Samsara Asset Monitoring Solution
Company and Product Introduction
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

GPS  Video  E-Logs  Sensors  WiFi  Apps
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

- 67 mph (15 limit)

Connected hotspot clients

SENSORS
- WZHD-PYF-SRF - Temperature: 67.5 °F
- WZHD-PYF-SRF - Humidity: 100%
- WT0F-X4H-PUR - Temperature: 66.6 °F
- WT0F-X4H-PUR - Humidity: 90%

HISTORY
- In Progress (38m 14s)
- 208805 PIZZA RANCH-HUTCHES: 65.4 mi
- Wchita, KS: 06/12, 9:10pm

samsara
Powerful, ruggedized tracking hardware

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

Example ways to recoup investment (semi trailer use case)

- Save 2 minutes of daily yard hunt time per driver
- Increase trailer utilization utilization by 5%
- Recover lost or stolen trailers
- Reduce temperature-related loss claims

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)
Live demo
Case study: How a nationwide carrier improved profitability with trailer tracking
Background

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

About the customer:

• Chicago based truckload and LTL carrier serving the lower 48 states

• Fleet of 300 dry-van trailers and 200 tractors
More efficient dock and yard operations

- 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

- 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

### Asset Dormancy

<table>
<thead>
<tr>
<th>ASSET</th>
<th>LOCATION</th>
<th>LAST ACTIVE</th>
<th>DORMANT (DAYS)</th>
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<tbody>
<tr>
<td>Trailer 419</td>
<td>LINCOLN Lincoln Depot</td>
<td>4/21/2017</td>
<td>201</td>
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<tr>
<td>Trailer 538</td>
<td>Kearney, NE</td>
<td>5/25/2017</td>
<td>167.5</td>
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<tr>
<td>Trailer 536</td>
<td>1.6 mi SSW Kearney, NE</td>
<td>9/27/2017</td>
<td>42.5</td>
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<tr>
<td>Trailer 584</td>
<td>Aberdeen, SD</td>
<td>10/12/2017</td>
<td>27.5</td>
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<tr>
<td>Trailer 573</td>
<td>2.6 mi NNE Hays, KS</td>
<td>10/12/2017</td>
<td>27</td>
</tr>
<tr>
<td>Trailer 478</td>
<td>1.6 mi SSW Kearney, NE</td>
<td>10/27/2017</td>
<td>12</td>
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</tbody>
</table>

### Asset Utilization

<table>
<thead>
<tr>
<th>ASSET</th>
<th>Utilization (HOURS)</th>
<th>Utilization (TRIPS)</th>
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</thead>
<tbody>
<tr>
<td>Trailer 403</td>
<td>96</td>
<td>334</td>
</tr>
<tr>
<td>Trailer 611</td>
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<td>Trailer 576</td>
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<td>Trailer 572</td>
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<tr>
<td>Trailer 604</td>
<td>99</td>
<td>305</td>
</tr>
</tbody>
</table>
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

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

- 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

- 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

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

- 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