

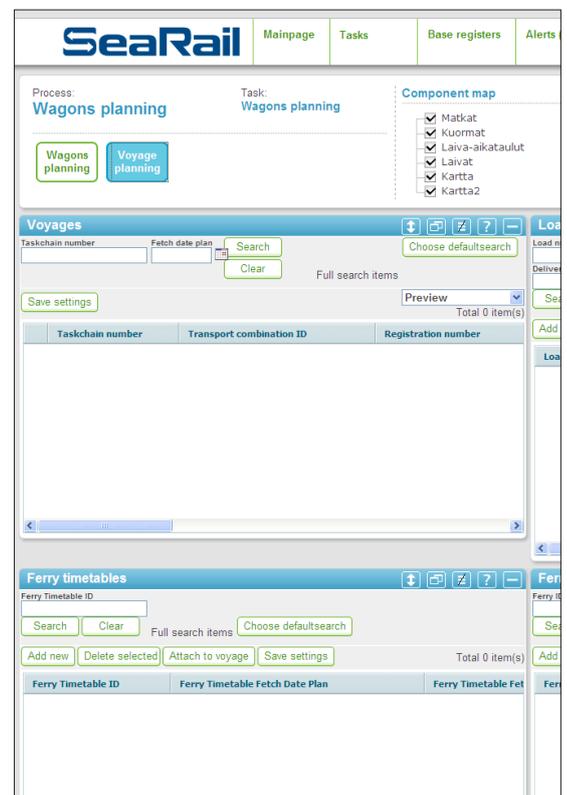
Intelligent Cargo for Logistics Operators



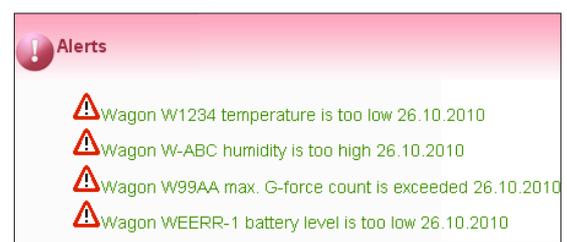
Many of the logistics operators still use manually collected and updated information. Manual input is more prone to errors that can subsequently cause erroneous deliveries to the final customer and/or delays in the shipment status information. Moreover, many of the logistics operators do not have real time information on the transport volume/weight availability of their fleet, nor about the arriving cargo in order to schedule the outbound activities.

EURIDICE offers a set of functions for logistics operators to solve or overcome aforementioned problems:

- ✓ **Truck/wagon status.** The IC informs the logistics operator in real time if the truck/wagon is loaded, unloaded or reserved.
- ✓ **Free space visibility.** The IC updates in real time the company system with the information about the free space inside a truck.
- ✓ **Loading check.** The IC lists the items that are loaded in a truck and compares them with the loading plan. In case of deviations or when the loading is finished, the IC informs the identified actors that can access this information.
- ✓ **Cargo condition monitoring.** While the shipment is inside the truck, the identified conditions (e.g. temperature, humidity, sealing, G-force) are recorded and constantly compared with the allowed threshold values. In case of deviations from a threshold, a notification is sent to the identified actors. The recorded data is always available to the identified users.
- ✓ **ETA. (Estimated Time of Arrival).** The ETA to the destination is updated whenever the new traffic and weather conditions are available, and then sent to the identified actors.
- ✓ **Re-routing.** The IC proposes a rerouting to the truck driver in case of traffic or certain environmental conditions (e.g. strong wind).
- ✓ **Tracking.** At any moment, the logistics operator can access the cargo status in terms of: current position, ETA and shipment details (quantity, types etc).
- ✓ **Triggering outbound asset.** When the cargo reaches an established geographical area, the IC sends a notification to the outbound operators that will receive the cargo.
- ✓ **Delivery confirmation.** At the arrival, the IC compares the unloaded cargo with the order. If everything is in order, a proof of delivery is sent to the logistics operator, otherwise the IC sends the list of the discrepancies to the identified actors.



Voyage planning



Notification in case of condition deviations

How does it work?

The IC allows the logistics operators to efficiently plan and execute the transport. Using the IC, the logistics operators have the information on the fleet availability and on the available transport space/weight on each truck/wagon that already has a mission assigned. This is possible thanks to the use of software agents and RFID technology.

The logistics operator assigns a transport mission to a specific truck and related IC. When the truck is being loaded the IC performs the loading check: the details about the loaded items are listed, and are compared with the loading plan. If the deviations are noticed or when the loading is finished, the identified actors are informed by the IC.

During the travel, there is a possibility for the monitoring of different conditions (e.g. temperature, humidity, sealing). The vehicle needs to be equipped with the appropriate sensors. During transport the identified conditions are recorded and in case of deviations from predefined thresholds, a notification is sent to the identified actors.

The ETA to the destination is updated whenever the new traffic and weather conditions are available, and then sent to the identified actors. It can happen that the traffic and/or weather conditions require re-routing, and in those cases, the IC proposes the new route to the driver. When the cargo reaches a pre-established geographical area, the IC sends a notification to the operators that will receive the cargo.

A tracking service is always available and the authorized user can monitor shipment details such as conditions, quantity and type of items, ETA, etc. At the arrival to the destination, the IC reader compares the unloaded cargo with the order. If everything is in order, a proof of delivery is sent to the logistics operator, otherwise the IC sends the list of the discrepancies to the identified actors.

Cargo loading

Date: 11/15/2010 **Time:** 10:25am
Shipment#: B-88339
Destination: Thessaloniki
Route: Aspropyrgos - Thessaloniki
Customer: K+N

Aspropyrgos

Truck type: IVECO **Plate:** BZ389JH

Code	Name	Exp	Cur
..4234	Generic Item	60	60
..4235	Generic Item	40	40
..8703	Generic Item	40	40

Cargo loading NOT completed

Cargo loading not complete

Cargo Anomaly



Vehicle-ID:
Location:
State:

Filled: 7 Pallets
Available Space: 3 Pallets

70%

Free Freight Space Advertisement

Benefits

The IC allows the logistics operators to plan and execute the deliveries in an efficient way since the reliable information is available in real time. This leads to:

- Increase of the fleet capacity utilization;
- Increase of the truck/wagon loading factor;
- Reduction of the number of travels;
- Decrease of the labour costs for rescheduling and dispatching the outbound activities;
- Decrease of the time needed to select a wagon/truck to execute the delivery;
- Increase of the contractual power of the logistics operators establishing with certainty the responsibility for damages (G-Force)

Moreover, the customer service can be improved through:

- Increase of the correct order fulfilment;
- Diminishing of the customer response time