IoT Solutions for Logistics and Warehouses

Pallet Management

- Pallet location within the warehouse and in the yard
- Fall and tilt detection and alerting
- Impact detection and alerting
- Horizontal/vertical orientation detection

Advantages

Know where the pallet is and detect anomalies in real time.

Know when the quality of the goods is compromised and inspect them before they continue their way in the supply chain.

How it works

A battery operated RedLore RL4 sensor device is securely attached to the pallet, typically in an existing cavity. It reports on location, fall, tilt, orientation and impact in real time.

Pallet sensor devices automatically form a mesh network and report their status through a cellular or WIFI gateway. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform. No need for expensive (RFID) readers or wired infrastructure such as access points.

For position information a wireless network of fixed position "anchor devices" are distributed over the warehouse, no need for expensive new cable infrastructure.

When pallets are being transported between sites they connect to a cellular gateway in the truck. If no gateway is installed in the truck, they will record anomalies and offload the data once they have arrived at the destination.

Can be mounted on most pallet types including polymer, wood and aluminum pallets. Well suited for closed or controlled supply chains.

Box Monitoring

- Box fall and tilt detection
- Box opening detection
- Box temperature and humidity monitoring
- Box indoor location tracking

Advantages

Detect unwanted situations as they happen.

Take corrective measures before spoilage occurs.

Inventorize automatically, effortlessly and in real-time and all the time.

Well suited for consigned (customer-located) inventories.

How it works

A battery operated RedLore RL4 sensor device is attached to the inside of the box. It reports on location, temperature, humidity, fall, tilt, orientation and impact in real time.

Box sensor devices automatically form a mesh network and report status to a cellular or WIFI gateway. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform. No need for expensive (RFID) readers or wired infrastructure such as access points.

For position information a wireless network of fixed position "anchor devices" are distributed over the warehouse, no need for expensive new cable infrastructure.

When boxes are being transported between sites they connect to a cellular gateway in the truck, or if no gateway is installed in the truck, they will record anomalies and offload the data once they have arrived at the destination.

Compatible with most box types. Well suited for closed or controlled supply chains with reusable packaging.
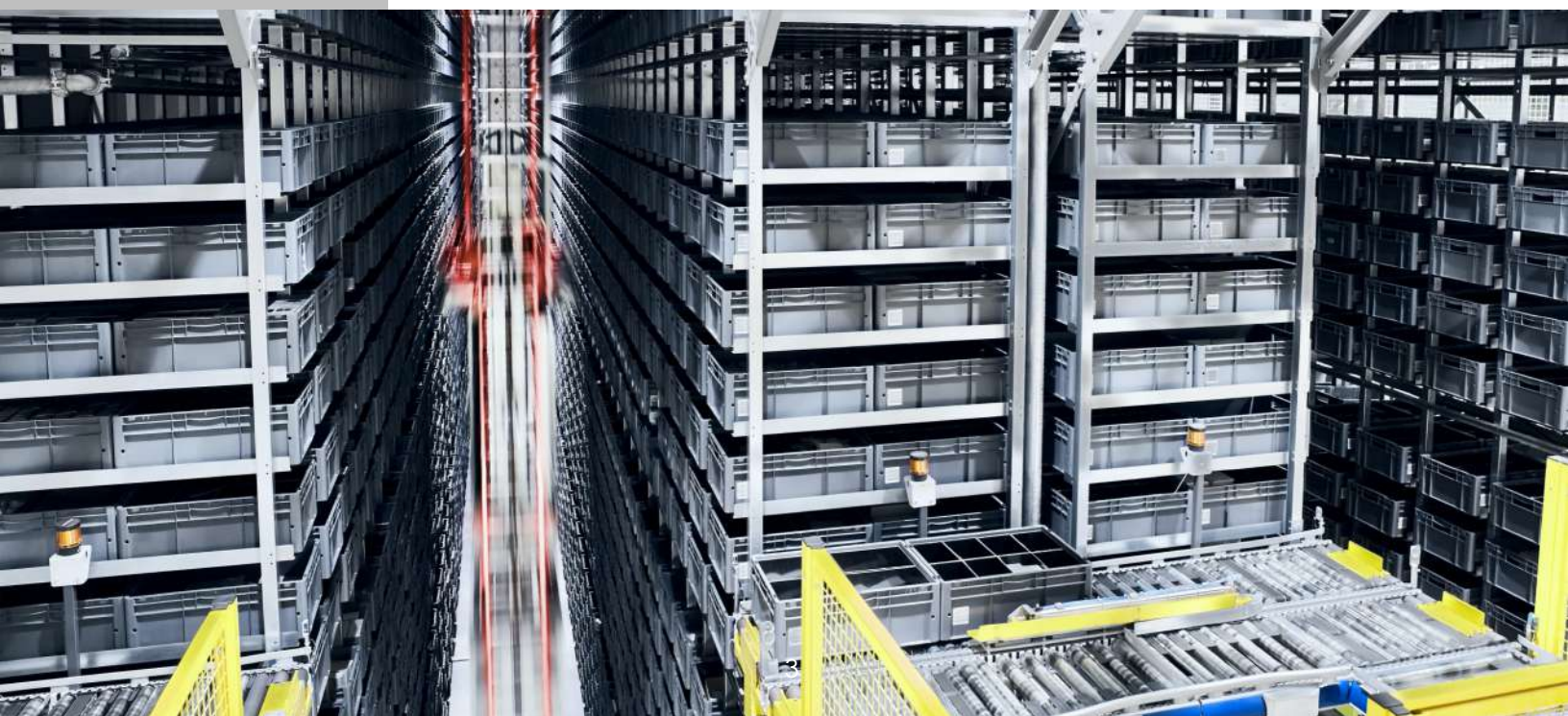
Forklift Truck Monitoring

- Location tracking inside and outside
- Truck travel distance and lift vertical travel and tilt monitoring
- Battery status monitoring
- Collision and impact detection
- Engine temperature and vibration monitoring
- Abrupt acceleration and breaking detection

Advantages

Know the whereabouts and the health of every forklift in real-time and be alerted of unwanted or dangerous forklift situations.

Know when to perform maintenance as the forklift requires it not on a fixed schedule.

How it works

Battery operated RedLore RL4 sensor devices are securely attached critical parts of the truck: lift, battery, engine, … They report in real-time on the status and alert about anomalies when and where they happen. In addition, the location of trucks is visualized in real-time.

Sensor devices automatically form a mesh network and report status to a cellular or WIFI gateway. For position information a wireless network of fixed position "anchor devices" are distributed over the warehouse, no need for expensive new cable infrastructure. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform. No need for expensive (RFID) readers or wired infrastructure such as access points.

Rack and Guardrail Impact Detection

- Impact detection and alerting
- Automatic logging and reporting

Advantages

Be alerted when the rack or guardrail integrity has been compromised , e.g. from the impact of a forklift truck.

Know when and where it happens. Receive automatic logs and reports.

How it works

Every rack received 1 or 2 battery operated sensor devices. A guardrail received a device every 16 to 24ft (5 to 7.5 meters).

The devices will report in real-time when and where an impact has happened as well as the severity of the impact.

Sensor devices automatically form a mesh network and report status to a cellular or WIFI gateway. No need for expensive new cable infrastructure. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform.
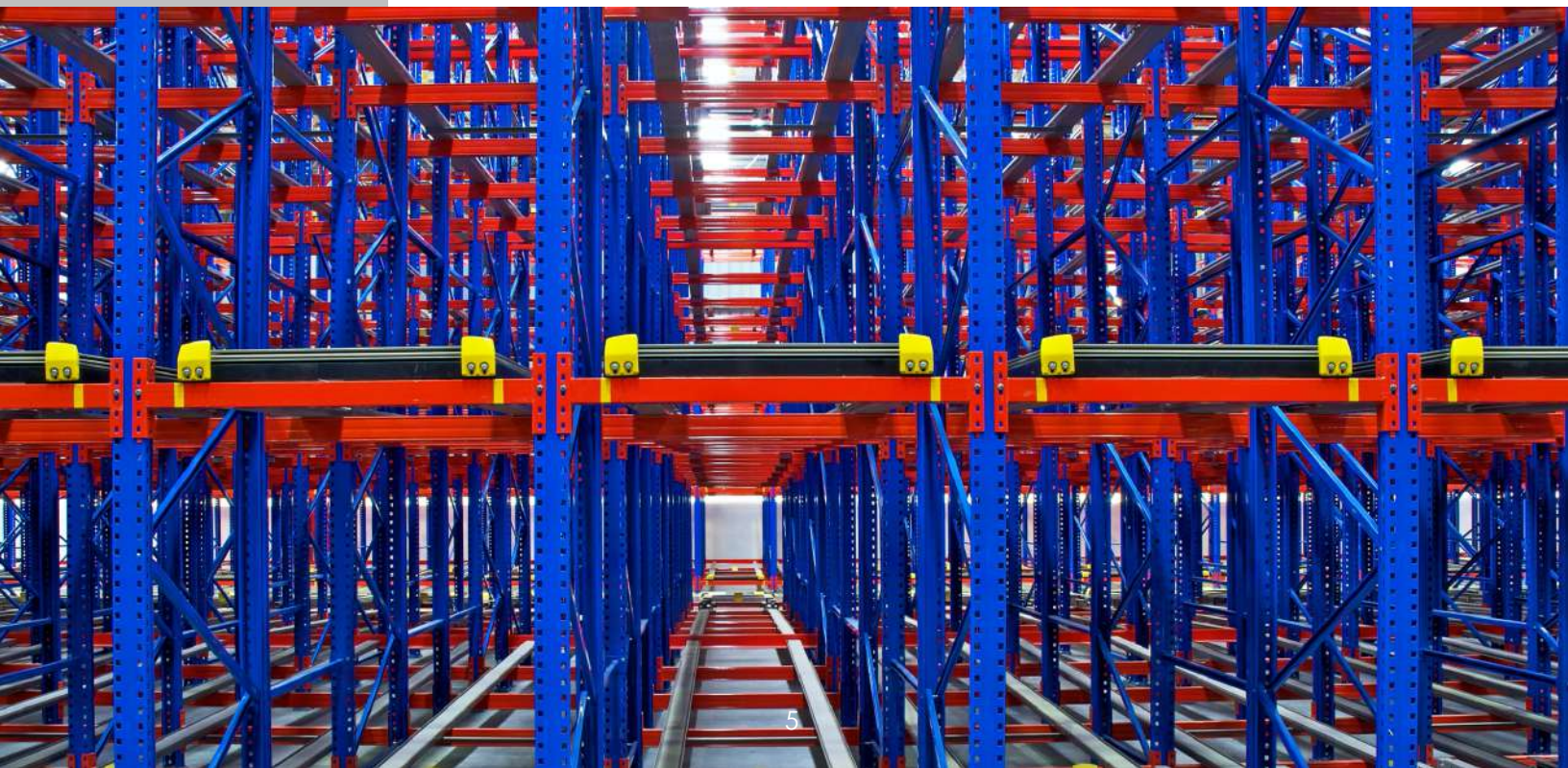
Cold Chain Monitoring

- For transport and storage of agricultural produce, seafood, frozen food, photographic film, chemicals and pharmaceutical drugs
- Temperature and humidity monitoring and alerting
- Trend forecasting and early warning alerts
- Box fall, tilt and impact detection
- Box opening detection
- Box indoor location tracking
- Inventory and compliance reporting

Advantages

Real-time alerting of temperature and humidity as well as trend forecasting allows for early detection of a spoilage risk and preventive action. It safeguards both the integrity of the goods and the public safety.

Additionally, the fall, tilt, impact and box opening detection provides an additional level of quality assurance. Location tracking allows for quick and easy retrieval.

Even during transport and layover the monitoring will carry on uninterruptedly. Compliance reporting has become automatic as logs are automatically generated.additional level of quality assurance. Location tracking allows for quick and easy retrieval.

Even during transport and layover the monitoring will carry on uninterruptedly. Compliance reporting has become automatic as logs are automatically generated.

How it works

A battery operated RedLore RL4 sensor device is attached to the inside of the box or storage container. It reports on location, temperature, humidity, fall, tilt, orientation and impact in real time.

Box sensor devices automatically form a mesh network and report status to a cellular or WIFI gateway. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform. No need for expensive (RFID) readers or wired infrastructure such as access points.

For position information a wireless network of fixed position "anchor devices" are distributed over the warehouse, no need for expensive new cable infrastructure.

When goods are being transported between sites they connect to a cellular gateway in the truck, or if no gateway is installed in the truck, they will record anomalies and offload the data once they have arrived at the destination.

Compatible with most box types. Well suited for closed or controlled supply chains with reusable packaging.

Cold Storage Monitoring

- For agricultural produce, seafood, frozen food, photographic film, chemicals, and pharmaceutical drugs
- Temperature and humidity monitoring of fridges and freezers
- Trend forecasting and early warning alerts
- Door open/close monitoring
- Light exposure monitoring for light-sensitive goods

Advantages

Know in real-time when and where goods are at risk of perishing.

Know when and where doors have not been closed to avoid excess energy consumption and frost build-up.

Compliance reporting has become automatic as logs are automatically generated.

How it works

A battery operated RedLore RL4 sensor device is attached to the inside of the fridge or freezer. It reports on temperature, humidity and door status in real time. The built-in analytics "learn" when a door is closed or open, even when the fridge is not on a perfectly level ground.

Sensor devices automatically form a mesh network and report status to a cellular or WIFI gateway. The data is transmitted to your existing WMS or to the RedLore RedBoard dashboard platform. No need for expensive (RFID) readers or wired infrastructure such as access points.

Compatible with most freezers and fridges.

RedLore