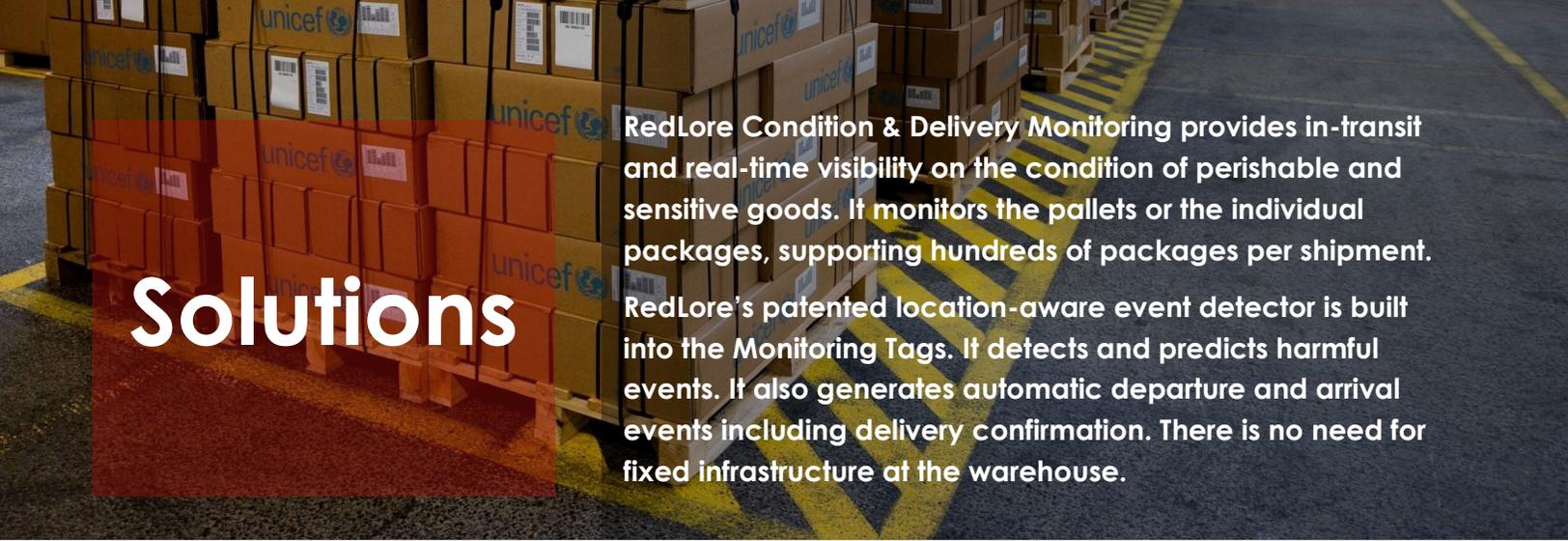


Condition and Delivery Monitoring for Pallets and Packages





Solutions

RedLore Condition & Delivery Monitoring provides in-transit and real-time visibility on the condition of perishable and sensitive goods. It monitors the pallets or the individual packages, supporting hundreds of packages per shipment. RedLore's patented location-aware event detector is built into the Monitoring Tags. It detects and predicts harmful events. It also generates automatic departure and arrival events including delivery confirmation. There is no need for fixed infrastructure at the warehouse.

Features

- One solution for both pallet-level and package-level monitoring
- Continuous and touch-less in-transit monitoring of temperature
- Optional monitoring of humidity, shock, tilt, vibration and tampering
- 'Event Detector' built into the Monitoring Tag uses proprietary AI algorithms for real-time detection and prediction of harmful events
- Cellular communication for real-time ubiquitous connectivity
- Configurable warning and alarm levels
- Automatic departure and arrival detection with delivery confirmation
- Fixed infrastructure in trailer is optional, wire-free and non-intrusive
- No fixed infrastructure required at the warehouses
- Local smartphone interface to pallet and package Monitoring Tags
- Open interface to enterprise systems (RTTV, TMS, WMS, ERP)

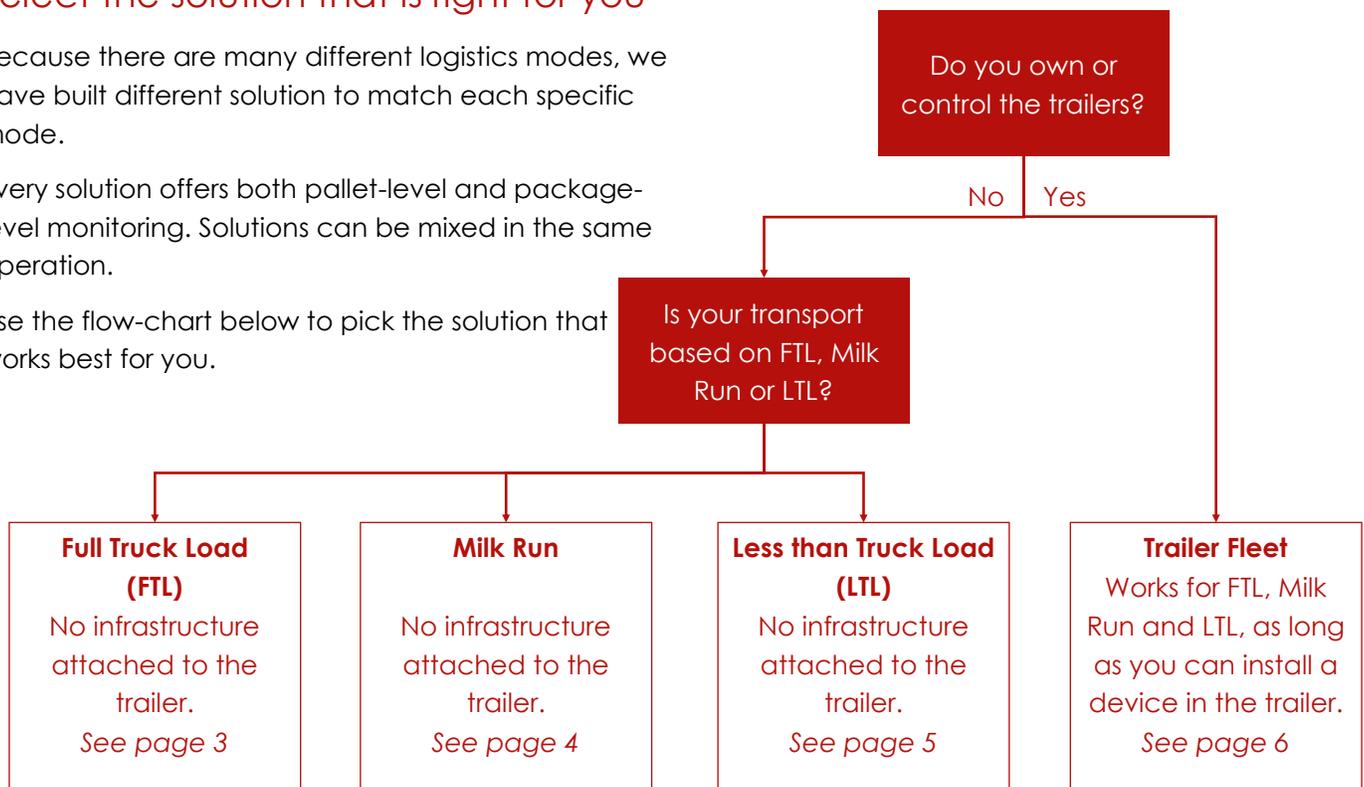


Select the solution that is right for you

Because there are many different logistics modes, we have built different solution to match each specific mode.

Every solution offers both pallet-level and package-level monitoring. Solutions can be mixed in the same operation.

Use the flow-chart below to pick the solution that works best for you.



Full Truck Load

In Full Truck Load (FTL) logistics the trailer loads all the pallets or packages at the outbound location and delivers the full load at one single inbound location.

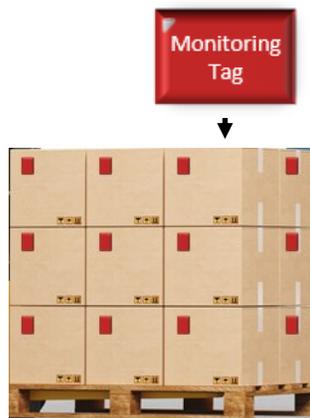
The FTL solution can be used for pallets and/or packages and does not require installing any devices onto the trailer.

How it works

1. The Monitoring Tags are associated with the Bill of Lading and/or with a unique package-identifier by using a smartphone.



2. A Monitoring Tag is attached to (or put inside) every package or pallet.



3. A Mobile Gateway is added to the shipment (only one per trailer).



4. The Event Detector built into the Monitoring Tag registers every Departure Event and uploads it to the RedLore Cloud.



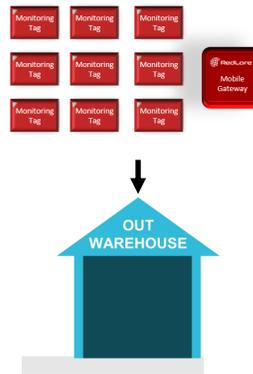
5. Sensor measurements and abnormal events are sent to the RedLore Cloud: temperature excursions, tampering, shock,...



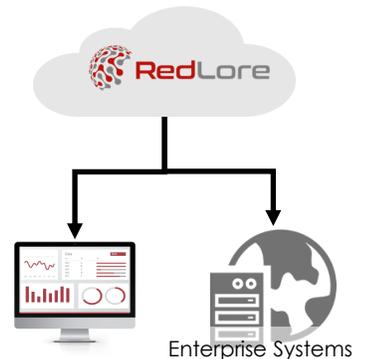
6. Upon arrival a location-aware Delivery Event is detected and uploaded to the RedLore Cloud.



7. The Mobile Gateway and Monitoring Tags are returned to the outbound warehouse.



8. The RedLore Cloud provides real-time insights in historic, current and predicted events, with open interfaces to Enterprise Systems (RTTV, TMS, WMS, ERP).



Milk Run

In a *Outbound Milk Run* goods are loaded onto the trailer at a single outbound location. The truck stops at multiple inbound locations, unloading part of the goods at every stop.

In an *Inbound Milk Run* the goods are picked up at several outbound warehouses and delivered at one inbound warehouse.

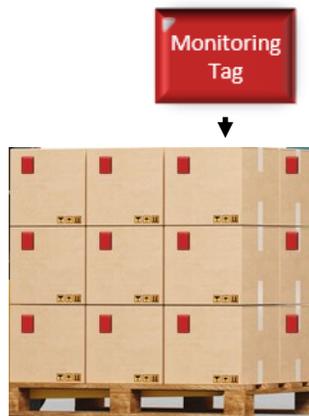
The Milk Run solution can be used for pallets and/or packages and does not require installing any devices onto the trailer.

How it works

1. The Monitoring Tags are associated with a unique package-identifier and/or the Bill of Lading by using a smartphone.



2. A Monitoring Tag is attached to (or put inside) every package or pallet.



3. For an Outbound Milk Run a Mobile Gateway is attached to the last pallet to be unloaded. (only one per truck).

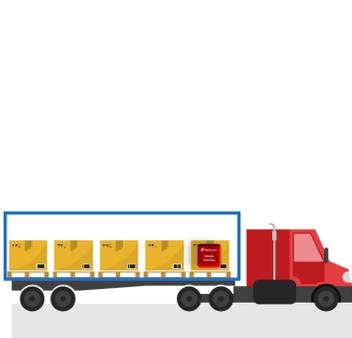
For an Inbound Milk Run a Mobile Gateway is attached to one pallet at the first outbound warehouse.



4. The Event Detector built into the Monitoring Tag registers every Departure Event and uploads it to the RedLore Cloud.



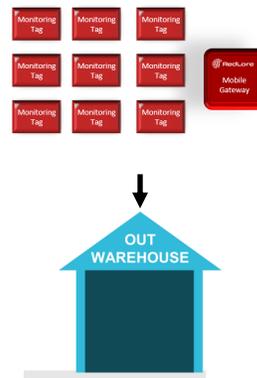
5. Sensor measurements and abnormal events are sent to the RedLore Cloud: temperature excursions, tampering, shock,...



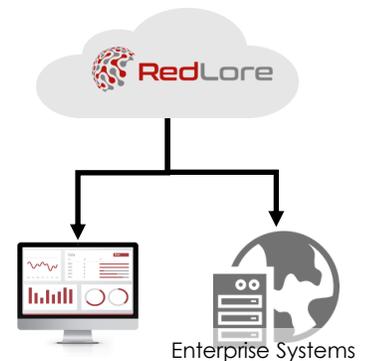
6. Upon arrival at each inbound warehouse a location-aware Delivery Event is detected and uploaded to the RedLore Cloud.



7. The Mobile Gateway and Monitoring Tags are returned to the outbound warehouse.



8. The RedLore Cloud provides real-time insights in historic, current and predicted events, with open interfaces to Enterprise Systems (RTTV,TMS,WMS, ERP).



Less than Truck Load

In Less than Truck Load (LTL) the goods are loaded at one or more outbound warehouses and unloaded at one or more inbound warehouses along the route.

The LTL solution can be used for pallets and/or packages and does not require installing any devices onto the trailer.

How it works

1. The Monitoring Tags are associated with the Bill of Lading and/or with a unique package-identifier by using a smartphone.



2. A Monitoring Tag is attached to (or put inside) every package or pallet.



3. A Mobile Gateway is attached to every pallet.



4. When loading a pallet at any of the outbound warehouses a Departure Event is detected and uploaded to the RedLore Cloud.



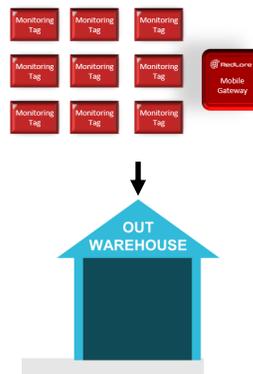
5. Sensor measurements and abnormal events are sent to the RedLore Cloud: temperature excursions, tampering, shock,...



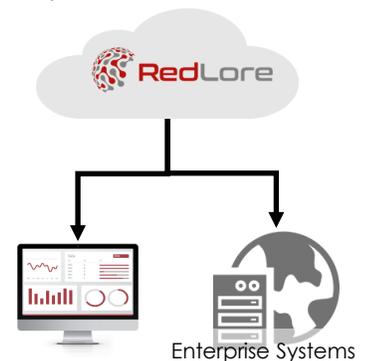
6. Upon arrival at each inbound warehouse a location-aware Delivery Event is detected and uploaded to the RedLore Cloud.



7. The Mobile Gateways and Monitoring Tags are returned to the origin warehouses.



8. The RedLore Cloud provides real-time insights in historic, current and predicted events, with open interfaces to Enterprise Systems (RTTV, TMS, WMS, ERP).



Trailer Fleet

If you own or control the trailers, then the Trailer Fleet solution works for every logistics mode : Full Truck Load, Milk Round, Less than Truck Load.

The Trailer Fleet solution can be used for pallets and/or packages.

How it works

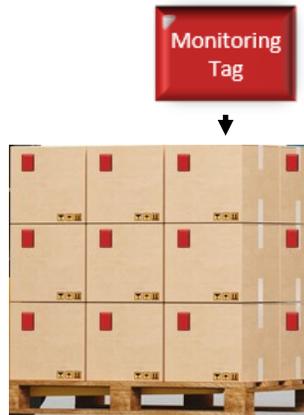
1. A Mobile Gateway is attached to every trailer without wiring or screws. When the batteries run out after more than a year, the Mobile Gateway is replaced in under 60 secs.



2. The Monitoring Tags are associated with the Bill of Lading and/or with a unique package-identifier by using a smartphone.



3. A Monitoring Tag is attached to (or put inside) every package or pallet.



4. When loading a pallet at any of the outbound warehouses a Departure Event is detected and uploaded to the RedLore Cloud.



5. Sensor measurements and abnormal events are sent to the RedLore Cloud: temperature excursions, tampering, shock,...



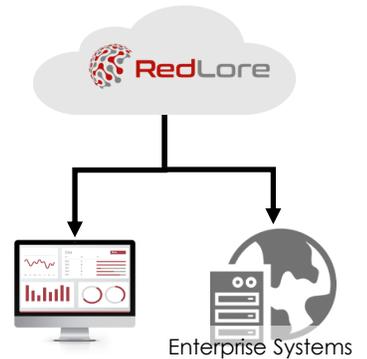
6. Upon arrival a location-aware Delivery Event is detected and uploaded to the RedLore Cloud.



7. The Monitoring Tags are returned to the outbound warehouses.



8. The RedLore Cloud provides real-time insights in historic, current and predicted events, with open interfaces to Enterprise Systems (RTV,TMS,WMS, ERP).





C+R Automations- GmbH

Nürnberger Straße 45
90513 Zirndorf

Tel. +49 (0)911 656587-0
E-Mail: info@crautomation.de
www.crautomation.de