TRACEABILITY IN SUPPLY CHAIN

WAREHOUSE MANAGEMENT SYSTEMS

CARGO TRACKING

www.navisat-gps.com
Navisat system is an EPCIS compliant system that avoids the big data performance and costs issues often found in ERPs burdened by conventional mass serialisation techniques.

During the manufacturing process, unique codes are applied on each pack, carton and master case and are subsequently scanned. It enables each packaging unit to be tracked along the supply chain without need for unpacking, scanning and repackaging individually.

Read on to discover how Navisat assists global businesses in securing their world-class supply chains.

**BIG DATA MANAGEMENT**

Navisat leverages Codentify codes to deliver a cutting edge Track & Trace capability. Easily integrated with world class ERP Systems, It provides scalability, stability and excellent speed of data access.

**HOW IT WORKS**

Navisat consolidates finished goods movement across your entire supply chain – from factory, warehouse, third party logistics provider, up to point of sale.

As products travel the supply chain, movements are scanned by warehouse operators and the journey history recorded. Navisat provides real-time visibility and control over your entire supply chain.

**YOUR BENEFITS**

- Fully integrated tracking from unique item to pallet.
- Ensures immediate product traceability.
- Compliant with international regulations.
- Full product lifecycle management from factory to retailer.
- Cost effective and compatible to multiple industry open standards.
- Full control of systems operations through Navisat quality monitoring modules.
- Data analysis and advanced drill down reporting.
- Flexible integration through a system agnostic approach.
- Plugin-based customisation available.
- Scalable and performance driven development.

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The validity of the code can be checked by:
- Manufacturers
- Distributors
- Retailers
- Consumers

During the manufacturing process, unique codes are applied on each pack, carton mastercase and subsequently scanned. This process is called aggregation. It enables each packaging unit to be tracked along the supply chain without need for unpacking, scanning and repackaging individually.

Checks can be completed via SMS, smartphone app or a website. There is no need for proprietary inspection equipment or forensic testing.

As products move along the supply chain from manufacturer to end distributor, this stock movements are scanned by warehouse operators and the journey history recorded. Upon audit and seizure of a product, relevant authorities can obtain information about its movement and potentially identify where diversion occurred along the channel.

Within a matter of seconds, a product’s authenticity can be verified and counterfeit identified.

The equipment deployed for this process is standard therefore enabling manufacturers of any size to effectively deploy it. Relevant authorities can inspect products at anytime, anywhere using a mobile phone or website access.

Benefits
- Ensure quick and easy product traceability
- Supports law enforcement
- Based on international standards
- Enables cross-border information sharing
- Cost effective
NAVISAT Electronic Cargo Tracking System (ECTS) is an electronic initiative to assist Private and Public Sector Organisations to manage and monitor the process of movement of general dry bulk and liquid cargoes an effective and efficient manner in real time. Both nationally and internationally.

**TRACTING MODULE PROCESS FLOW**

**FUNCTIONS**

- Cargo management: Involves registration of containers, wagons, motor vehicles, Motor vehicle carriers, liquid bulk, fuel tank etc. and tracking its seal status, events and alerts during transit from the entry-point to the final destination.

  - Notification module: Keeps track of all seal events/alerts and status and notifies stakeholders registered as cargo observer to receive the notification on the same via SMS and Email.

  - Stakeholder management: Allows registration and editing details of clearing agents, shippers, ports authority's custom officers, TMU and other beneficiaries involved in the system.

  - Station management: Involves registration and editing of stations which within a route including Entry point, GPS, checkpoint, IC and exit/border station.

  - Route management: Involves defining routes to be followed by cargo on transit.

  - Seal management: Enables capturing of electronic data seal to be used during cargo tracking in the system and assigning them to the Custom officers or any relevant official.

  - Reader management: Involves keeping track of the cargo

**BENEFITS**

- Attatch road manifests to a specific truck and assign the truck to a particular route with no human intervention

- ECTS records events for stakeholders during a whole journey from the departure point to the destination.

- Stem cargo diversion because most NAVISAT Gazetted/pre-registered transit goods routes will be geo-fenced for security.

- Access in real time the truck and cargo status, location and other pertinent event information (e.g. seal tampers, checkpoint inspections, trip termination etc.).

- Receive alert information in the event of any diversion from system assigned NAVISAT gazetted/pre-registered routes, illegal opening or tamper of the electronic seal or any attempts to detach the carrier.

- Access past trips from the centralized database. ECTS also has the ability to playback such trips should it or its stakeholders require it.

- Enjoy seamless systems integration and communication among stakeholders.

- Increase in the level of security of tracked/monitored goods.

- Eliminate the need for physical monitoring (escort(s)) of transit goods. This will increase turnaround times for transporters as they shall no longer need to travel under escort.

- Increase in efficiency and accountability

**CARGO TRACKING**

The ECTS enables automatic remote tracking and monitoring, data collection and protection of cargo as it is transported from one location (start point) to its destination as well as continuous monitoring of the transported cargo.

It facilitates collection of pertinent data, providing an instant view of monitored cargo.

The real-time system will “flag” to the ECTS Control Room any irregularity with the cargo. For example: The trailer has been disconnected from the track. OR, The container’s electronic Seal has been tampered with.
# UF-001 / UF-004 UHF GEN2

## APPLICATIONS
- Ideal for BIG warehouses
- Logistics
- Mobile bin
- Forklift location tracking
- Rubbish truck
- Indoor and outdoor event management
- And more...

## BENEFITS
- Support ISO18000-6C EPC Gen2
- Removable high capacity Li-Ion battery
- Superb battery capacity last for 8 hours continuous reading. Optional 4Ahm battery for 12 hours operating time
- Rapid charger charges battery in 30 minutes
- Bluetooth interface
- Rugged metal housing
- Selectable antenna type

## SOFTWARE DEVELOPMENT KIT

The SDK is a software development kit that works with all UHF product series. It includes API, Host Demo, and user manual. It’s developed by C builder development tool on Windows Operating System, compatible to VC, VB/VB.NET, C#, .NET etc.

Also, comes with Android source code for mobile development apps for models UH – 200 / 800 (handheld), UH – 2000 (extra long range handheld) and UF – 001 and UF – 004 (forklift) readers.

### FEATURES:
- SDK is available with some special benefits for customer’s development
- Stronger and powerful informative API to save your time and cost for development
- Examples of demo programs all developer to cut short development time and effort

## Model | UF - 001 / 004
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### Physical Characteristics
Dimensions: | 300 (L) x 78 (W) x 155 (H) mm
Weight: | 1.6kg (with battery)
### Environment
Operating Temp: | -20°C to 55°C (-4°F to 131°F)
Storage Temp: | -40°C to 80°C (-40°F to 176°F)
Humidity: | 10% to 95%
Casing: | IP54
### Antenna
Supports all types of antennas
### Battery
18V 3000mAh
- @ 30dBm – 5 hours continuous reading and sending data via BT
- @ 25dBm – 7 hours continuous reading and sending data via BT
### Frequency Ranges
902 or 928 MHz band or upon customer’s request
### RF power control
30dBm
### Tag Air Interfaces
EPC Class 1 Gen 2
### Communication Interface
Bluetooth™
### Reader Range
>5cm - 20m antenna and tag dependent
(control within 10cm to 2m on most applications)