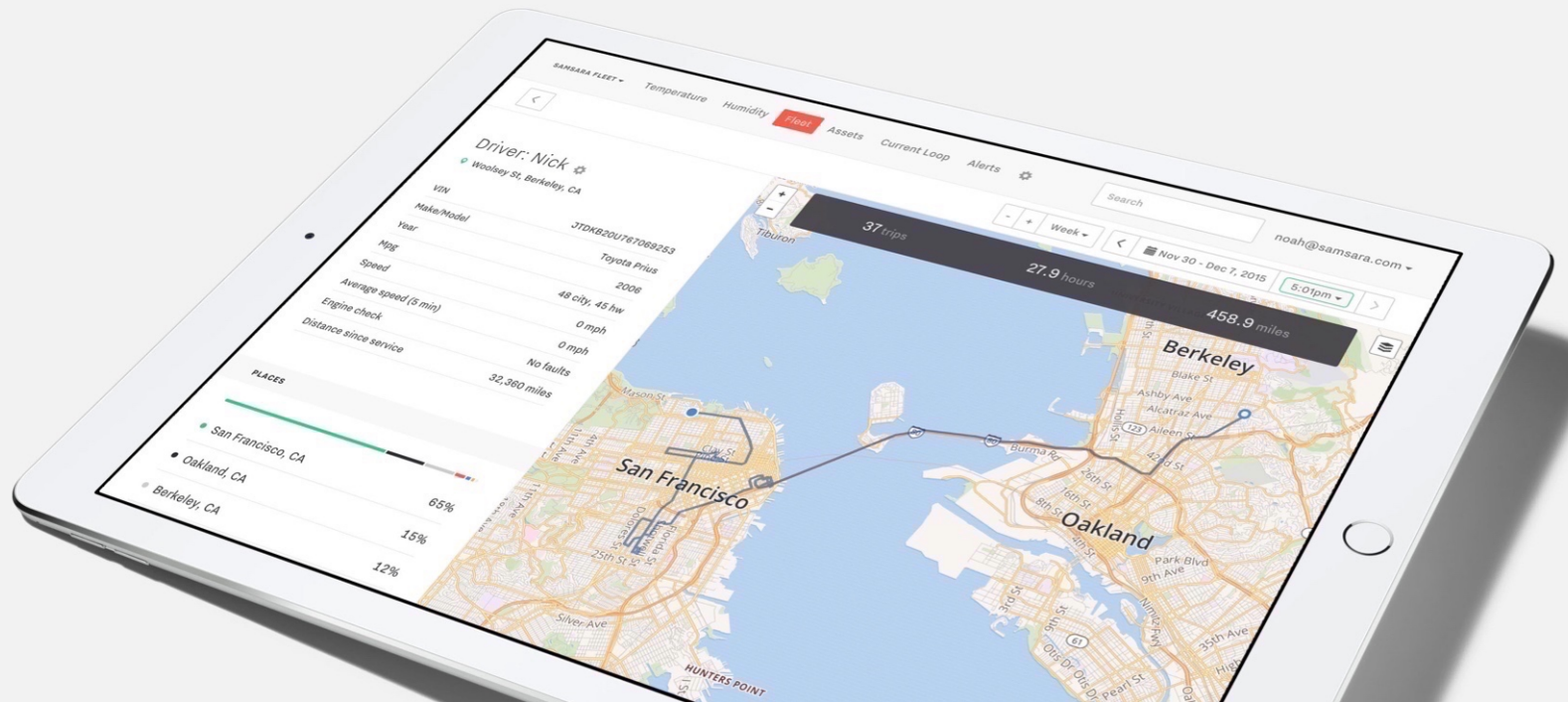




# Samsara Asset Monitoring Solution

Company and Product Introduction



samsara

# Company background

A fast-growing IoT technology company

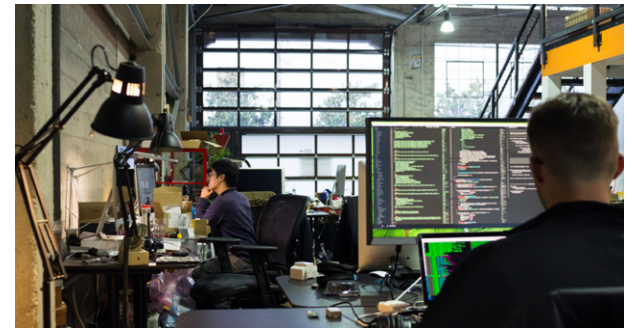
- Over 200 employees, headquartered in San Francisco
- Engineering teams from MIT, Stanford, Google, Apple

Led by founders of Meraki, the wireless networking leader

- Sold company to Cisco Systems for \$1.2 billion
- Bring Meraki's expertise in cloud and wireless technologies to transportation and industrial operations

Strong financial position to invest in growth

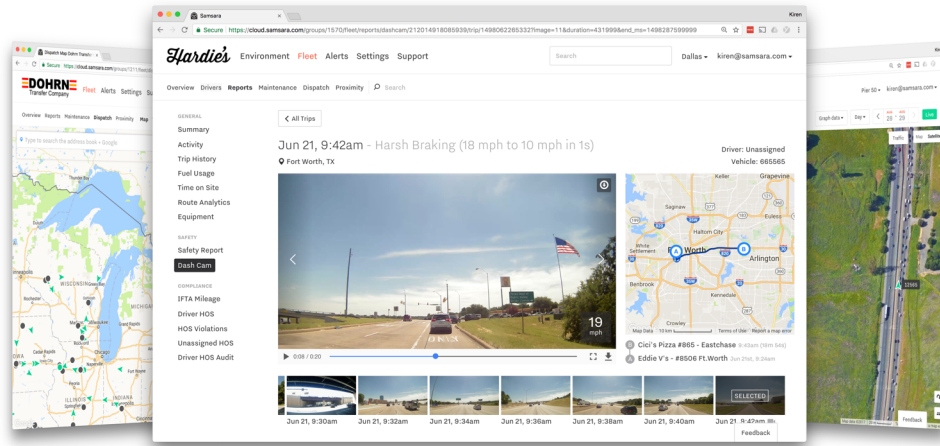
- Backed by \$80M in capital, 250% annual growth, no debt



Trusted by fleets of all sizes:

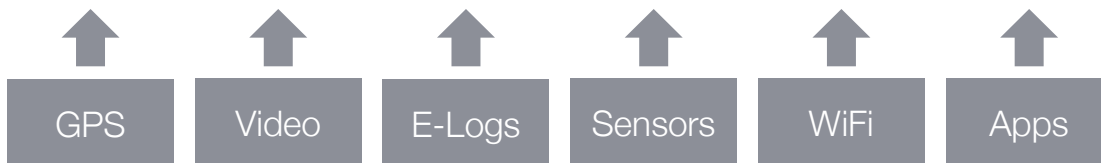


# Samsara: A new data platform for operations



- A single system for vehicles, trailers, and remote assets
  - Hardware, cloud software, mobile apps
  - For asset management, compliance, and safety
- Modern and easy to use
- New features added every quarter

## Samsara Data Platform



# Serving a wide base of customers



## Industries served:

- Distribution and freight
- Food and beverage
- Field services
- Oil and gas
- Passenger transit
- Oil and gas
- Construction
- Utilities
- Local government
- Education

Select customer references: Cash-Wa Distributing (NE), Chrisp Co (CA), J Polep Distributing (MA), Gibson Technical Services (GA), San Jose Water Company (CA), Precision Ready Mix (TX), Washington County Sheriff Dept (NY), Bauers Intelligent Transport (CA), Produce Express (CA), Newgistics Inc (TX), GP Transportation (IL)



# Samsara Asset Monitoring Solution

# Deep visibility into mobile assets



Refrigerated and Dry Van Trailers



Heavy Equipment



Rail Cars



Generators



Intermodal Containers



Mobile Assets

### Trailer 641

1135;US 81, 7.3 mi S Salina, KS [Street View](#)

67 mph (75 limit)

Connected hotspot clients: 0

SENSORS	
WZHD-PYF-SRF - Temperature	67.5 °F
WZHD-PYF-SRF - Humidity	100 %
WT9F-X4H-PUR - Temperature	66.6 °F
WT9F-X4H-PUR - Humidity	90 %

HISTORY	
Trips Routes	
In Progress (51m 14s)	53.7 mi
<span style="color: green;">A</span> 209805 PIZZA RANCH-HUTC... Oct 12th, 3:15pm	
<span style="color: blue;">B</span> 209805 PIZZA RANCH-HUTC... 2:14pm (1h 13m)	65.4 mi
<span style="color: red;">A</span> Wichita, KS Oct 12th, 1:00pm	

# Powerful, ruggedized tracking hardware

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## **Samsara AG24 Asset Gateway**

Ruggedized, weatherproof IoT gateway  
with GPS and 4G LTE cellular

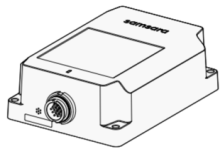
- Real-time visibility (live updates) when powered
- Built-in solar cell and 4-5 year battery for unpowered applications (periodic check-ins)
- Precise GPS location, plus data from:
  - Reefer units (2-way)
  - Equipment diagnostics (J1939)
  - Serial and discrete inputs
- Connects seamlessly with Samsara wireless sensors: temperature, cargo, door

# Wireless design installs in minutes

Example semi-trailer deployment:

## 1. Install Gateway

- Mount to bulkhead, reefer cabinet, or roof with included mounting plate and self-drilling screws
- Connect power to 7-way and reefer using appropriate cable



## 2. Install wireless accessory sensors (optional)

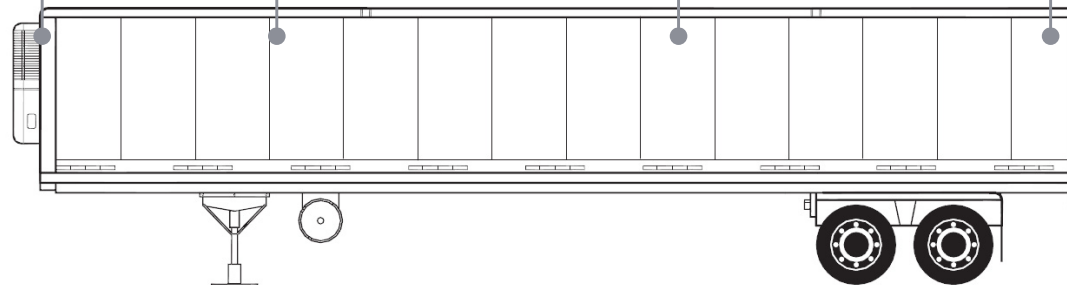
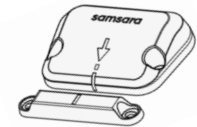
Temperature



Cargo Sensor



Door Sensor





# Simple pricing, rapid payback

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Asset gateway: \$249\* MSRP  
All-inclusive license: \$180 / year  
Volume purchase and license  
term discounts available

\* Plus accessory cable, required for powered trailer (\$49)  
and reefer installations (\$249)

## Example ways to recoup investment (semi trailer use case)



Save 2 minutes of daily  
yard hunt time per driver



Recover lost or stolen  
trailers



Increase trailer utilization  
utilization by 5%



Reduce temperature-  
related loss claims

Live demo

# Case study: How a nationwide carrier improved profitability with trailer tracking

# Background

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About the customer:

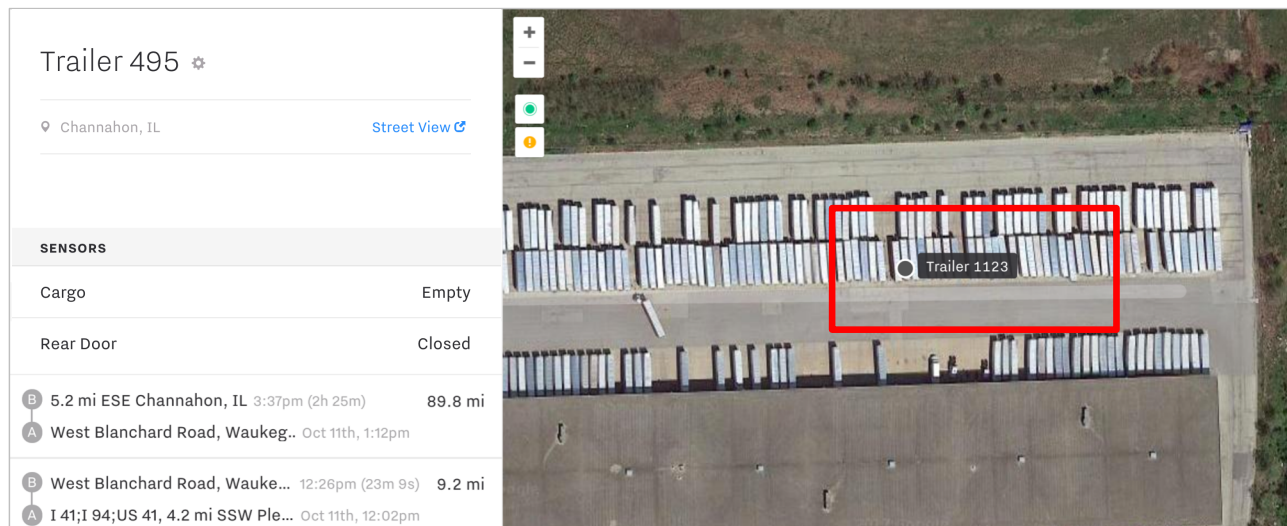
- Chicago based truckload and LTL carrier serving the lower 48 states
- Fleet of 300 dry-van trailers and 200 tractors

Challenges:

- Visibility: Real-time trailer visibility to improve customer service
- Efficiency: More efficient yard and dock operations
- Asset Utilization: Improve tractor to trailer ratio, grow business without adding trailers



# More efficient dock and yard operations



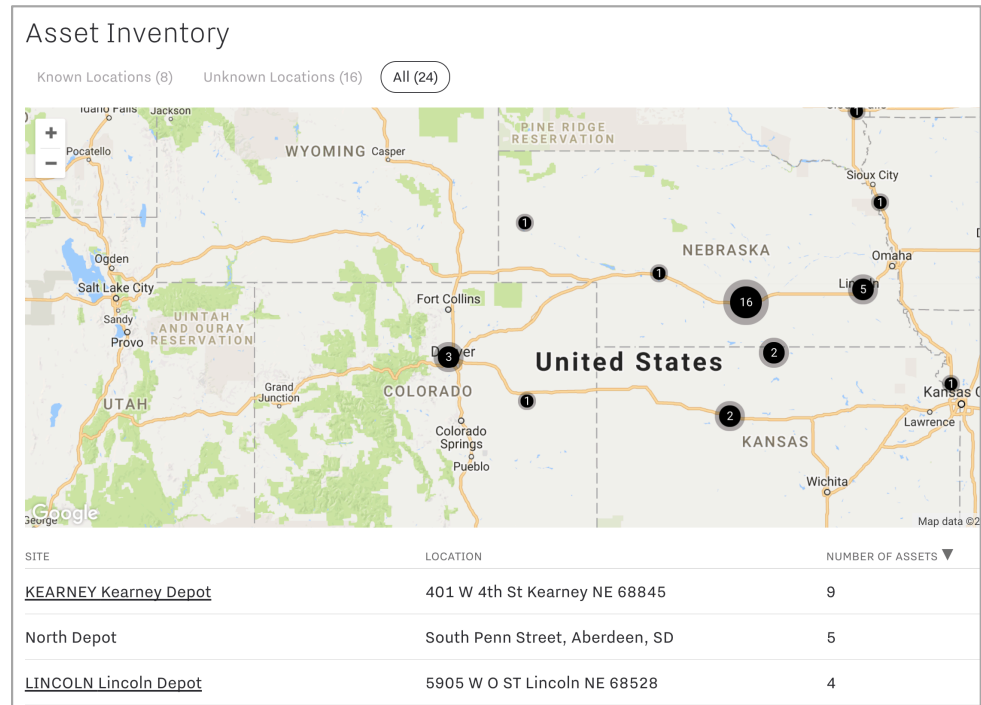
The screenshot displays a Samsara interface for a trailer. On the left, a sidebar shows the trailer's name 'Trailer 495' and its location 'Channahon, IL'. Below this, a 'SENSORS' section lists 'Cargo' as 'Empty' and 'Rear Door' as 'Closed'. A history of movements is shown with 'B' (begin) and 'A' (end) markers, including a 5.2-mile trip to ESE Channahon, IL, and a 9.2-mile trip from West Blanchard Road, Waukegan.

On the right, a Street View image shows a trailer yard with many trailers. A red rectangle highlights a specific trailer, which is labeled 'Trailer 1123' in a black box with a white dot. The image also features zoom in (+) and zoom out (-) buttons, and a location pin icon.

- GPS: eliminate driver hunts – both within and between yards
- Door & cargo sensors: dispatch drivers knowing they won't have to wait for loading

# Accurate, real-time trailer inventories

- Grow revenue by transferring unused trailers to sites with higher demand
- Eliminate labor-intensive and error-prone manual yard reports
- Optimize asset pools and site inventory in order to manage capital expenditures



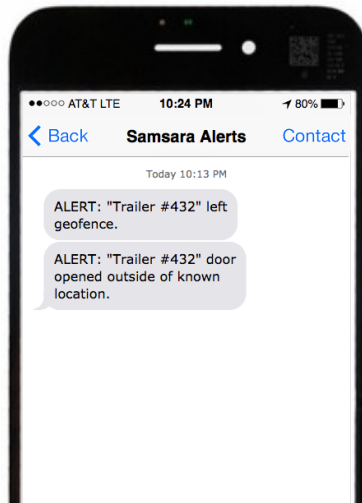
# Improve utilization with dormancy analysis

Asset Dormancy			
ASSET	LOCATION	LAST ACTIVE	DORMANT (DAYS) ▼
<a href="#">Trailer 419</a>	LINCOLN Lincoln Depot	4/21/2017	201
<a href="#">Trailer 538</a>	Kearney, NE	5/25/2017	167.5
<a href="#">Trailer 536</a>	1.6 mi SSW Kearney, NE	9/27/2017	42.5
<a href="#">Trailer 554</a>	Aberdeen, SD	10/12/2017	27.5
<a href="#">Trailer 573</a>	2.6 mi NNE Hays, KS	10/12/2017	27
<a href="#">Trailer 478</a>	1.6 mi SSW Kearney, NE	10/27/2017	12

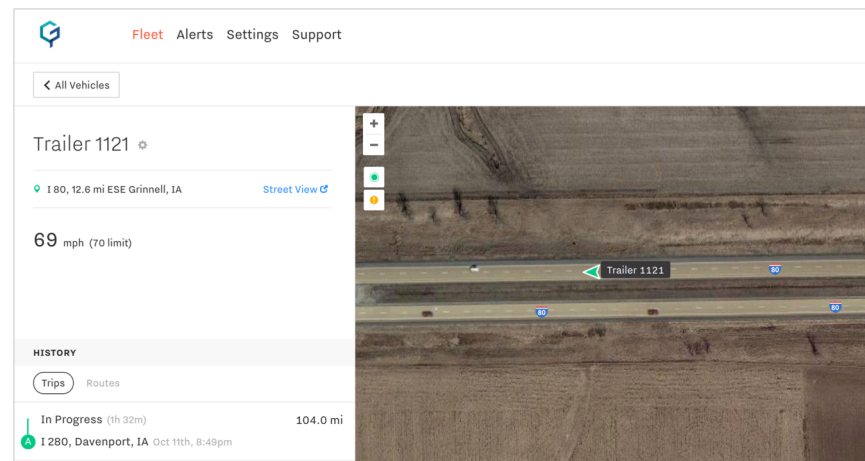
ASSET	UTILIZATION (HOURS)	UTILIZATION (TRIPS) ▼
<a href="#">Trailer 403</a>	96	334
<a href="#">Trailer 611</a>	112	330
<a href="#">Trailer 576</a>	139	327
<a href="#">Trailer 572</a>	110	306
<a href="#">Trailer 604</a>	99	305

- Improve tractor-to-trailer ratio by identifying idle, unused, and lost assets
- Redeploy trailers from low-utilization sites to areas that need more trailers
- Identify heavily used trailers to identify maintenance needs and maximize asset rotations
- Expand revenue capacity without purchasing new trailers

# Detect and recover stolen assets



Alert on unauthorized access and movement



Real-time “helicopter view” aids law enforcement in recovery



# Case study: How Cash Wa Distributing increases cold chain efficiency

# Background: Cash Wa Distributing

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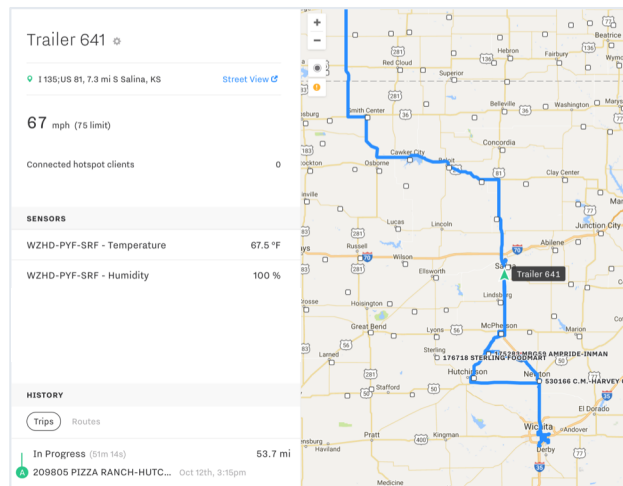
## About the customer:

- Broadline foodservice distributor servicing the Great Plains states
- Fleet of over 200 refrigerated trailers and 175 tractors

## Challenges:

- FSMA compliance: Meet temperature reporting requirements without added staff
- Reduce loss to temperature-related damages and claims
- Differentiate business in a competitive market

# Automate FSMA compliance




TRIP	VEHICLE / TRAILER	SET POINT (START)	MAX TEMPERATURE
B Ash Street, Chadron, NE 7:57pm (5h 8m)	641	40 F	42 F
A KEARNEY Kearney Depot Sep 14th, 2:48pm			
B Chadron, NE 12:51am (5h 5m)	732	0 F	12 F
A Kearney, NE Sep 13th, 7:45pm			
B West 3rd Street (182), Battlefield, MO 3:45am (4h 47m)	771	0 F	7 F
A I 29, 12.7 mi ESE Nebraska City, NE Sep 13th, 10:57pm			
B West 3rd Street (182), Battlefield, MO 3:44am (4h 47m)	792	n/a	38 F
A I 29, 12.7 mi ESE Nebraska City, NE Sep 13th, 10:57pm			



- Automatic, centralized, wireless temperature logging
  - Eliminates manual temperature checks and paper logs
- Automates compliance with Food Safety Modernization Act (FSMA):
  - Records of temperature controls for shippers and receivers
  - Demonstrates pre-cooling of refrigerated compartments

# Optimize operations with 2-way reefer control

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Trailer #153 

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 East 25th Street (CH 63), Hibbing, MN [Street View](#) 

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Reefer Status	Active	<a href="#">Deactivate</a>
Set Point	40° F	<a href="#">Set</a>
Alarms	None	
Engine Hours	12,432	

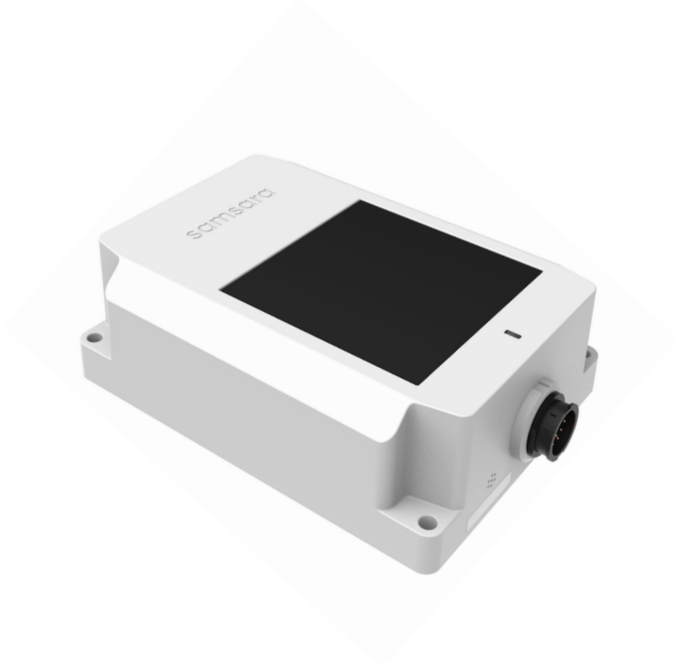
- Remotely activate and deactivate reefer to correct mistakes and save on lost fuel costs
- Read and control reefer set point:
  - Activate and pre-cool remotely, before driver arrives to hook trailers
  - Ensure cooling is set correctly for a given load
  - Correct improper refrigeration in transit



# Hardware overview

# AG24 Asset Gateway

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## Connectivity

- 4G LTE cellular gateway
- 2-way reefer integration (Thermo King SR2, SR3, and SR4, Carrier APX)
- Real-time updates when powered

## Power

- Powered assets: connects to trailer 7-way, reefer, and/or 12-28V DC power source
- Unpowered: Built-in solar cell enables ongoing operations

## Mounting and Enclosure

- Ruggedized and weather-sealed for external applications
- Easy mounting with self-tapping screws or industrial-strength VHB adhesive
- Covert mounting configurations available
- 7-way, reefer, and unpowered asset cables available

# Wireless accessory sensors

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Temperature and  
Humidity Monitor



Door Sensor  
(Rollup + Swing)



Cargo Sensor  
*(available December 2017)*

- 100% wireless design, automatically pairs with AG trailer gateways
- 5 year battery life (user-replaceable AA battery)
- Data logging (record data locally when gateway is without cellular connectivity)
- IP67 rated, tested for pressure washing



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