

A05: ULD Care and Cost Efficiency

ULD Care Annual Conference
Mainz, Germany September 9th, 2014

Agenda

- Envirotainer Overview
- Cost optimization for shippers
- The Integrated Solution
- Cost savings with integration
- Cost efficiency and ULD
- Hidden Costs, By Bob Rodgers

Who we are

We are the pioneer supplier of temperature-controlled ULD transportation solutions for the life science industry

- Over 4000 containers in own rental fleet
- A global network of stations for maintenance and repair
- Represented in over 50 countries
- Operations Centers in Frankfurt, Dallas and Singapore
- HQ, R&D, QA and Manufacturing in Sweden
- Founded in 1985
- Privately held



Container types and sizes for all temperature demands

Electrical heating and
compressor cooling

+15 to +25 °C Controlled room temperature

+2 to +8 °C Refrigerated

> -20 °C Frozen

Dry ice cooling



RKN e1



RAP e2



RKN t2


































RAP t2

Damage is a large part of Envirotainer's overall cost

- It is estimated that every container in Envirotainer's fleet will have roughly 7 repairs per year.
- Envirotainer's average repair cost is USD 500.00
- Envirotainer's yearly repair cost is in the neighborhood of USD 14,000,000.00



Our Partners need to manage that cost as well

AIRLINES	FORWARDERS	AFFILIATIONS
              	            	  

Cost optimization for shippers



Total Landed Cost addresses all costs, not only transportation

Before - Packing	RKN e1	Passive	During - Shipment	RKN e1	Passive	After - Reception	RKN e1	Passive
Pre-cooling of products and solution	18	40	Trucking origin	100	210	Unpacking/Unloading	236	525
Packing vs Loading	18	120	Freight cost, fuel & security surcharge	3,488	3,988	Waste disposal vs return logistics	150	525
Energy source	8	0	Special handling needed	0	0	Follow up cost	0	0
Equipment cost and cool packs vs leasing	2,810	1,674	Trucking destination	150	360			
Total packing costs	2,853	1,834	Total shipment costs	3,738	4,558	Total reception costs	386	1,050

Total landed cost per shipment (EUR)

Passive solution 7,442

RKN e1 6,977

Savings per shipment 465

Savings per m3 shipped 422

SOURCE: Interviews; team-analysis

The most influential factor



RKN e1 – 4.8 m³

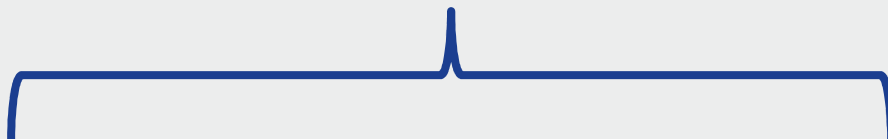


Passive – 7.69m³

The Integrated Solution



Today

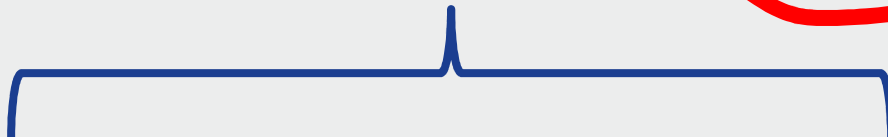
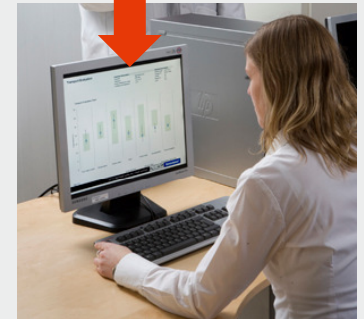
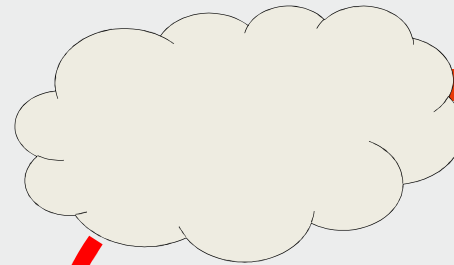


What is SENTRY FlightSafe®

SENTRY is an FAA approved PED presently used by shippers, freight forwarders, integrators, and airlines to track and monitor vulnerable and valuable cargo in transit.



Tomorrow



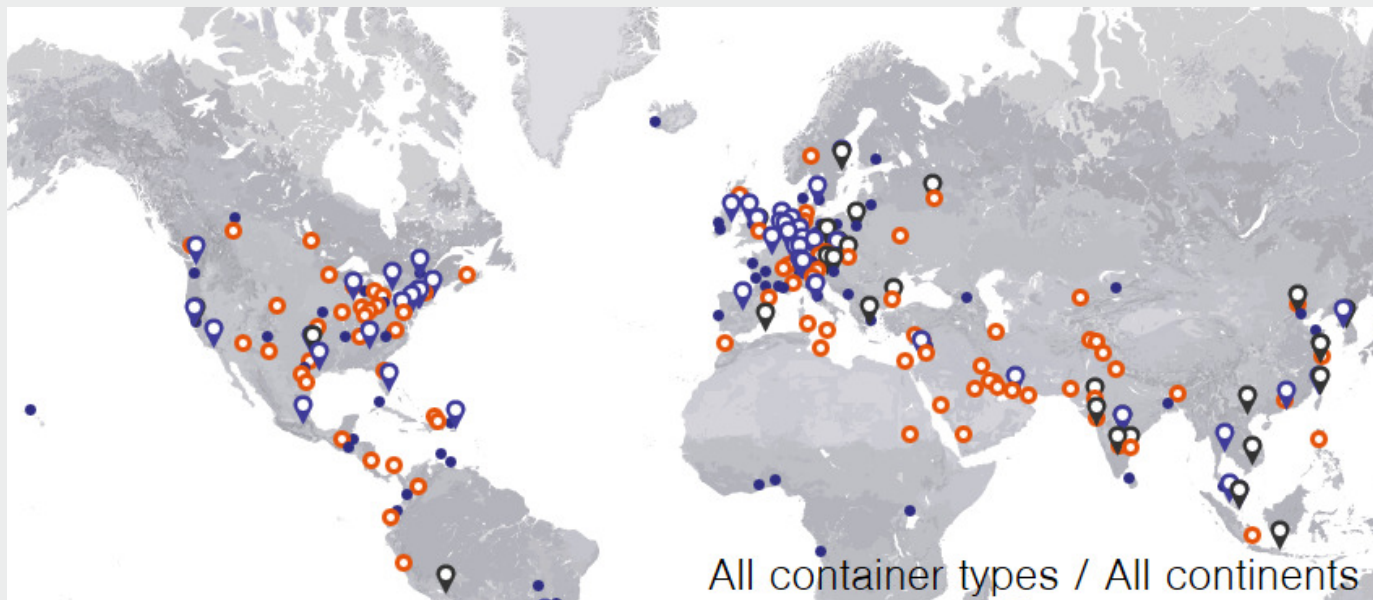
Future – Two initiatives

1. Detachable Telemetry

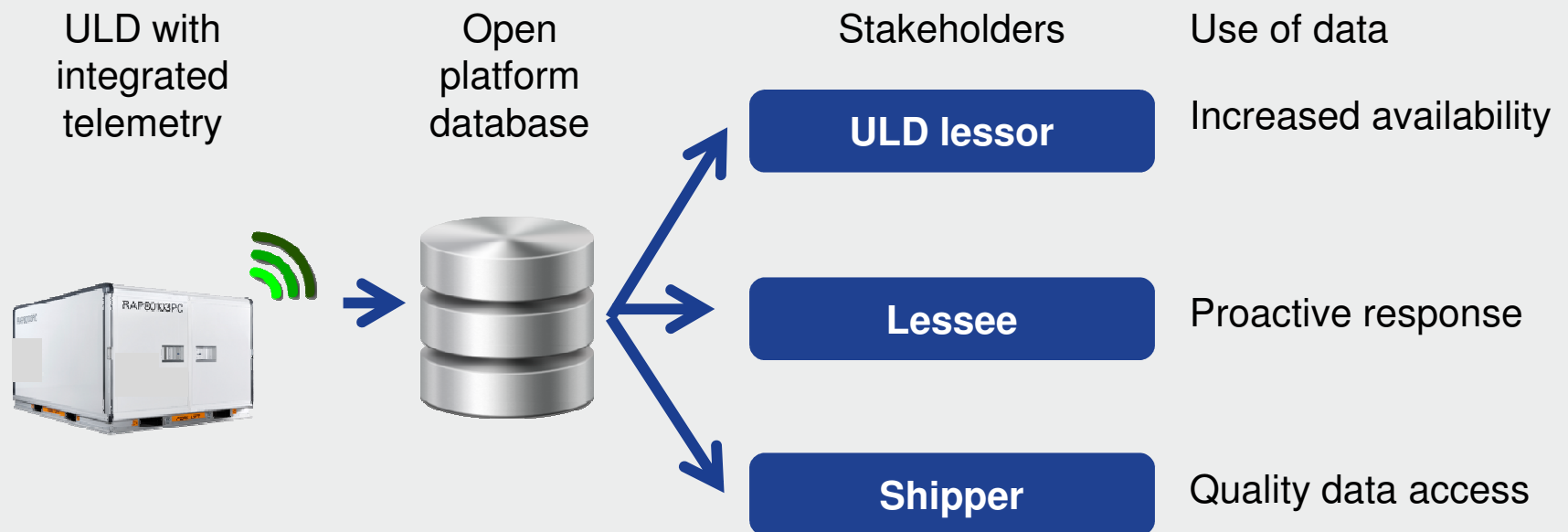
2. Integrated Telemetry



Detachable Telemetry



Data is the future...



Example of external visualization

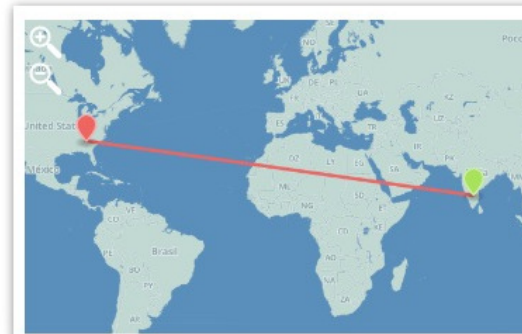
SHIPMENT SUMMARY



Booking start 2013-11-14 12:00
Booking end 2013-11-18 12:38
Container ID RKN61002PC
Trade lane BLR - ATL
AWB
Lessee
Shipper
Forwarder
Airline

Temperature range +2.0°C to +8.0°C
Set temperature +5.0°C

Logging time 94 hours, 20 minutes
Log interval 5 minutes
Logging start 2013-11-14 14:15
Logging end 2013-11-18 12:35



SENSOR EXCURSIONS & TEMPERATURE PEAKS

Sensor	Status	Threshold	Actual	Timestamp	Position
Temperature, high		+8.0	+9.5°C	2013-11-14 12:30	HAL Airport Area, Bangalore, India

Note: The container has experienced temperatures outside the set threshold at 2 occasions of a total of 5 hours and 47 minutes.

Light

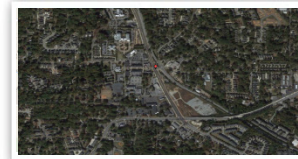
Note: The light sensor has registered light at 6 occasions during the shipment.

Temperature high: +9.5°C



Date & time: 2013-11-14 12:30
Location: HAL Airport Area, Bangalore, India

Temperature low: +5.0°C



Date & time: 2013-11-14 12:40
Location: Smyrna, Georgia 30080, USA

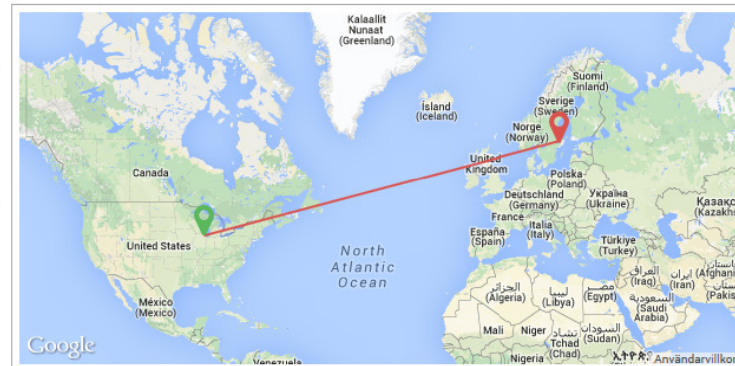
Envirotainer's telemetry portal: Near live container reports available

ACTIVE DATA REPORT

✓ Temperature
EXCURSION

Container RAP21279PC
Trade lane ORD-ARN
AWB
Order
Lessee
Shipper
Forwarder
Airline

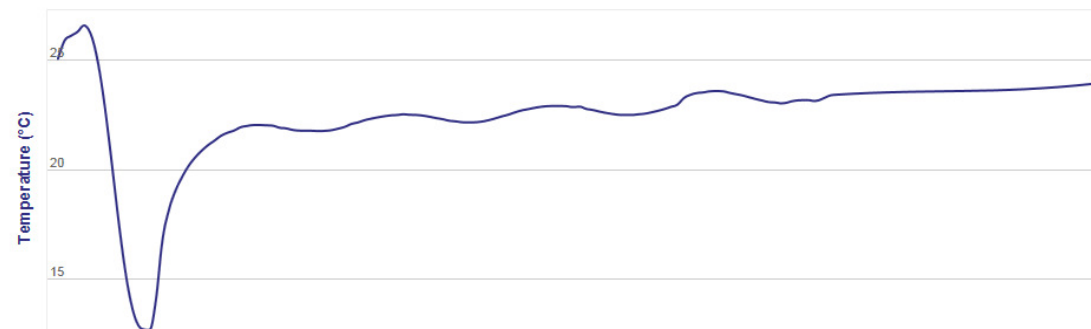
Logging time 160 hours, 0 minutes
Logging start 2014-JUL-21 16:57 UTC
Logging end 2014-JUL-28 08:57 UTC



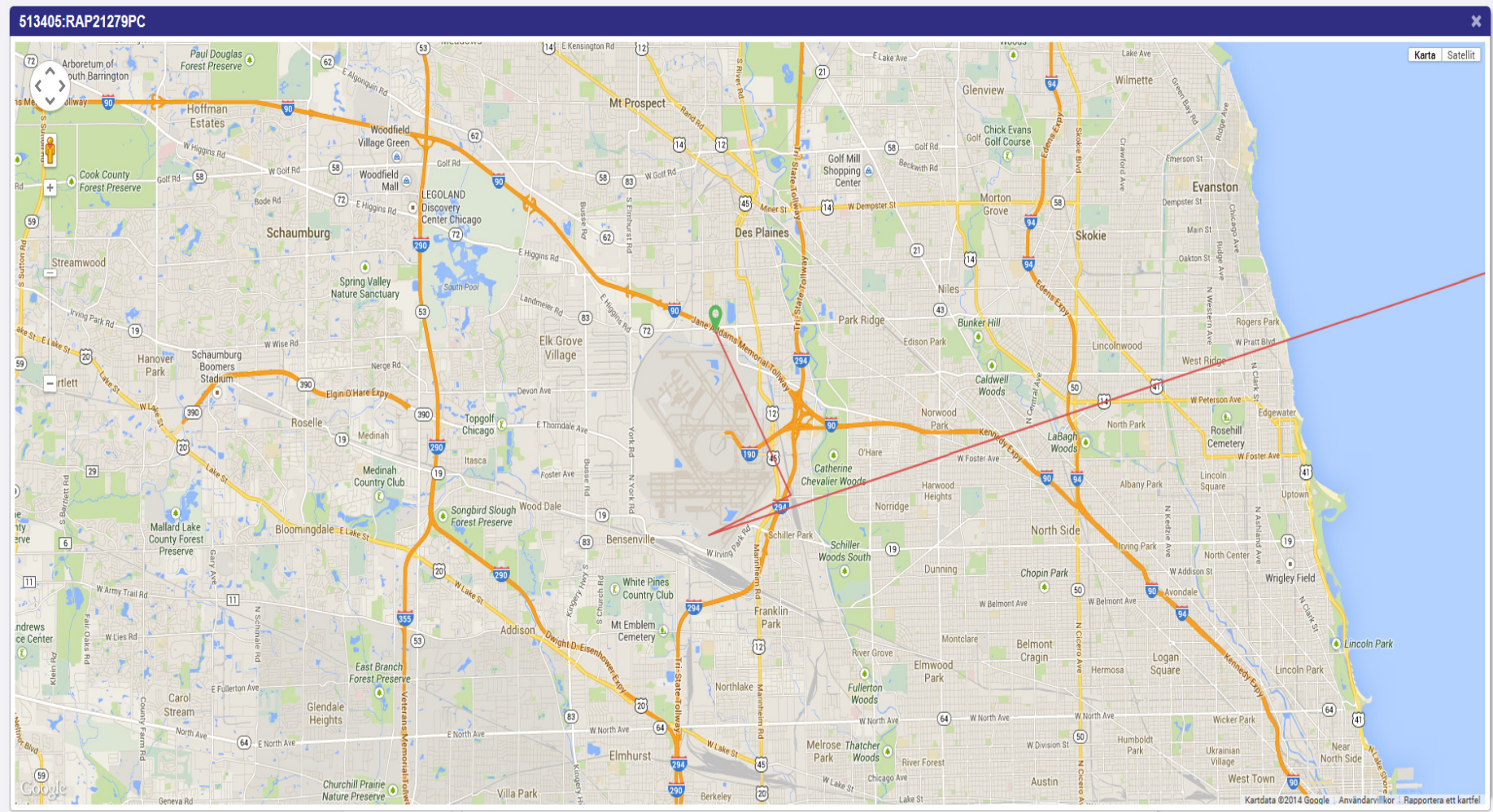
AMBIENT TEMPERATURE ⓘ

Number of values: 110

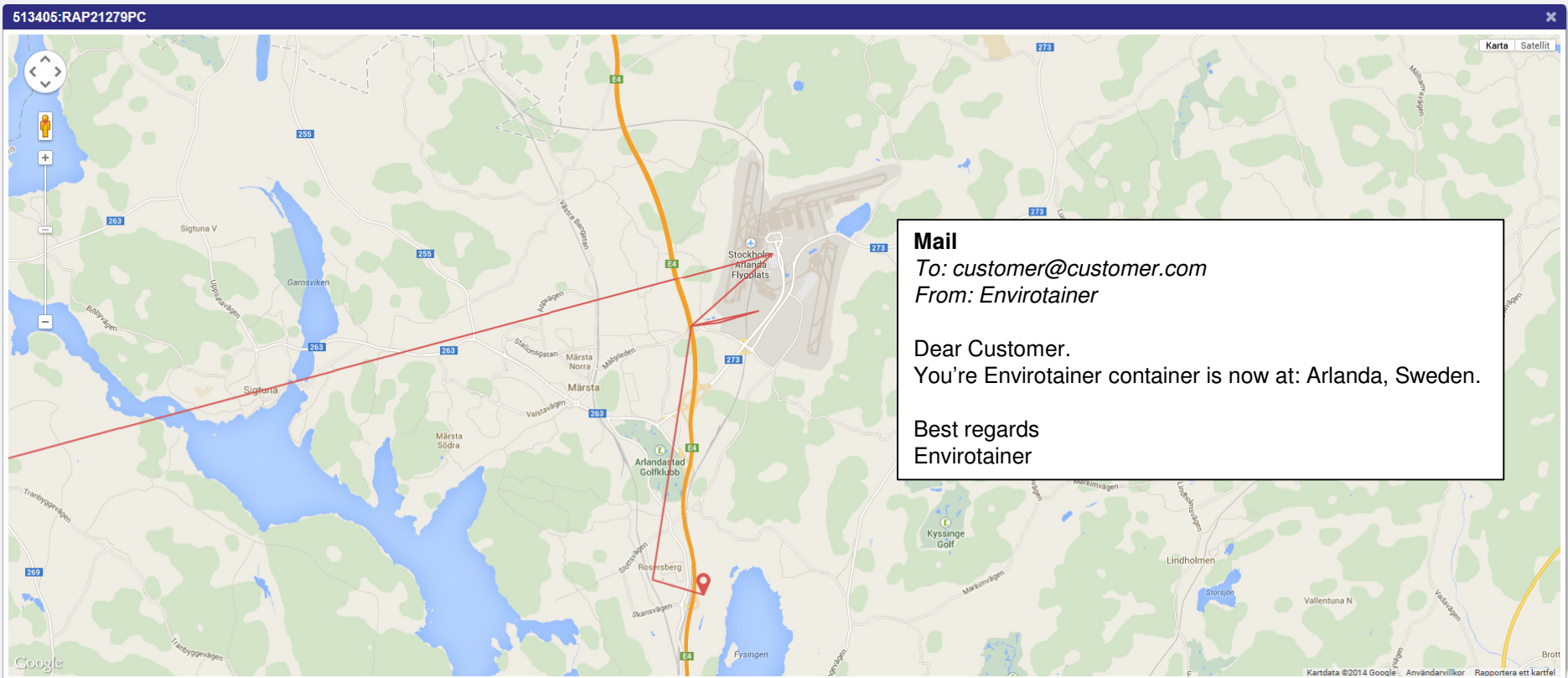
MAX ✓ +26.6°C MIN ✓ +12.7°C EXC. DURATION 00:00 (HH:MM)



Envirotainer's telemetry portal: See where your container has been...



Envirotainer's telemetry portal: ... and be notified upon arrival



Cost savings with integration



Envirotainer Total Cost Reduction

Lease Management

- Better utilization per unit
- Stronger availability from same fleet
- Predictive repositioning reducing repo need/cost
- Reduced time to market/manpower for customer reporting

Ground Handling

- Proactive maintenance scheduling
- Manpower management
- Unit recovery efficiencies

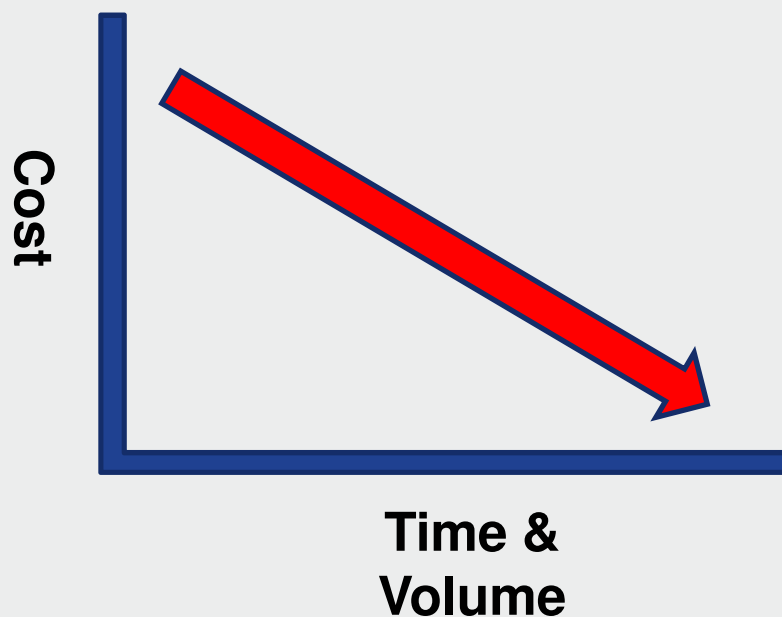
Cost Savings for Shippers

- Pre-alerting for possible temperature excursions
- Significantly reduced product loss/quarantine
- Reduced demurrage due to known locations
- Reduced container loss
- Quicker reporting to regulatory bodies during times of excursion

Cost efficiency and ULD



Is telemetry cost effective?



- Telemetry units have become more cost effective in the past 5 years
- Given # of container owned by airlines
- Simplified model of the Sentry device possible
- Costs for EV fleet is mostly covered by efficiencies gained

It is possible today

Media Release

CHEP

CHEP Aerospace Solutions to begin field trial of energy-harvesting tracking solution for containers

24 June 2014

CHEP Aerospace Solutions, the leading independent provider of outsourced unit load device (ULD) and galley cart services, has announced the start of a field trial of an innovative new energy-harvesting GPS and GSM* tracking solution for ULDs on board the aircraft of its customer airlines.

This latest ground-breaking innovation complements CHEP's full service ULD management and has the potential to simplify and enrich the information flows that track cargo as it moves through the aviation supply chain. Customers will be able to use CHEP's ULDs as a proxy to track the movement of their shipment, while ensuring world-class asset control and damage reduction.

How can Airlines use telemetry?

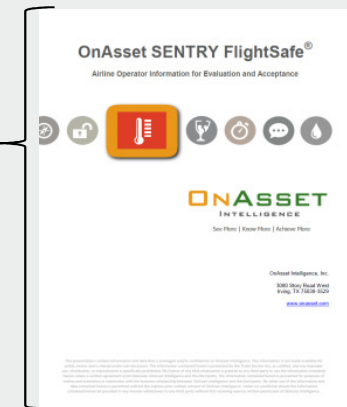
- Close holes in the ULD transfer process
- Increase controls on who has ULDs in their possession
- Reduced forwarder to forwarder ULD transfers
- Reduce number of lost containers
- Better manage billing and collection of demurrage charges

Operational acceptance

Even though SENTRY only transmits data when the container is on the ground, it needs operational acceptance by the airline they fly with.

This is a two step approach:

- Acceptance of SENTRY – supporting data available immediately
- Acceptance of integrated container/SENTRY - supporting data available Oct 2014



Please note that it is the airline that needs to accept the device, not the authorities.

Hidden Costs



Hidden Costs

- Obvious costs include
 - Purchase
 - Direct repair costs
- Hidden Costs
 - Aircraft damage
 - Aircraft delays
 - Accidents and Injuries
 - etc

IATA Ground Damage Database

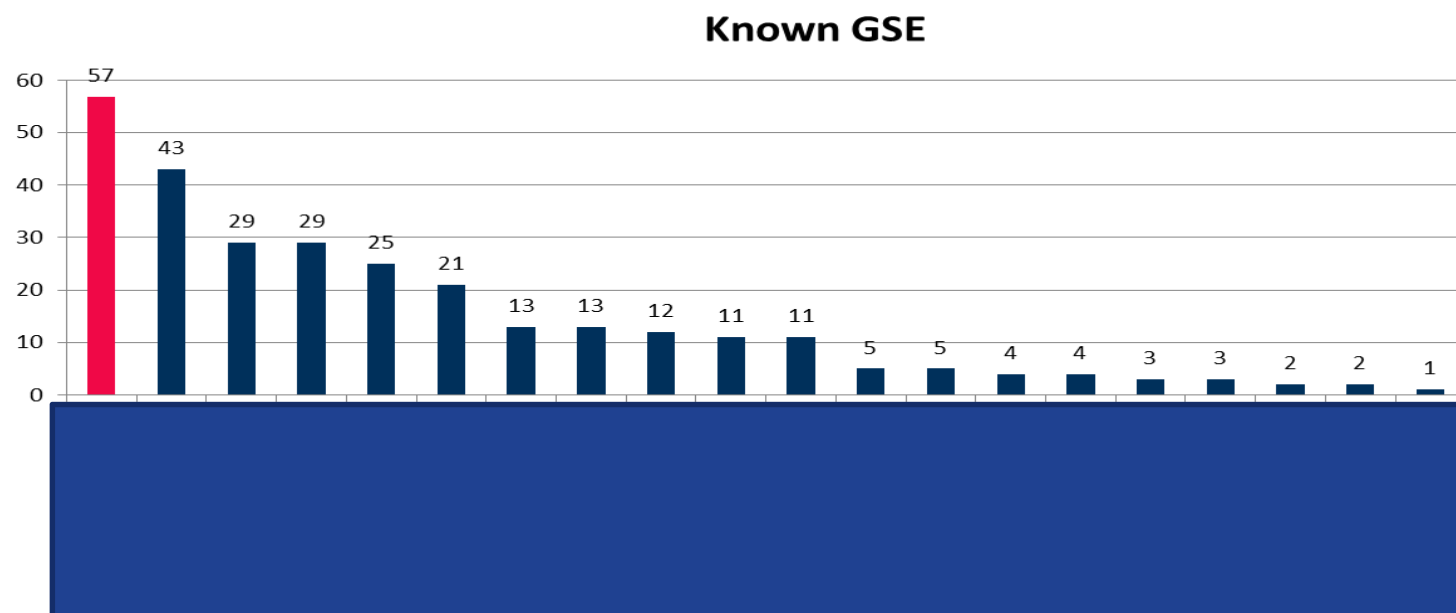
Ground Damage Database (GDDB)

The IATA Ground Damage Database is a key initiative supporting the IATA Global Ground Operations activities.



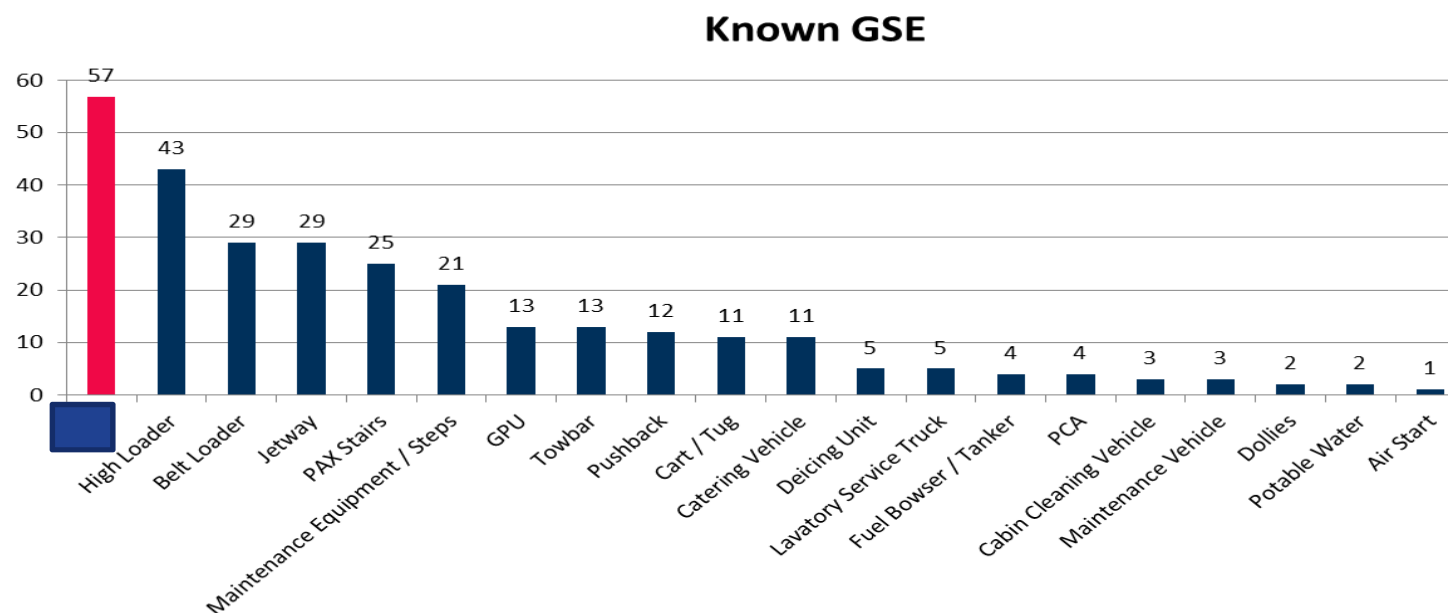
There has been a wide range of reporting practices for ground damage incidents which limit the accuracy and analysis capability to derive meaningful mitigations to solve this important issue. Key stakeholders from the Air Transport Industry collectively identified ground damage data fields that can and should be reported into the GDDB consistently amongst all participants, as well as the parameters for how it is to be reported

IATA Ground Damage Database (GDDDB)



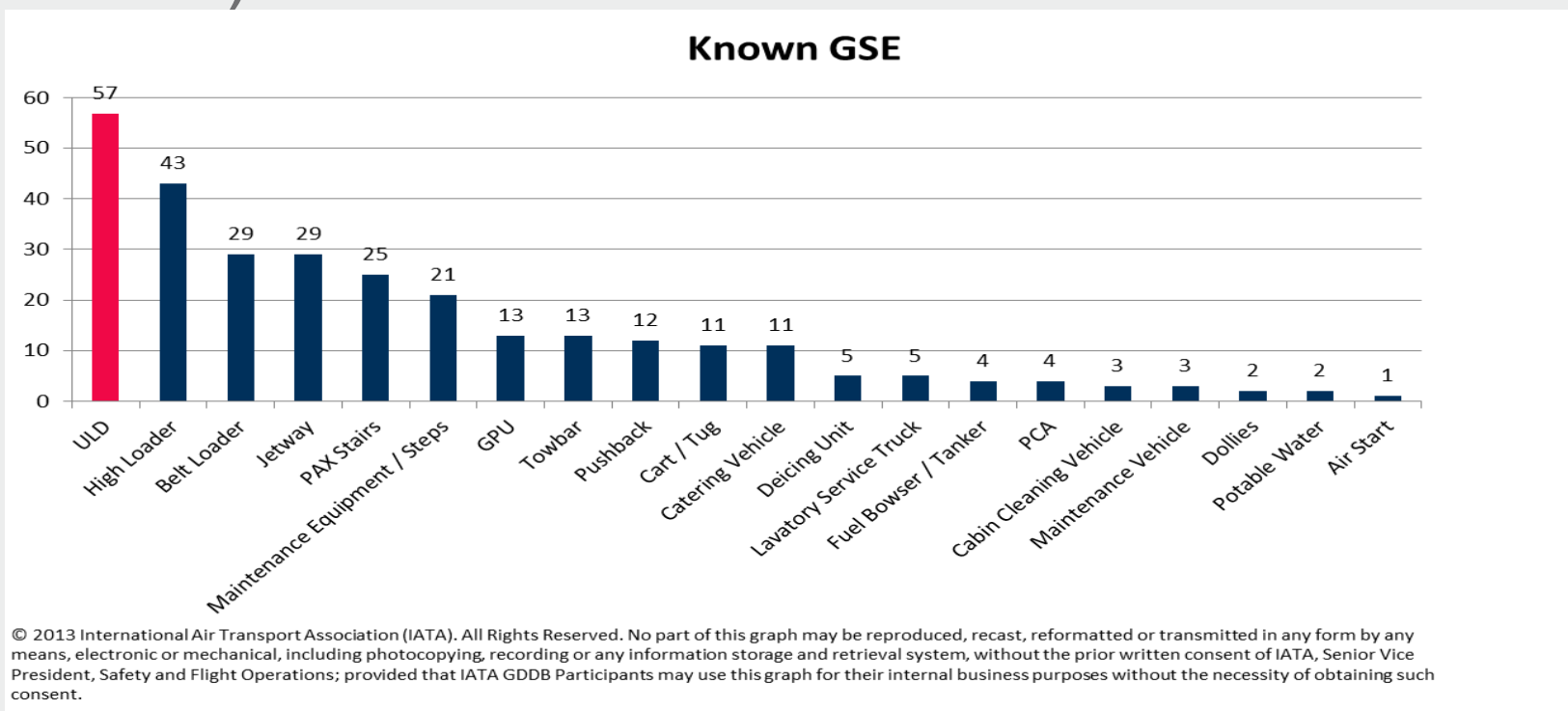
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IATA Ground Damage Database (GDDDB)



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IATA Ground Damage Database (GDDDB)



HAZARD ALERT

Issued 22 Aug 14

ULD serviceability & Loading and Restraint Requirements

Potential Injury and Aircraft Damage from:
ULDs jamming in the aircraft hold requiring excessive manual handling potentially resulting in amputations, lacerations, sprains, strains cuts and bruises. Also can lead to aircraft delays, aircraft damage and off loaded cargo.

Cargo, Nets and fittings must be clear of the ULD base



Damage to the aircraft Guide Rail caused by Cargo Nets jamming



The above unserviceable net is an example of a net that should not have been used due to the net being damaged. As a result the aircraft in hold drive and locking systems can be damaged.
The net must not have any part of it dragging or sitting on any part of the Pallet Track.

Best Practice:

- Ensure any Cargo net is serviceable including all fittings
- When securing the net make sure that there is no slack in the net and the Pallet Track is clear
- If any Metal fittings are required to be replaced ensure the 'old' fitting is removed or restrained to ensure it will not affect the movement of the pallet. (REFER: ICPM Section G & I)

Thank you for
active
listening!

