

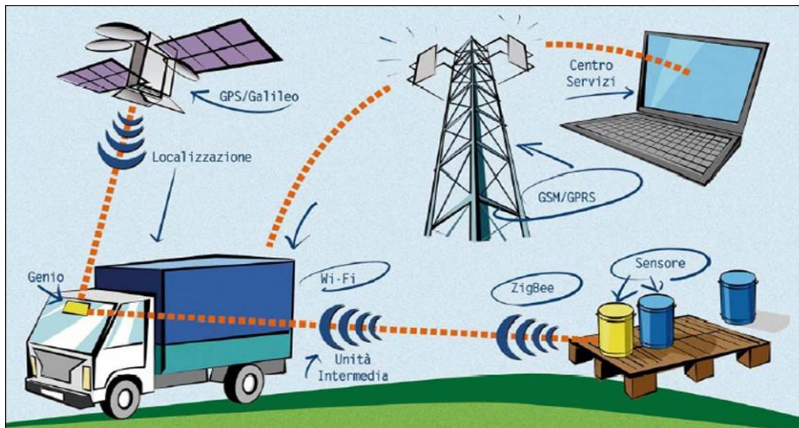
E-SEALS & READERS

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PROTECTION – CONTROL - IDENTIFICATION – TRACKING

RFID: the path towards higher security and efficiency in the logistics supply chain

International transport of goods requires :



- Greater **security**



- Greater **efficiency**
= **saving**



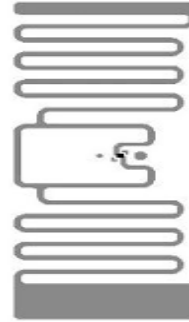
- Prevention of **theft or unauthorized manipulation of goods** that were sent in traditional boxes (bags, pallet, container)
- Prevention of **fraudulent contamination** of properly declared and transported goods.
- Fight against **criminal and terrorist activities.**
- Fight against **illegal immigration.**
- **Control of nature and origin of the goods** to safeguard the international security especially for all those countries involved in a particular logistic flow at risk (drug-trafficking countries and/or counterfeit goods).



- **Decrease of shipment times**, in particular the time of storage and custom clearance.
- **Decrease of shipping costs**, thanks to the optimisation of different operations of those involved.
- **Minimisation of human errors**

Why choosing RFID seals?

It's time to COMBINE:



The higher mechanical security of ISO17712:2013 seals

with a greater security (uniqueness and the non electronic cloning activity) for the storage and automatic data communication purpose of the seal, which works with an IT systems that collects and manages the information in real time.



Container seals with RFID technology.

In particular, our bolt seal «NEPTUNESEAL»

Two versions :

- Rfid logistic Neptune seal
- Rfid tamper evidence Neptune seal



The RFID ensures **security**, thanks to its unique ID code which cannot be cloned.

The RFID ensures **efficiency**, thanks to its quick and reliable way to give basics identification information (e.g. ISO ID of the container- alphanumeric 11 digit) as well as additional information (vehicle registration, transporter code, origin, destination, etc.)



RFID UHF NEPTUNE SEAL

Available versions:

- **LOGISTIC (only ID)**
- **TAMPER EVIDENCE**
- RFID UHF passive. Yes/no tamper indication (in the Tamper Evidence version)
- **ISO17712:2013 approved**
- Patent filed with UIBM (Italy)



RFID UHF CABLE SEAL

Available versions:

- **LOGISTIC (only ID)**
- **TAMPER EVIDENCE**
- RFID UHF passive. Yes/no tamper indication (in the Tamper Evidence version)
- Patent filed with UIBM (Italy)



RFID TITAN SEAL

Adjustable polypropylene plastic strap seal, with unique ID code of RFID label, available only in **logistic version HF/NFC and UHF**.

Possible uses:

For sealing tanker valves during food or chemical transport, etc.

It is reread through automatic reader gates installed in departures and arrivals point.



RFID ANCHORFLAG

Plastic seal with RFID inlay embedded.

Available only in logistic version, in HF/NFC and UHF.

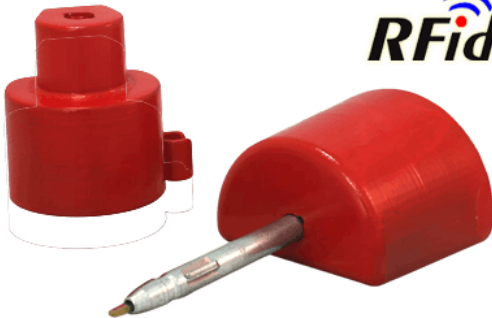
RFID UHF CABLE SEAL *Three-states*

The **TAMPER EVIDENCE** with difference between **3 states**:

- Opened seal
- Correctly closed seal
- Tampered seal
- RFID UHF passive
- Patent filed with UIBM (International patent)
- **NEW GLOBAL INNOVATION**



RFID active seal MENTOR SEAL



- Available versions: **TAMPER EVIDENCE**
- **Active RFID** 433 MHz/2.45 GHz
- Thanks to the active technology RFID, the communication covers **relevant distances (more than 15 metres)**.
- **Opening, closing and tampering event registration**
- Assures **univocal coupling between seal head and bolt**.
- Battery-powered (non rechargeable)
- It can interface with external tracking devices to know its position and status.

HOW CAN RFID SEALS BE AUTOMATICALLY READ



Fixed readers

Mobile readers



Handheld readers

RFID JANUS GATE designed and carried out by LeghornGroup



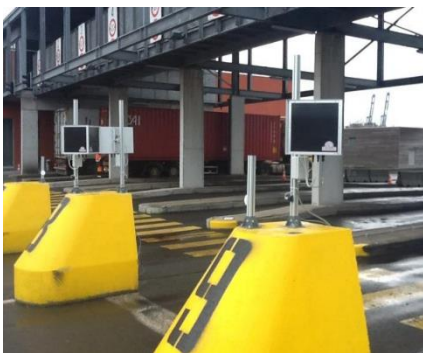
RFID can be read with the **antenna** and the **intelligent electronic units (RFID readers)** which as a whole, they represent the **RFID GATE**.

Each lane whose entry/exit has to be automated in ports, interports, terminal areas, etc, **must have its RFID GATE**.

HW/SW integrated system that offers to the user an “all-in-one” solution for – **automatically- monitoring and managing the movements and the status of RFID seals applied to containers.**

It automatically reads **the ID seal code** when the vehicle (lorry, trailer, container) pass through the gate.

It automatically supplies **the obviousness of the tamper status** by the transit of the vehicle.



The system works according to the **technical global standard** (ISO, EPC) and is compliant with the international rules (CE and FCC certification)

LEGHORN has introduced in this system an operating algorithm which allows to **DIFFERENTIATE the different seals reading based on the passing of containers in different lanes.**

The system is **self-configured according to the environmental operating conditions.**

The system can **continually work 24/7 and without fault.**

Trolley SMART KART (our production)



Self-standing and moving-on wheels trolley.

It offers **UHF RFID read/write** solutions for:

- Fast and efficient **inventory operations on-the-go**
- **Outdoor logistics operations**, whenever it is not possible nor convenient to set fixed reading equipment (e.g. loading/unloading at harbour docks)
- Designed to **work in harsh environment (industrial and outdoor)**
- Wheels and handle for **easy and light move across different areas**

Other RFID readers

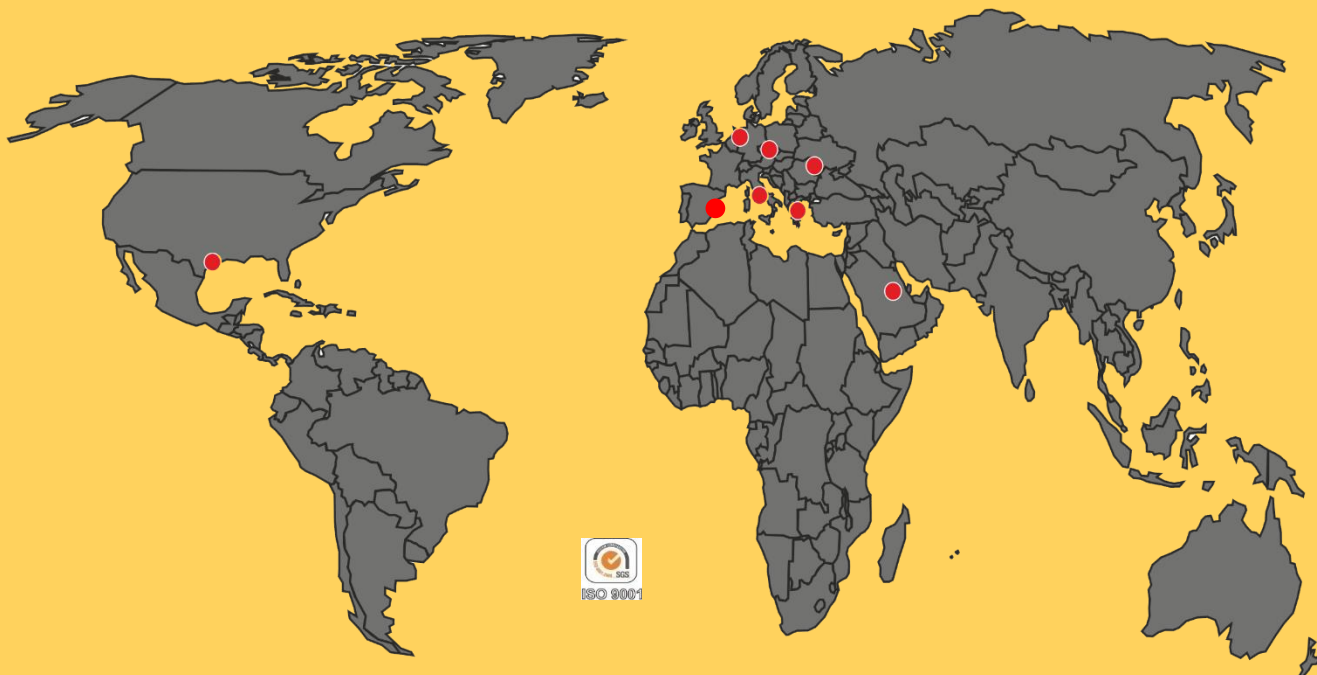


Why the main transport operators should use RFID seals?

- They improve and **automate their operations**.
- They can have more efficient, secure and reliable **cargo handling control systems** with low investments :
- Vehicles that transport containers and equipped with RFID seals don't have to stop at security gates (ex. Custom) for a cargo physical inspection but, thanks to the specific lanes, they can **speed-up operations**.
- **"Customs corridors"** can arise with advanced customs clearance into the sea or postponed to destination, facilitating the transport society, the Client and optimising the delivery time.
- **Complains**, due to errors of the transit of the cargo detection, **are minimising** (codes aren't manually checked)
- **Costs of labour** are reduced
- All those involved in the transport logistic supply chain can easily have access to this solutions integrated **without barriers to entry, or rather at low costs**.
- An **added value is generated for all those involved** (from the Client, final beneficiary of goods, to Customs)

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Protection - Control - Identification - Tracking

Since 1978

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