# Real-time container monitoring - a valid alternative to 100% Scanning





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## **Comprehensive Security**

- World wide, 24/7 availability
- Coverage of the complete supply chain with real time capability
- Independent from ground based infrastructure
- Transparancy from loading point to de-loading point
- Utilisation of e-certificates allows highest authenticity of data
- and pursues the concept of responsibility
- Data quality supports usage of data in logistic- and traffic
- management application



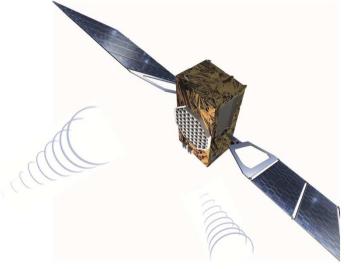






## Your container in view - worldwide











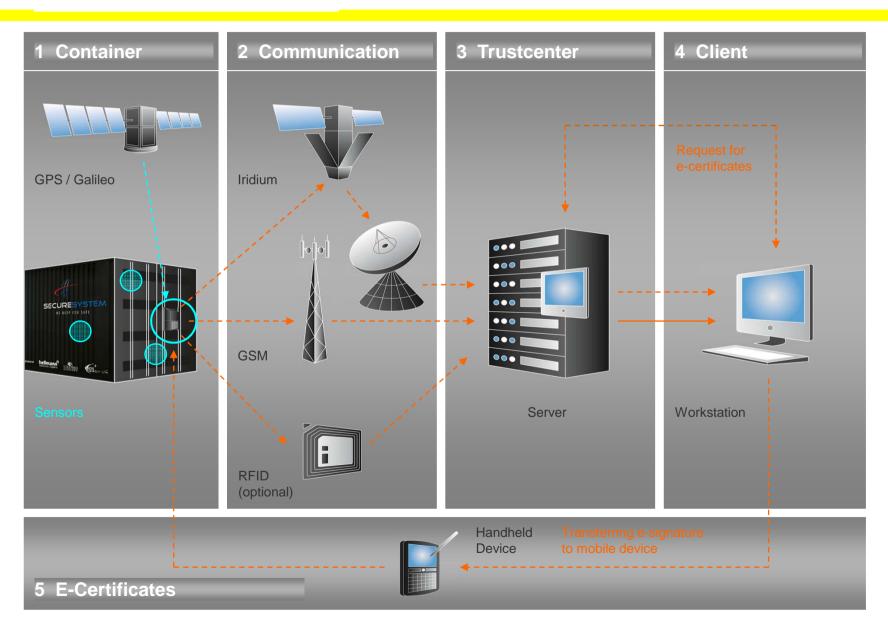








#### **System Overview**











#### **Service Portfolio**

- 100% access control to the container
- Definition of persons being authorised to close and open the container
- Real-time indication of any unauthorised openings
- Tracing/Tracking and Container identification
- Temperature monitoring with real time alarming function
- Graphical display in digi-maps
- Complete transport documentation
- API Interface definition for data support to other logistic and traffic managment applications









## **World-Wide Transparency**











## **Security Concept – Trusted Area**

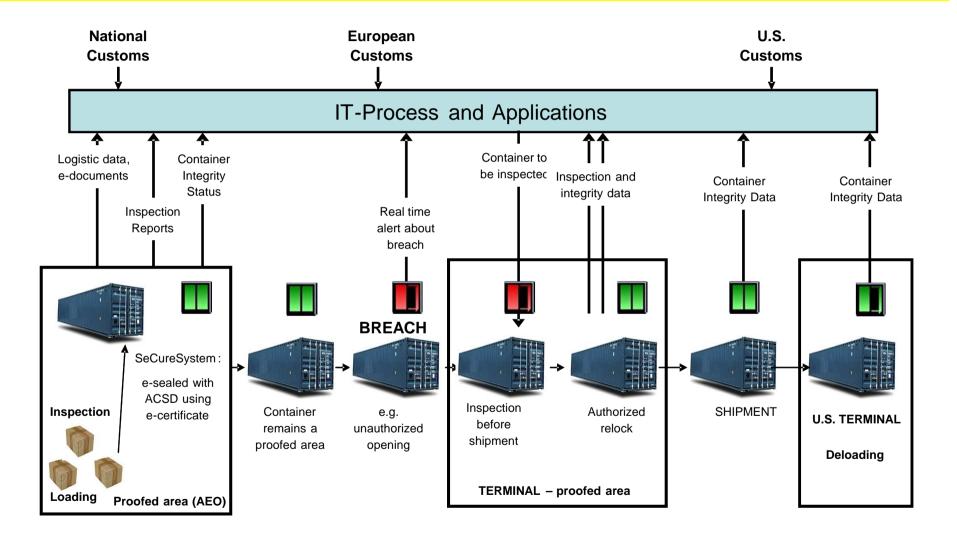
- Indicative System with real-time capability
- Container is sealed in a known and trusted area
- Container remains a trusted area during it's transport
- E-Certificates allow the identification of persons who are empowered to open/close a container
- Deviations from the original status are indicated in real-time (e.g. unauthorised access, deviations from a defined temperature range)
- Supports multi-layer approach in risk-assessment of container trades



















#### Performance – Tech. Features

- Real time alerts < 2minutes</li>
- World-wide coverage without ground infrastructure
- Battery pack lasts for >1500 messages which equals to at least three trades between Bremen and Shanghai (Basis: Regular Message every two hours)
- No additional Software installation at customer site required
- API as basis for interface to other SW applications is available
- Access to systemcenter from any Internet point possible and on the basis of user accounts and user hierarchies
- Unique electronic certificates for single trades and single opening/closing events









#### Tech. Features con't

- Solution for ISO container: Fully mountable in less than 10sec.
- Solution for Reefer container: Full integration into cooling device including power supply
- Standard solution:
  - 3 temperature sensors, can be distributed in the container interior
  - Humidity sensor
  - Electro-optical sensors for intrusion detection
  - Mechanical sensors for door opening and mount status









#### **Commercial Performance**

- Start of commercial operation at the beginning of 2010
- More than 300 commerical trades conducted until end of 3rd quarter
   2010
- Service to customers in all market segments:
  - Shipper
  - Forwarder
  - Carrier
  - Military
- Product Segments
  - Reefer
  - ISO Container
  - Trinking Water Container

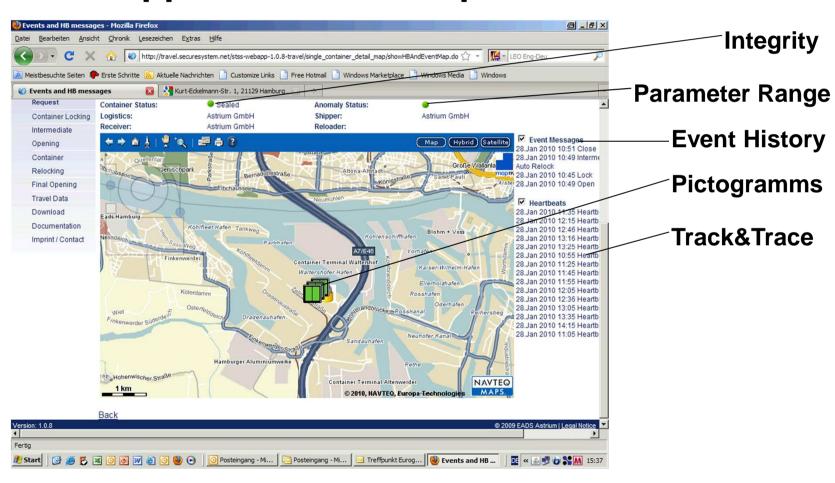








## **User Application – Example**











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