Container Yard Monitoring Services

End-to-End Supply Chain Tracking and Monitoring

Part of the Total Solution in Securing the Supply Chain

AVANTE Container Yard Monitoring System is a subset of AVANTE Supply Chain Monitoring Services. This subsystem is designed to help port, depot and yard management to reduce the following prevalent supply chain risks and at the same time enhances the management efficiency:

- Real-time locating of any container within the monitoring area within 1-3 meter accuracy
- Instant alerts of any movement and motion of the container
- Cargo damage due to shock during handling for insurance adjudication
- Cargo theft from containers and trailers
- Facilitate locating and movement of container within a yard with pin-point accuracy including the stacking position while stored and stacked with multiple containers

AVANTE Supply Chain Security Monitoring Services provides a full spectrum of services for cargo container (including cold chain) security monitoring and tracking to shippers, logistics providers and customs authorities throughout the supply chain.

AVANTE Container Yard Monitoring System is part of the AVANTE Supply Chain Security Monitoring Solution in providing real-time locations of all containers within a yard, port or depot where containers are staged and managed before loading or upon unloading.

Shipping Container with AVANTE Relayer

This web-based solution allows the containers to be monitored 24/7/365 as part of the end-to-end tracking and monitoring of the container from point of origination to point of destination.

Besides providing real-time location of the containers, AVANTE uses patented technologies to provide real-time notification of any exceptions in container opening, movement, possible theft or damage to a container's contents and other security breaches.

- A user-friendly web-based interface provides stakeholders the ability to map the ***location, and stacking position, shock and movement history*** of the containers with high accuracy within a yard.
- Movement, motions, and other exceptions are detected by AVANTE patented multi-mode sensors and RELAYER™-GPS-RFID device placed onto the container when it enters the yard. The system reports in real-time these exceptions and/or movements to shippers, buyers, authorities including customs, insurance providers and 3PL providers via SMS, email and other communications channels as required.
- AVANTE Container Yard Management System has optional components to couple the yard personnel with the movement of the containers to provide additional security and visibility of the container yard operation.

Electronic Goods

High Value Merchandise

Perishable Goods

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- The key to supply chain security is end-to-end tracking and monitoring. AVANTE Supply Chain Monitoring Services begins with personnel credentialing for packers, drivers and other staff.
- Throughout the inland transportation of the cargo via truck or train, AVANTE Supply Chain Security Monitoring Services monitors the integrity of container for intrusion and other exceptions.
- Lighting and traditional physical security systems have proven to be insufficient in protecting containers in storage yards and staging areas. AVANTE Supply Chain Security Monitoring Services includes intrusion and exception monitoring and tracking of the containers until they are loaded onto the ship.

System Configuration

ZONER™-SSID BADGE (Optional):

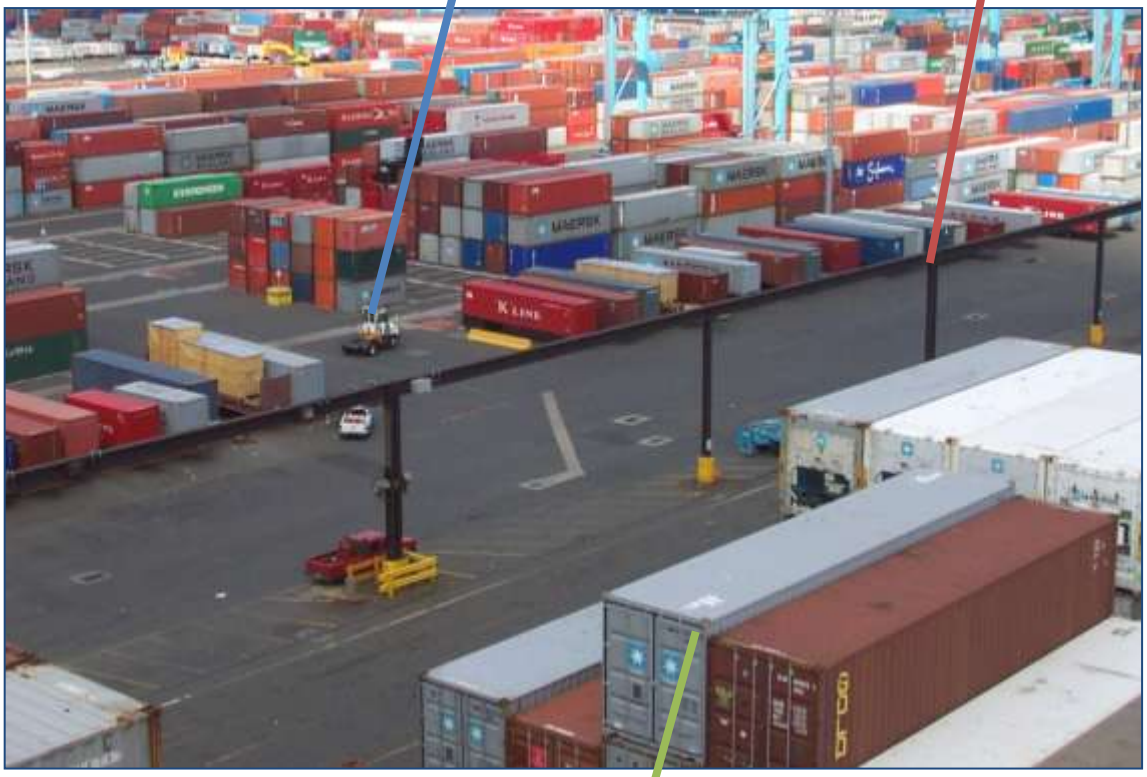
Personnel Security Active RFID Device for packers, staff and drivers

- Detects motion and relative location
- Embedded panic button to call for help
- Periodic status reports during end-to-end tracking and monitoring for security and safety certification

MONITOR:

Web-based communication device that receives data and alerts from RELAYER™ on container and ZONER™ badges for personnel and ZONER tags inside container.

- Communicate within range of 1000-3000 ft
- Can be posted outside and interface with computer and Internet with power-over-Ethernet
- Keeps up to 60,000 recorded sensors data in cyclic memory



RELAYER™-GPS RFID DEVICE:

Mounted on containers when they enter yard. Uses magnetic holder to facilitate mounting and de-mounting when the container enters or lefts the yard or depot.

- Communicates with MONITOR™ units and the ZONER™ tags and badges
- Keeps up to 60,000 data points tagged with GPS locations, movements and motion in cyclic memory
- Periodically transmits data via RF to MONITOR™ units
- Transmits exceptions and intrusions in real-time
- Relays exceptions and intrusions to stakeholders via SMS, email and phone
- Authorized Stakeholders can log-in with role-based user names and passwords from anywhere in the world with web access for real-time monitoring of all of their containers

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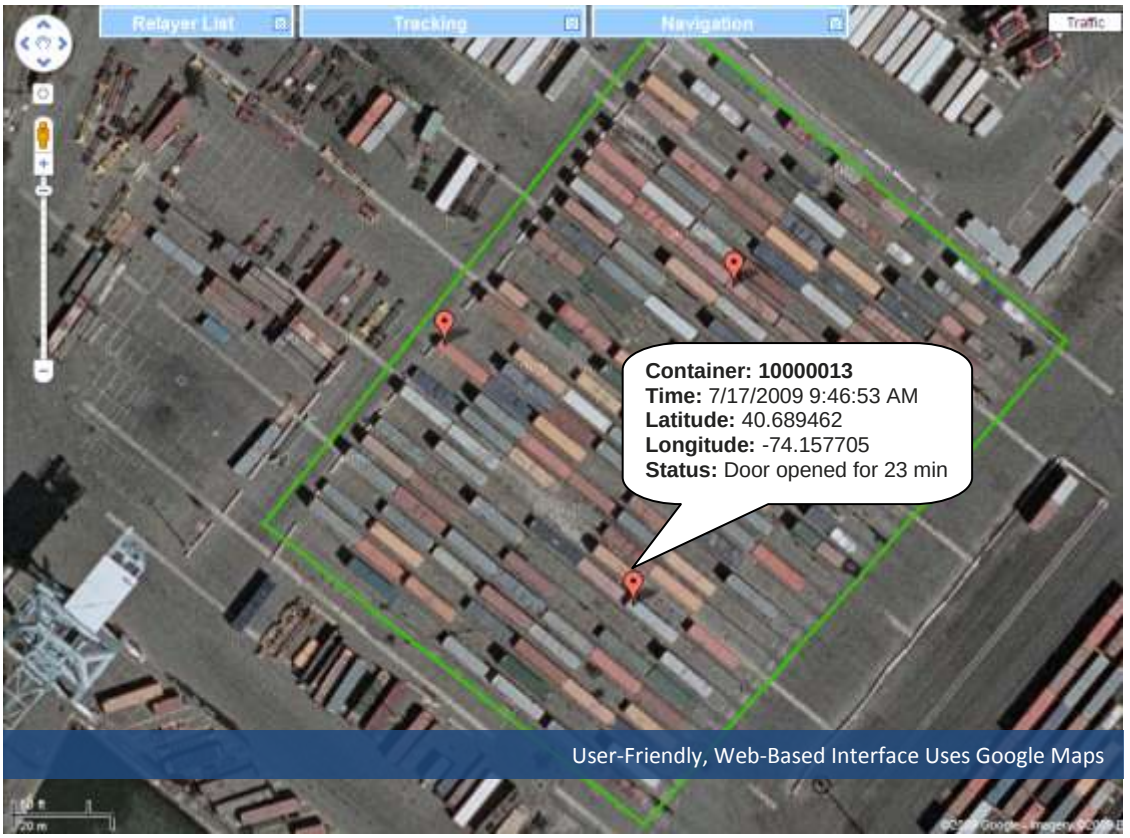
User Interface



User-Friendly, Web-Based Interface Uses Google Maps

System Components

• **RELAYER™-GPS-RFID DEVICE** - Received GPS data and relate to MONITOR™ for real-time locating - Communicates with and monitors the ZONER™ tags and badges - All data is stored and sent to MONITOR™ via RF interrfaces. - Real-time alerts of movements and motions of containers within the yard.	
• **ZONER™-SSID BADGES** with panic button - Associates personnel and staff with movements for accountability - Active (433MHz ISM) and passive RFID technology	
• **MONITOR™-RFID COMMUNICATION DEVICE** - Communicates with and monitors the RELAYER™ and ZONER™ tags and badges - All data is stored and sent to a central server via Internet	

Powerful Software

A clean, user friendly yet powerful web-based interface allows for concurrent reporting to authorized stakeholders anywhere in the world. Additional features include:

- Mapping of all containers with the container yards
- Highlighting of all containers in motion or being moved
- Real-time "movie" of the container movement
- Driver and vehicle permissions and operation
- End-to-end storage and movement history
- Situation and response management through logged alert acknowledgment
- Step-by-step playback
- Full historical archives
- Role-based access from anywhere

Customizable Alerts

Exceptions and alerts are sent via text message, email or phone. Alerts are real-time rather than post-mortem.

Simple Integration

Web-based solution with easy-to-use interface is designed to easily integrate with your existing management systems with web services.

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AVANTE Container Yard Monitoring System & Services

AVANTE's Container Yard Monitoring System and Services division works with numerous associated partners throughout the world to help provide our container-based monitoring and tracking services at costs that are not only affordable but will achieve substantial return on investment within 12 months of deployment.

AVANTE Container Yard Monitoring System is subset of the AVANTE Supply Chain Monitoring Services focuses on the global supply chain security and logistics market. Our mission is to provide shippers and logistics service providers with real-time security monitoring services down to the individual container level at costs that are far less than those associated with shipment insurance and management.

AVANTE's strategy in ensuring supply chain security begins at the packaging and consolidation centers, follows en route trucking and delivery to the port, storage and staging at the port and yard, optional ship deck monitoring, through drayage, de-consolidation and unpacking at the shippers or end users warehouse.

AVANTE is a private company headquartered in Princeton, New Jersey with subsidiary operations in Hong Kong, China and the Philippines and associated operations throughout Asia, South America and Africa.

Since 1995, AVANTE has pioneered and patented many security technologies for protecting personnel and assets. AVANTE's patented technologies and features include:

- Patented "Received signal strength" (RSSI) intrusion monitoring
- Multi-mode sensor intrusion monitoring
- Temperature and optional humidity monitoring
- Shock monitoring
- Optional radioactive, chemical and biological sensors
- Association of packers, staff, drivers and other operators with the shipping operations
- Provide safety protection to drivers with personnel badge panic call button
- Each ZONER™ and RELAYER™ device records events every second with more than 60,000 events in cyclic memory in case of communication interruption, while the server permanently stores all data for forensics or future auditing
- Fully compatible with the use of conventional container lock-and-seals (PAS ISO 17712 seal) eliminates the need for training of operators at multiple jurisdictions

Call AVANTE at: 609-799-8896 and speak with John (x 119) or Charlie (x 112) or Ben (x 121), for more information on how to secure your cargo throughout the entire supply

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U.S. 7,513,425; 7,342,497; 7,423,535; 7,319,397; 7,513,425; 6,883,710; 7,036,729; 6,703,935; 6,696,954; 6,943,688; 6,665,543 and other issued and pending U.S. patents