

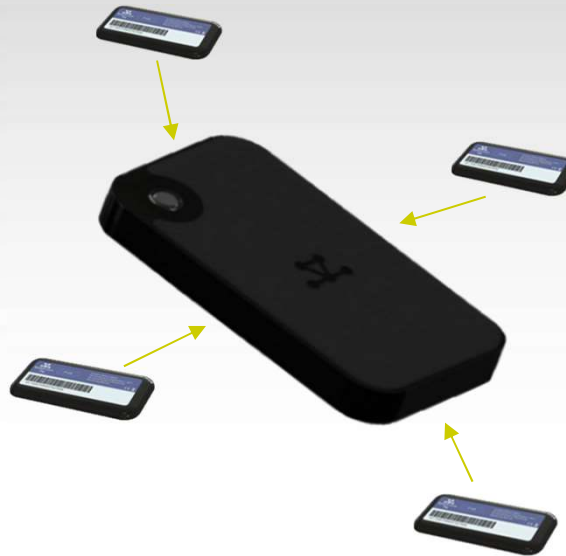


# ADVANCED TRACKING & MONITORING SOLUTIONS

# ADVANCED TRACKING & MONITORING SOLUTIONS



GeoBolt

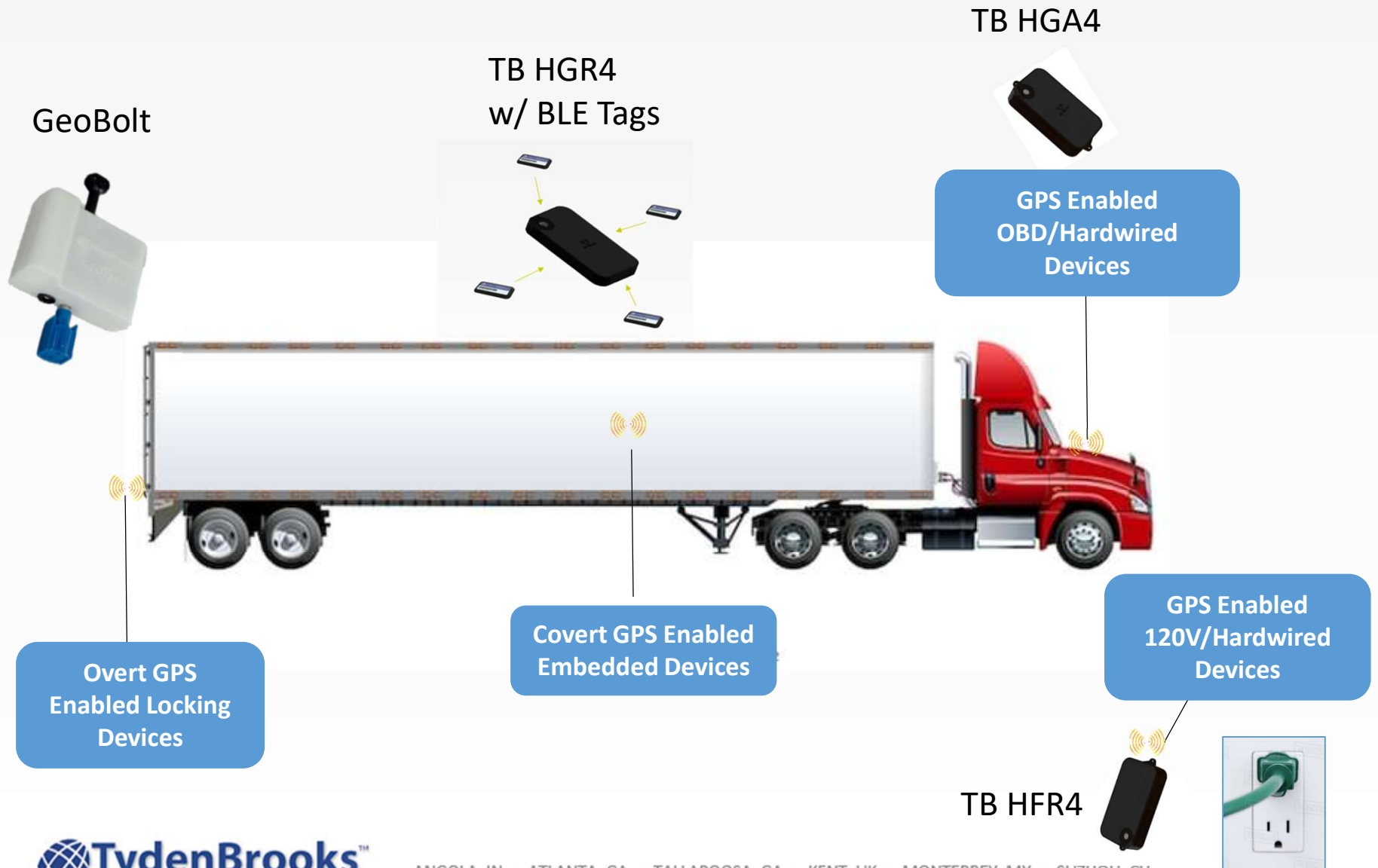


TB HGR4  
w/ BLE Tags

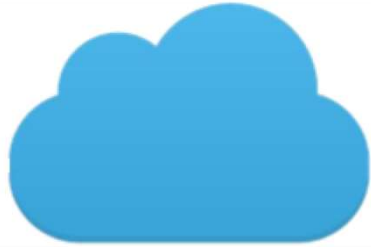


RFID Bolt and  
Cable Seals

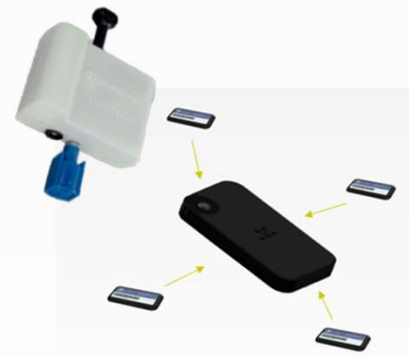
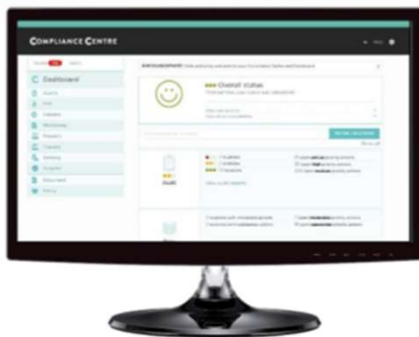
# TydenBrooks Deployment Options



# TB Advanced Tracking & Monitoring Solutions



- TB Device Deployments
  - Supply Chain Mapping
  - US/Mexico Border
  - Cold Chain
  - Cargo Condition
  - Remote Warehousing
  - Asset Monitoring
  - Demurrage Monitoring
  - Delivery / Route Tracking
- Reports and Analysis
- Customer Shipment Questionnaire
- RSM Selling Tools



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# Supply Chain Mapping

## Supply Chain Mapping

- TB Solution
  - GeoBolt
  - HGR4 (possibly embedded BLE tags)
- Provide the client with
  - Origin departure
  - Dwell times at connecting ports
  - Destination arrival
  - Duration of entire trip

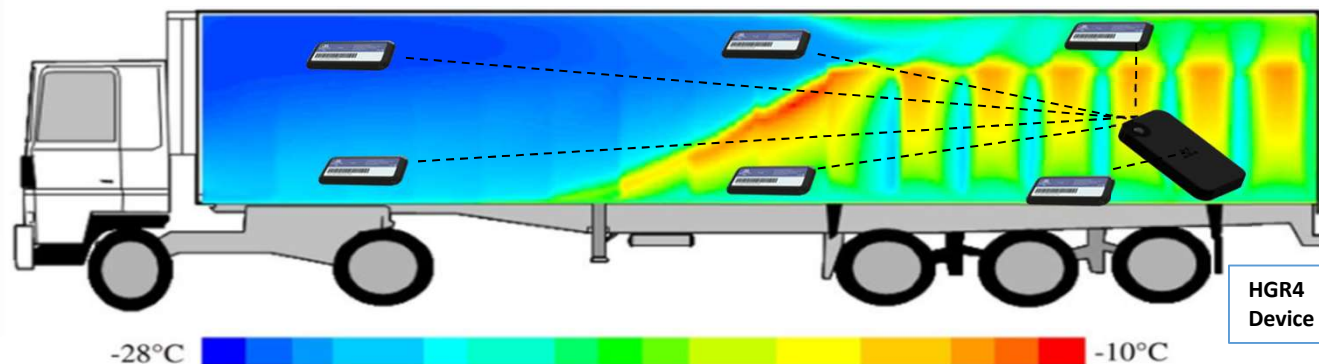


### Historic and event report - Fenix shipment 10

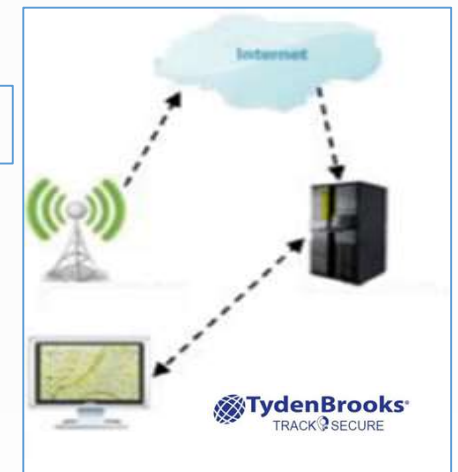
| Device  | Internal Code     | Date                       | Event                   | Detail   | Address                  | Longitude | Latitude | Speed | Orientation | Battery | Date                   | Port Duration                                  |
|---------|-------------------|----------------------------|-------------------------|--|--------------------------|-----------|----------|-------|-------------|---------|------------------------|--|
| GB00177 | Fenix shipment 10 | Bolt Removed - Geobolt     | Bolt Removed - Geobolt  | Berth Rd, Port Wentworth, GA 31407, USA                          |                          | -81.13867 | 32.12975 | 70    |             | 52%     | 9/10/2020 8:13         | 37 Days 3 Hours 42 minutes Entire Shipment     |
| GB00177 | Fenix shipment 10 | Zone entry                 | 3843-Savannah Port      | Old Hatchcover Rd, Savannah, GA 31404, USA                       |                          | -81.05405 | 32.08069 | 275   |             | 55%     | 9/10/2020 4:18         |  |
| GB00177 | Fenix shipment 10 | Zone leave                 | 3848-Portsmouth Port    | 4099 Wild Duck Ln, Portsmouth, VA 23703, USA                     | -76.34454                | 36.87632  | 0        | 0     |             | 54%     | 9/8/2020 20:16         | 2 Days 9 Hours 40 minutes                      |
| GB00177 | Fenix shipment 10 | Zone entry                 | 3848-Portsmouth Port    | 4099 Wild Duck Ln, Portsmouth, VA 23703, USA                     |                          | -76.3488  | 36.87079 | 0     |             | 58%     | 9/8/2020 10:36         |  |
| GB00177 | Fenix shipment 10 | Zone leave                 | 3846-Port Newark        | United States  |                          | -73.82599 | 40.12913 | 182   |             | 60%     | 9/4/2020 13:43         | 1 Days 20 Hours 53 minutes 3846-Port Newark    |
| GB00177 | Fenix shipment 10 | Zone entry                 | 3846-Port Newark        |  |                          | -74.08584 | 40.65079 | 11    | 250         | 65%     | 9/2/2020 16:50         |  |
| GB00177 | Fenix shipment 10 | 08/26/2020 05:25:04 AM EDT | Zone leave              | 3841-LeHavre Port  | 20 Terminal de l'Europe  | -1.97301  | 50.04385 | 32    | 292         | 78%     | 08/26/2020 05:25:04 AM | 1 Days 7 Hours 47 minutes 3841-LeHavre Port    |
| GB00177 | Fenix shipment 10 | 08/24/2020 09:38:03 PM EDT | Zone entry              | 3841-LeHavre Port  | 20 Terminal de l'Europe  | 0.16582   | 49.47548 | 0     | 0           | 79%     | 08/24/2020 09:38:03 PM |  |
| GB00177 | Fenix shipment 10 | 08/24/2020 02:24:25 AM EDT | Zone leave              | 3853-Rotterdam Port  | Unnamed Road, 3199 A     | 2.99525   | 52.03836 | 21    | 268         | 81%     | 08/24/2020 02:24:25 AM | 12 Days 10 Hours 26 minute 3853-Rotterdam Port |
| GB00177 | Fenix shipment 10 | 08/11/2020 03:58:13 PM EDT | Zone entry              | 3853-Rotterdam Port  | Unnamed Road, 3199 A     | 4.03427   | 51.97614 | 0     | 0           | 93%     | 08/11/2020 03:58:13 PM |  |
| GB00177 | Fenix shipment 10 | 08/10/2020 02:21:11 PM EDT | Zone leave              | 3840-Gdynia Port   | Unnamed Road, 3199 A     | 4.03427   | 51.97614 | 0     | 0           | 93%     | 08/10/2020 02:21:11 PM | 5 Days 20 Hours 57 minutes 3840-Gdynia Port    |
| GB00177 | Fenix shipment 10 | 08/04/2020 05:23:49 PM EDT | Zone entry              | 3840-Gdynia Port   | NabrzeÅ/le Helskie I, 8  | 18.51202  | 54.54519 | 0     | 0           | 100%    | 08/04/2020 05:23:49 PM |  |
| GB00177 | Fenix shipment 10 | 08/04/2020 10:59:41 AM EDT | Zone leave              | 3838-Fenix Metals  | Arkadia 98, 99-435, Pol. | 20.01724  | 52.08399 | 61    | 305         | 100%    | 08/04/2020 10:59:41 AM | 0 Days 6 Hours 28 minutes 3838-Fenix Metals    |
| GB00177 | Fenix shipment 10 | 08/04/2020 04:31:24 AM EDT | Bolt Inserted - Geobolt | Strefowa 13, 39-442 ChmielÅ/w, Poland-Stn Strefowa 13, 39-442 Ch |                          | 21.63026  | 50.52199 | 0     | 0           | 100%    | 08/04/2020 04:31:24 AM |  |

# Cold Chain/Cargo Condition

- TB Solution
  - “New” GeoBolt w/BLE Tags
    - The GeoBolt
      - Secures the door
        - provides real-time door open/close events
      - Accurate GPS locates
        - Notifies origin geofence departures / destination arrivals
        - GeoRoutes can be set and notifications sent if shipment strays off route
      - BLE Logging Tags inside the trailer/container
        - Provide accurate temperature/humidity notifications
        - Light sensor will confirm door open / close events
        - Stores temperature/humidity reads if no GeoBolt BLE is in range



GSM  
Messaging

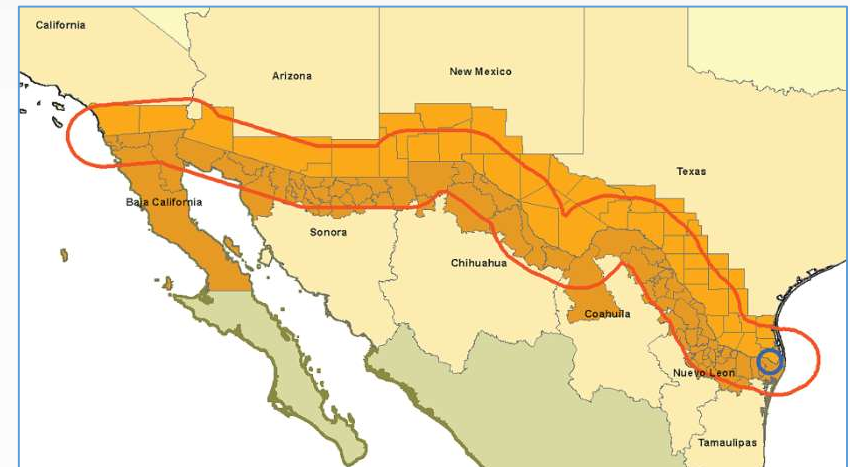
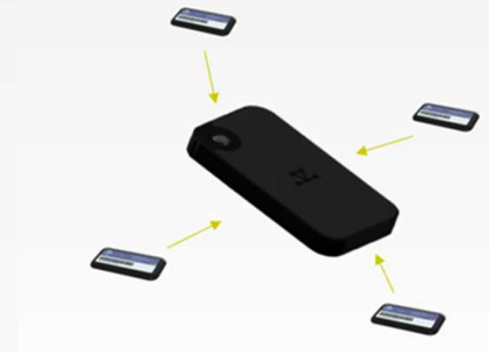


# US/Mexico Border



## US/Mexico Border

- TB Solution
  - GeoBolt
  - HGR4 (possibly embedded BLE tags)
- Provide the client with
  - Origin departure
  - Dwell times at Mexican and US Customs
  - Destination arrival
  - Duration of entire trip





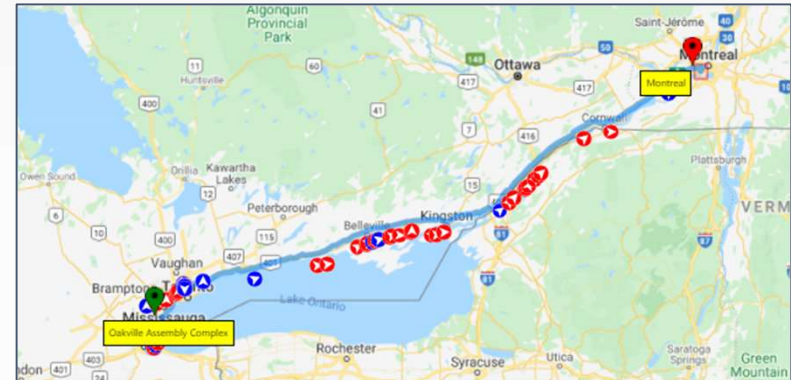
# Cargo Condition

## Cargo Condition

- TB Solution
  - HGR4 (possibly embedded BLE tags)
- Monitor/Alert
  - Shock events while enroute
  - Temperature/Humidity/Light

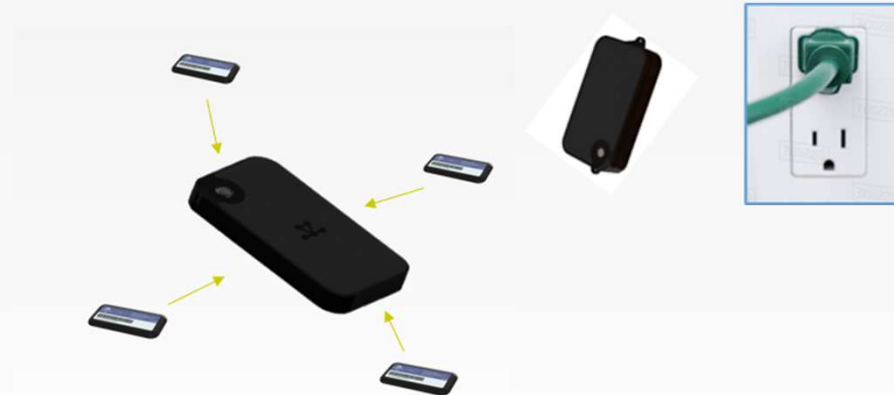


| Rail Car    | Total Impacts | Greatest Impact |
|-------------|---------------|-----------------|
| TTGX 156908 | 125           | 21.87           |
| TTGX 716222 | 17            | 16.19           |
| TTGX 942512 | 141           | 19.22           |
| TTGX 952642 | 27            | 18.07           |
| TTGX 971598 | 13            | 16.8            |
| TTGX 980248 | 55            | 21.37           |
| TTGX 990697 | 44            | 20.71           |
|             | 422           |                 |





# Remote Warehouse / Staging Area



## HGR4 / BLE Tag Remote Warehouse Benefits:

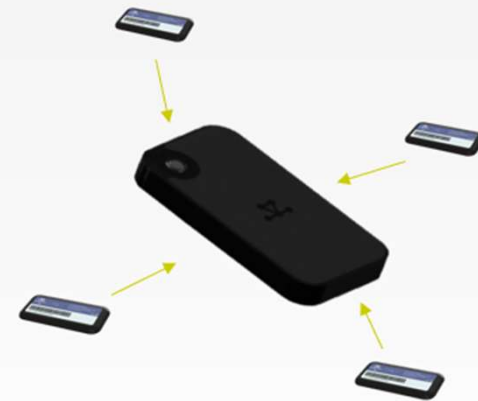
- Multilocation Inventory Management
- Automated Stock Level Notifications
- Material Grouping
- Report Generation / Demand Analysis



# Asset Monitoring

## ASSET MONITORING

- TB Solution
  - Combination of TB GeoBolt “BLE”, TB HGR4, and the hardwired TB HGA4 can monitor assets from a remote location while in a warehouse, enroute, and at a destination
- Potential Opportunities
  - Equipment Rental Companies
  - Construction companies
  - Utilities
  - Any “high value”



*Tag it...click it.....find it .....certify it*

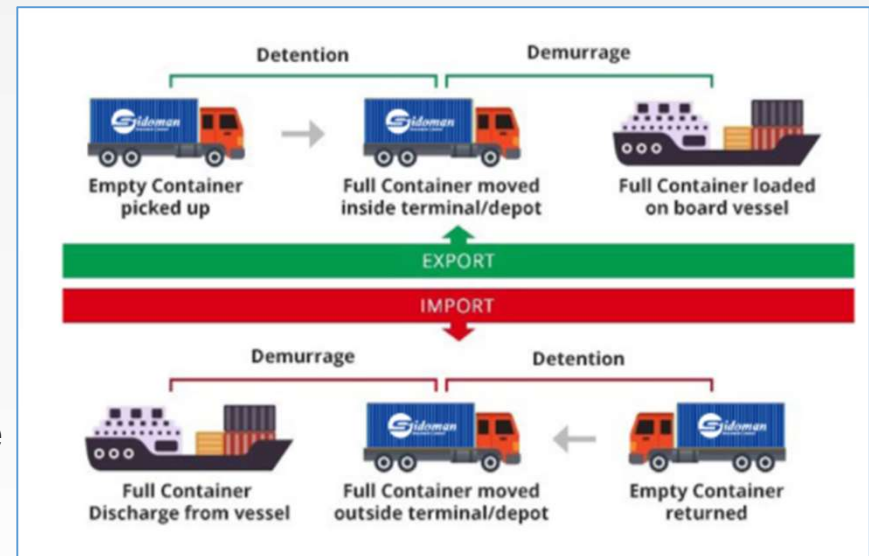


# Demurrage/Detention Monitoring Solution



**Demurrage** refers to the charge that the merchant pays for the use of the container within the terminal beyond the free time period.

**Detention** refers to the charge that the merchant pays for the use of the container outside of the terminal or depot, beyond the “free time” period.

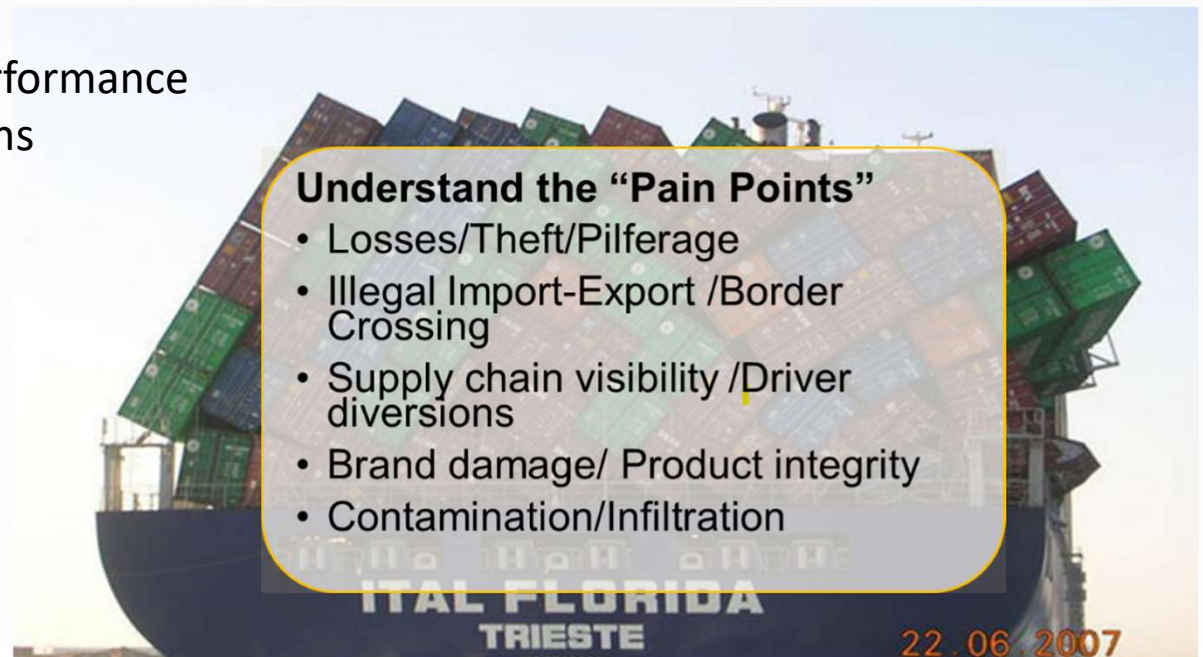
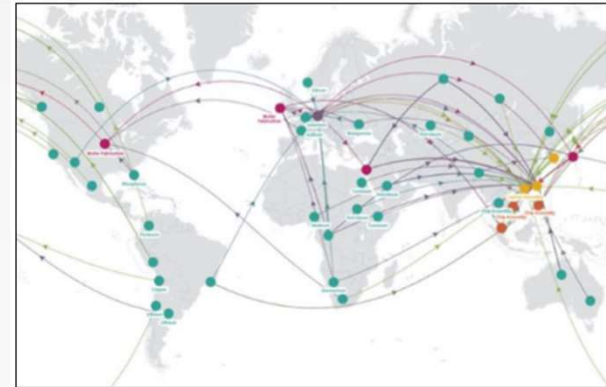


- Demurrage charges begin when your cargo sits at the destination sea port for longer than its allotted free time. These penalties aren't always avoidable, but you can greatly decrease your chances of encountering them by being proactive with your trucker planning.
- Detention charges occur when the merchant stores the container beyond the allotted free time. For export containers, detention gets charged when an empty container has been picked up for loading and is not returned within the allotted time frame.



# Reports and Analysis

- Driver Performance
- Carrier Performance
- Shipment Data
  - CTPAT Tier 3 - Visibility
  - Number of Shipments
  - Number and Location of Destinations
  - Number and Location of Origins
  - Events
- Mode of Transportation Performance
- Route efficiency comparisons
- 
- Real-time inventory
- Verify control conditions
  - Temperature
  - Humidity
  - Shock
  - Door status

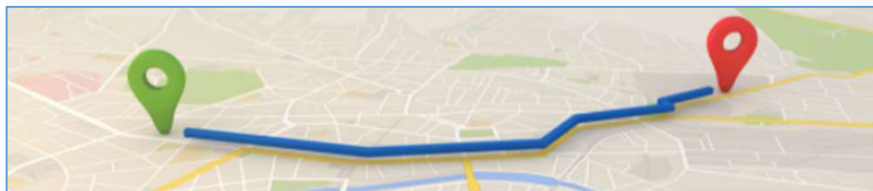




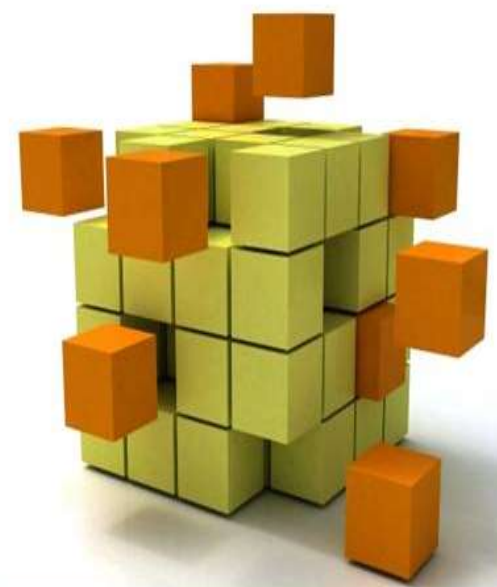
# Customer Shipment Questionnaire



- Identify primary deployment opportunity, what sensors will be monitored
  - Location, Temp, Humidity, Shock, Light, Bolt status...
  - Is the cargo fragile?
  - Is the cargo hazardous?
- Mode of transportation
  - ground, air, sea or rail
- Will the deployments be “inter” or “intra” company shipments
  - Reverse logistics and device maintenance must be established
- Origin and destination
- How long is the typical shipment?
  - This information is critical for determining the device set up
- Does the prospect own conveyance?
  - Hardwired vs Battery Powered device



# TydenBrooks RFID Solutions



# TydenBrooks RFID Bolt and Cable



## **RADIO FREQUENCY SPECIFICATION**

**Frequency:** 860 – 960 MHz – UHF EPC Global

**Reference RF Standard:** ISO/IEC 18000-6

**RF Protocol:** EPC Class 1 Gen2 / ISO/IEC 18000-6C

**Technology:** Passive

**Integrated circuit:** NXP G2iM+

**User read / write memory:** yes – up to 640 bit

**Memory size:** from 128 bit up to 448 bit of EPC Memory

**TID (Tag Identifier):** 96 bit, including 48-bit factory locked unique serial number;

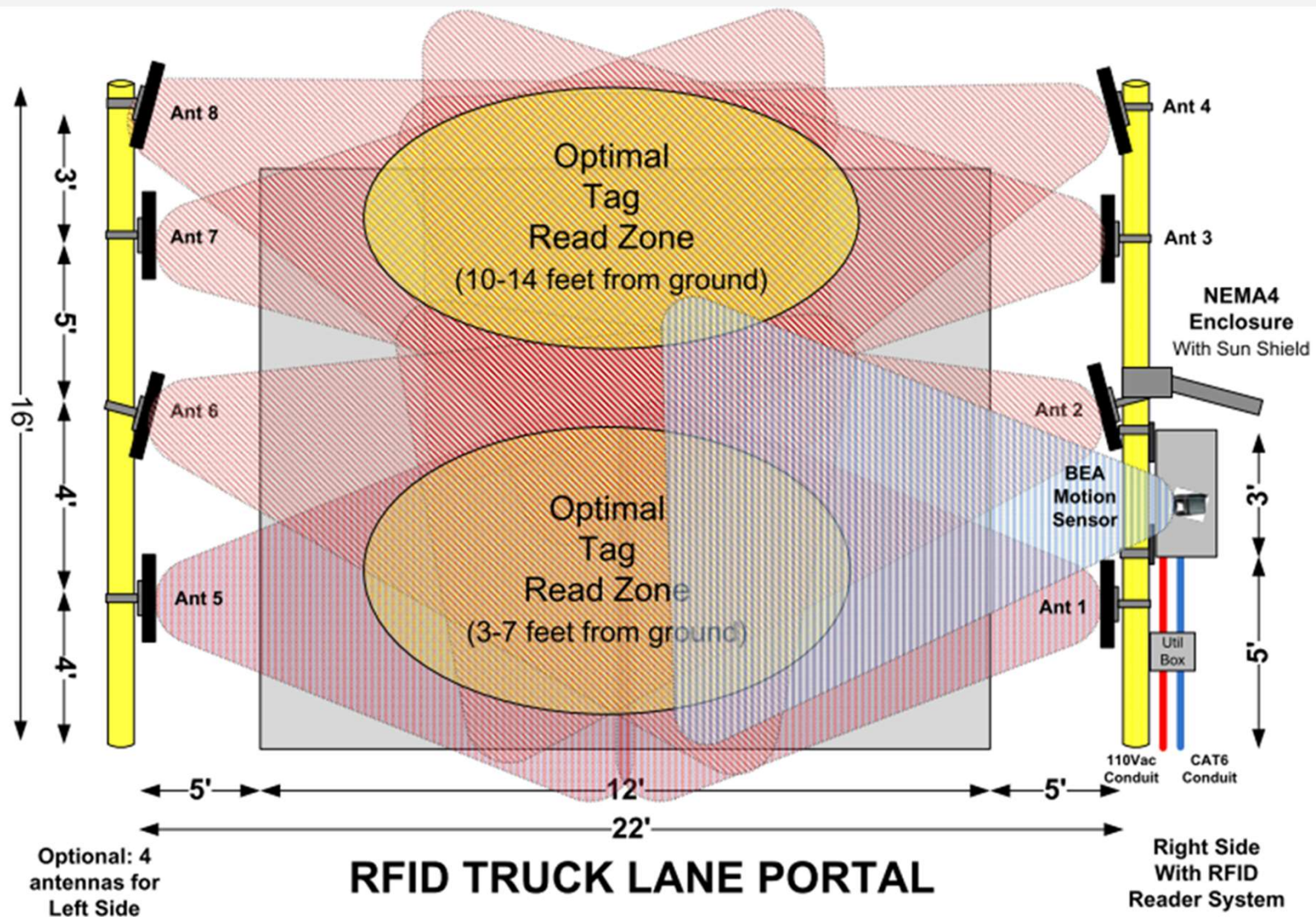
**112 bit User TID memory Password protection:** yes

**Tamper Detection:** yes

**Read / write cycle:** 10000

**Data retention:** 20 year

# Fixed Reader/Portal Solution





# RFID Bolt and Cable Solutions



## RFID Bolt / Cable Benefits:

- Increased seal read/log accuracy
- 3-meter read range with handheld
- 10-meter fixed antenna read range
- Improves SAFETY processes of seal verification
- Consistent seal tampering interrogation





Any Questions?