

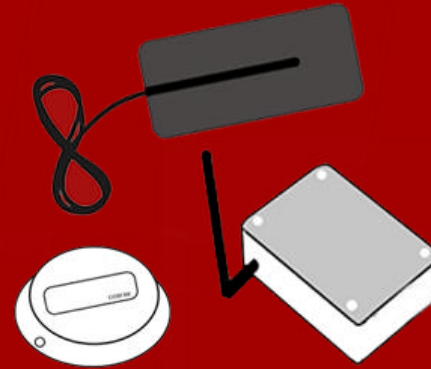
ELA



Industrial Wireless Sensors



APPLICATION CASES



PRODUCTS



REFERENCES



ELA Innovation

The IIoT offer



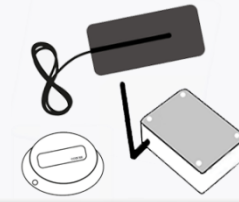
Identify



Locate



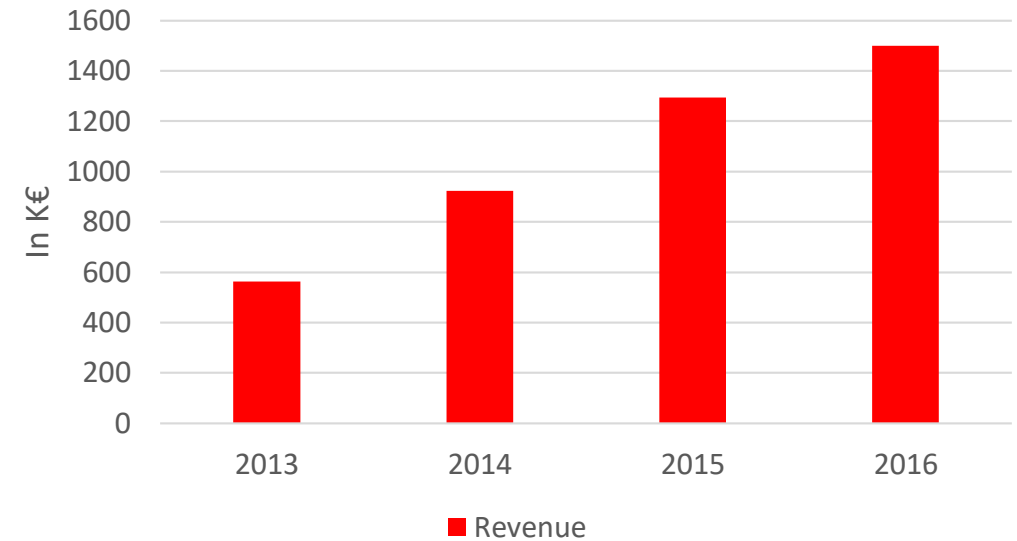
Measure

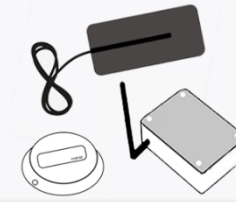


At a glance

- 👁️ **17**-year experience in Active RFID technology
- 👁️ **19** team members
- 👁️ **300.000** industrial connected objects deployed over the world
- 👁️ Global revenue **tripled** in **3** years
- 👁️ **200%** growth for Export sales in 2016
- 👁️ Distribution network over **13** countries
- 👁️ **2M€** funds raising planned in 2017

ELA Financial Results

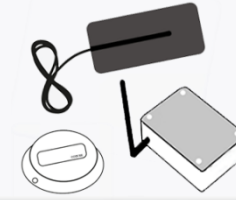




Key Dates

- 🕒 2000: creation of the company
- 🕒 2004: introduction of **anti-theft system** for handling equipment for logistic platform
- 🕒 2005: introduction of PTI – **Man Down unit with indoor localization** and alarm transmission to central PC
- 🕒 2009: introduction of the **automatic counting system for workers** in a tunnel construction area
- 🕒 2010: introduction of **automatic detection system for pedestrians**, around construction equipments
- 🕒 2013: Export sales development – **Implementation of Distribution Network**
- 🕒 2014: new **ELA Innovation's building** in Montpellier
- 🕒 2015: **BFM RMC Awards** in the “Innovation” category





2016 International Events



CES 2016 – January 2016 – Las Vegas (US)



AUTO-ID – March 2016 – Amsterdam (NL)



SITL 2016 – March 2016 – Paris (FR)



SIDO 2016 – April 2016 – Lyon (FR)



- **RFID Journal LIVE!** – May 2016 – Orlando (US)



- **SPS IPC Drive** – May 2016 – Parma (IT)



- **Intelligent Building Systems** – November 2016 – Paris (FR)



- **SPS IPC Drive** – November 2016 – Nürnberg (GE)

2017 International Events



MWC – February 2017 – Barcelona (SP)



AUTO-ID – March 2017 – Amsterdam (NL)



M2M RTS – March 2017 – Paris (FR)



Embedded World – March 2017 – Nürnberg (GE)



SIDO 2017 – April 2017 – Lyon (FR)



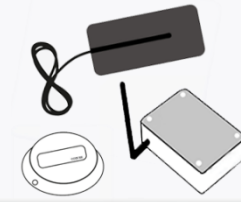
TRANSPORT & LOGISTICS – May 2017 – Munich (GE)



MWC – September 2017 – San Francisco (US)



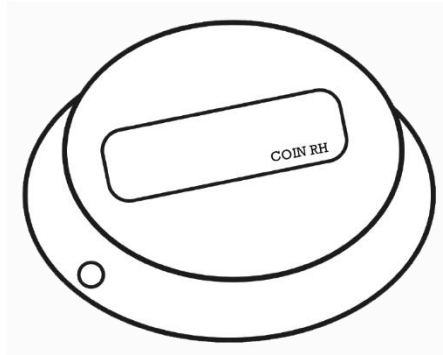
Intelligent Building Systems – November 2017 – Paris (FR)



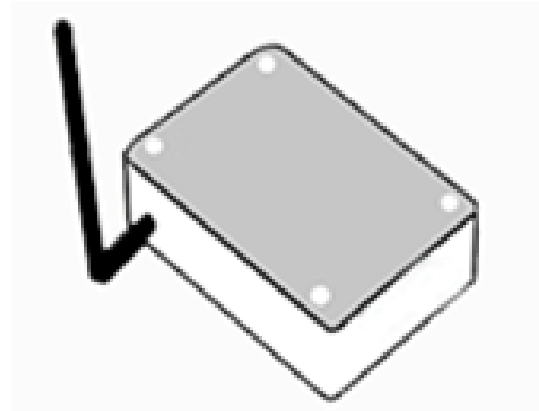
The Key points of ELA Products

- 👁️ **A wide range** of active tags, readers, softwares and antennas
- 👁️ **In-House Design** of tag's Radio Transmission core
- 👁️ Ultra Low Power Management (ULPW) providing significant Tag's autonomy : **up to 10 years!**
- 👁️ **Long RF range** (an average 100m)
- 👁️ **“Green” Focus**: Very Low Electromagnetic Emissions, eco-design, ...
- 👁️ Integrated **Environmental Sensors** (temperature, RH, motion, magnetic, ...)

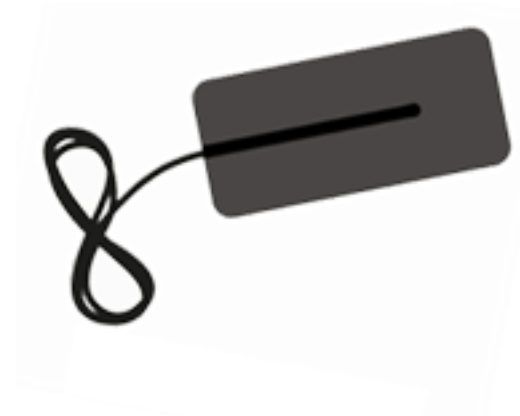
PRODUCTS



Active TAG

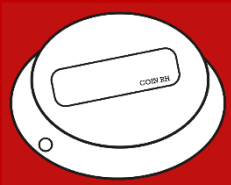


Readers

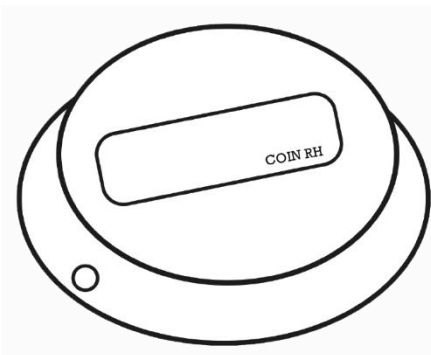
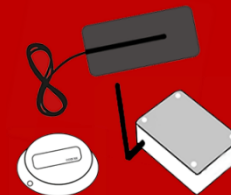


Antennas

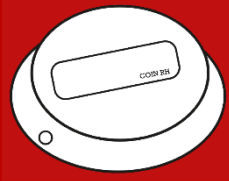
Wireless Sensors



PRODUCTS



Active TAG



ACTIVE TAG



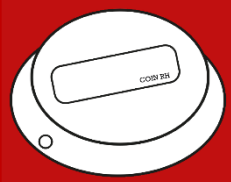
COIN ID

- 👁️ Compact (Ø36mm), robust, IP68 waterproof
- 👁️ 2 to 10 years, 80m range, -30°C to +70°C
- 👁️ FCC & IC certified
- 👁️ EC mark
- 👁️ Options: COIN ID OEM

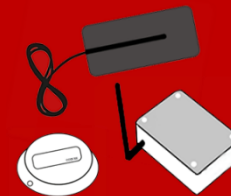
PUCK ID

- 👁️ The most powerful & waterproof TAG
- 👁️ Compact (Ø56mm), robust, IP68 waterproof
- 👁️ 5 to 10 years, 150m range, -40°C to +85°C
- 👁️ FCC & ICC certification coming soon
- 👁️ EC mark





ACTIVE TAG



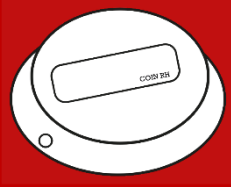
SLIM ID

- Very low thickness (2.4mm), auto-protection
- 1 to 7 years, 60m range
- EC mark

THINLINE IR

- Small form factor (54×33×5mm)
- 2 to 10 years, 80m range
- EC mark





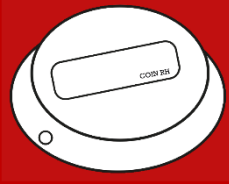
ACTIVE TAG



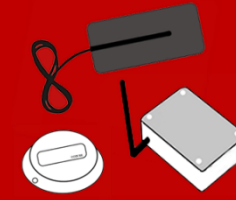
WATCH ID

- ⌚ Watch casing
- ⌚ Up to 10 years lifecycle
- ⌚ Up to 80m range
- ⌚ IP68 Nylon housing
- ⌚ Blue and White versions
- ⌚ EC mark





ACTIVE TAG



TAG DOT

- 👁️ Pedestrian detection around forklifts
- 👁️ 1 year, Range indoor/outdoor: up to 7m
- 👁️ EC mark

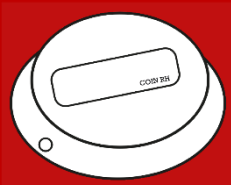
PUCK DOT

- 👁️ Asset tracking with high accuracy of detection
- 👁️ 10 years, Range indoor/outdoor: up to 7m
- 👁️ EC mark

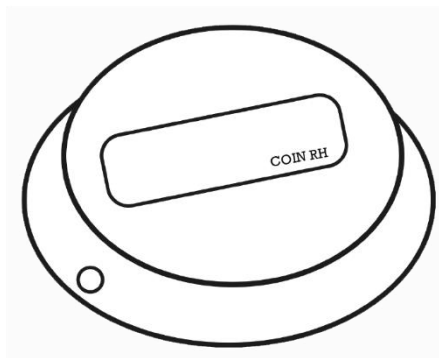
TAG ACTIVATOR

- 👁️ Badges activator
- 👁️ High accuracy detection: 3 to 7m
- 👁️ EC mark

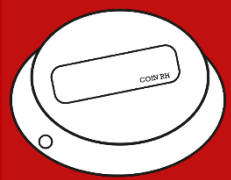




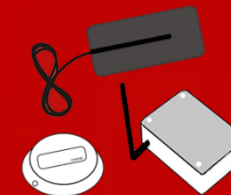
PRODUCTS



Wireless Sensors



WIRELESS SENSORS



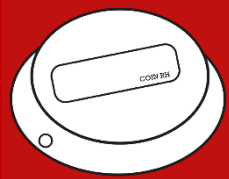
Temperature: COIN T

- 👁 Internal Sensor: -30°C / $+70^{\circ}\text{C}$, 10 years
- 👁 IP68, $\text{Ø}36\text{mm}$, 80m
- 👁 FCC & IC certified
- 👁 EC mark
- 👁 *Mini datalogger feature available*

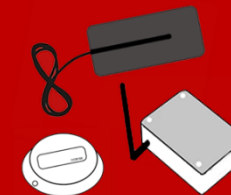
Temperature: PUCK T

- 👁 Internal Sensor: -40°C / $+85^{\circ}\text{C}$, 10 years
- 👁 IP68, $\text{Ø}56\text{mm}$, 150m
- 👁 FCC & IC certification coming soon
- 👁 EC mark





WIRELESS SENSORS



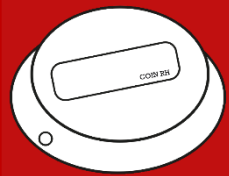
Humidity: COIN RH

- Humidity Relative Int. Sensor: 0-100%, 10 years
- IP65, Ø36mm, 80m
- FCC & IC certified
- EC mark

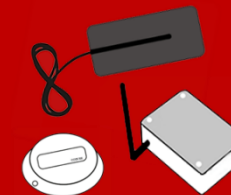
Humidity & Temperature: PUCK RHT

- Internal Sensor: -30°C / +70°C,
- Humidity Relative Int. Sensor: 0-100%
- 10 years, Indoor applications, Ø56mm, 150m
- FCC & IC certification coming soon
- EC mark





WIRELESS SENSORS



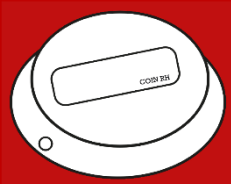
Movement: COIN MOV

- 👁️ Movement
- 👁️ 80m, 4-years (no movement mode)
- 👁️ Indoor and outdoor applications (IP68)
- 👁️ Embedded Movement Treshold Management included
- 👁️ FCC & IC certified
- 👁️ EC mark

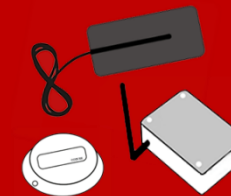
Magnetic: COIN MAG

- 👁️ 80m, 2,5 years, Ø36mm
- 👁️ Detection of any loss of magnetic contact
- 👁️ Indoor and outdoor applications (IP68)
- 👁️ FCC & IC certified
- 👁️ EC mark





WIRELESS SENSORS



Temperature: ITEMS TD

- External Sensor : -40°C / 125°C, 10 years
- IP65, 50×50×35mm, 80m, EC mark

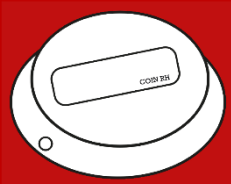
Digital Input : ITEMS DG

- Digital input, Pulse Counter
- IP65, 10 years, 150m, EC mark

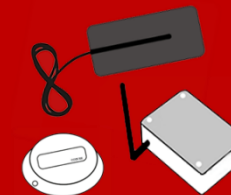
Analog Input : ITEMS AD

- 0-3V Analog Input
- IP65, 10 years, 150m, EC mark
- Options: up to 0-20V





ATEX TAGS & SENSORS



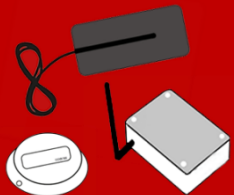
Identification: COIN ID Ex

Temperature: COIN T Ex

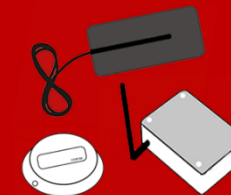
Movement: COIN MOV Ex

Magnetic: COIN MAG Ex





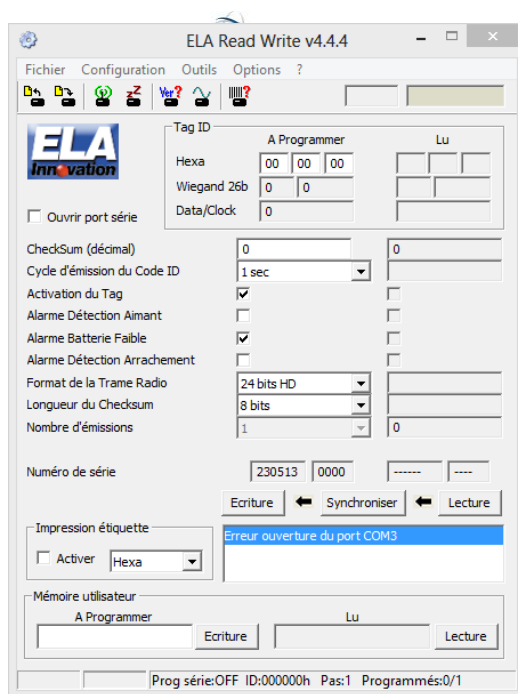
WIRELESS SENSORS



Tag & Sensor Configuration

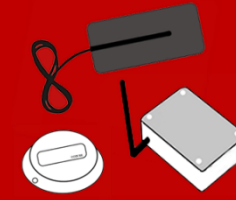
 **ERW Software**
All our tags & sensors

 **SCIEL PROG IR**
Tag IR encoder





READERS



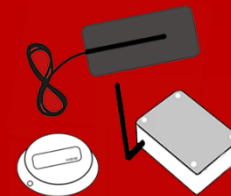
SCIEL READER *Lite*

- 👁 Fully Dedicated for **Telematics Applications**
- 👁 Easy, Flexible and Wireless solution for :
 - ✓ automatic identification (driver, trailer, assets)
 - ✓ automatic sensor monitoring (temperature, humidity, third-party analog sensor)
 - ✓ automatic event detection (door opening, asset movement)
- 👁 RS232 Interface for connection with your AVL device
- 👁 Internal RFID 433MHz antenna AND external antenna connector





READERS



SCI EL READER R

- Industrial interfaces: RS232, RS485, USB (config)
- Access Control : Wiegand 26bits, Data&Clock
- IP65, 1 Internal Relay, Ext. 12VDC Power Supply

SCI EL READER IP2

- RJ45 Port – Full IP stack
- Embedded WEB server for IP settings
- External Power Supply or PoE featured

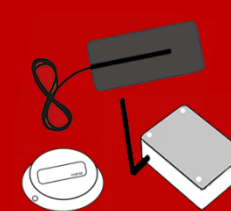
SCI EL READER WF2

- 2.4GHz Client Wifi IEEE 802.11b/g/n
- Embedded WEB server for IP settings
- External Power Supply





READERS



SCI EL CARD

- 🌀 Compact OEM reader for system integration
- 🌀 Optimized Form factor: 50*21*7.5mm
- 🌀 UART TTL Serial Transmission

SCI EL READER SU

- 🌀 Interfaces: USB (auto-powered)
- 🌀 Integrated ¼ Wave Antenna
- 🌀 Receiving range: 20m

UTP DIFF2

- 🌀 Powerful Bidirectional Reading System
- 🌀 Dedicated for Access Control Applications
- 🌀 Serial Interface: RS232, RS485, RS422
- 🌀 Option: Wiegand or Clock & Data, Backup battery





READERS



SCIEL SEEKER

- 🌀 Full Standalone Handheld Reader
- 🌀 Very Useful Tool to look for, identify and check tags in a close area
- 🌀 Easy User-definable settings through 2 navigation buttons and 2-lines display

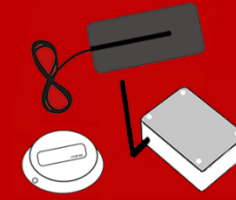
TAG CHECKER

- 🌀 Proximity tester of active RFID tag's emissions and maintenance signal for battery's Tag low level
- 🌀 High lighting DELs and double tone Buzzer
- 🌀 Short range settings predefined in factory.
- 🌀 IP54 Waterproof ABS Housing





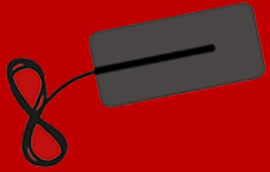
READERS



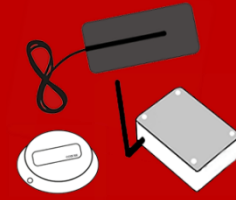
SCIEL REPEATER

- Reader & Re-emitter of ID codes for Active Tags
- Re-emitter External antenna connector
- Re-emitter range up to 200m
- Integrated 433Mhz Reader's antenna
- IP54 Waterproof ABS casing





ANTENNAS



 ¼ WAVE



 FOIL II



 FLATY



 HALF WAVE MGB



 STEALTH SL
STEALTH MG



 SLENDER I



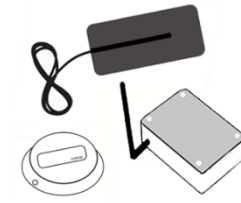
 PUCKY SL
PUCKY MG



 AY71



APPLICATION CASES



ACCESS CONTROL



WORKER SAFETY



ANTI-THEFT SOLUTION



SPORT TIMING SOLUTION



RTLS



SMART BUILDINGS/CITIES



TELEMATICS



MANUFACTURING MGT



ACCESS CONTROL



Hand-free vehicle access control

- 🌀 Automatic Identification
- 🌀 Reading in mid-air (30km/h)
- 🌀 Compatible with Access Control System





ACCESS CONTROL



Hand-free pedestrian access control

- ⦿ Automatic Short Range Identification
- ⦿ Useful to combine short-range and high range access control (and counting system)
- ⦿ More secured than a bi-technology solution (passive and active RFID)
- ⦿ Same tag / badge for both requirements





ACCESS CONTROL



Access control and alarm management

- 🌀 Hand-free detection for access control and automated gate management
- 🌀 Automatic detection of active tag on the site and automatic deactivation of the alarm system. Automatic alarm reactivation after the last client left the site.
- 🌀 **THINLINE IR** per client, **1 SCIEL READER R with 2 STEALTH antennas** for gate management, **2 SCIEL READER R with HALFWAVE MG antennas** to cover all the site's surface. Readers connected to an access controller through WIEGAND protocol.



Mondial Box[®]
"Libère l'espace"



ANTI-THEFT SOLUTION



Anti-theft Marking System

- 🌀 High-end asset tracking
- 🌀 Theft detection





ANTI-THEFT SOLUTION



Indoor RFID Anti-Theft Marking System

- Surveillance of art and high-end objects.
- Motion sensors like **COIN MOV** or **THINLINE MOV** placed on each object with programmed movement's threshold.
- SCIEL READER R** and **SLENDER III** antenna, with internal relay connected to the alarm system's digital input.
- As soon as at least one object is moving, the alarm system triggers security actions.



Joan Miró, The red sun





ANTI-THEFT SOLUTION



Outdoor RFID Anti-Theft Marking System

- ⦿ Automatic detection of unauthorized movement of construction machinery
- ⦿ Waterproof & heavy-duty sensor
- ⦿ Coupled with 3G / 4G router and IP camera





RTLS



Automatic inventory & indoor location

- ⚙️ Automated asset inventory for 20K packed IT products in a 12000m² warehouse
- ⚙️ Real-Time In-Door location per area





RTLS



People location & counting

- ⚙️ Automatic detection, identification and counting of 50 workers inside a 15-floor building
- ⚙️ Real-time location per half of floor for each worker with 98% success rate





RTLS



Inventory & Location

- 📍 1200 tagged containers and 70 monitored logistic platforms of one of the major French transport carriers
- 📍 Powerful and robust active tag (150m / 10 years every 2 seconds)
- 📍 Automatic detection when a container carried by a truck enters or leaves a site





RTLS



RTLS solution for handtooling

- Customized miniaturized BLE placed in each handtool (even inside sockets for wrench!)
- Automatic detection if the tool is missing after the assembling operation is finished.
- Complete Maintenance IOT platform running on tablets with real-time communication over BT.
- Real-time location of missing tools over the whole manufacturing sites
- Possibility to trigger buzzer and light on the BLE tag for accurate location.





RTLS & ASSET TRACKING



Traceability for Train Washing Process

- Each **train** has to follow a **weekly washing automatic process**.
- The **washing stations** are placed on **dedicated railways** among tens in the **SNCF maintenance center**.
- Client requirement : to provide **an automated traceability of the washing process** for each train by eliminating any human action
- A **PUCK DOT** placed inside the cabin, a **TAG ACTIVATOR** placed by the railwayside, with LF field configured not to cross the others railways (< 4m) and an **unique active RFID reader** with a powerful directional antenna per station.





TELEMATICS



Cold chain traceability

- Active RFID Integration with Fleet Management Solutions
- Trailer's temperature and humidity monitoring
- Door opening detection
- Cold storage monitoring





TELEMATICS



Gas & Oil Telematics Applications

- Automatic opening detection of distribution valves and manhole cover on tanker trucks thanks to motion and magnetic sensors
- Realtime temperature monitoring of distributed liquid products
- Waterproof & heavy-duty tags and sensors
- ATEX** compliant tags and sensors





TELEMATICS



NME tracking in airports

- Automatic detection for Non Motorized Equipments deployed in the whole surface of an airport
- 50m detection through vehicles equipped with GSM tracker and Active RFID reader
- Real-time location of all the assets thanks to continuous scanning by the vehicles
- Very optimised TCO: 10-year lifecycle for tags placed on each NME equipment and few tens of vehicles with GSM –RFID trackers

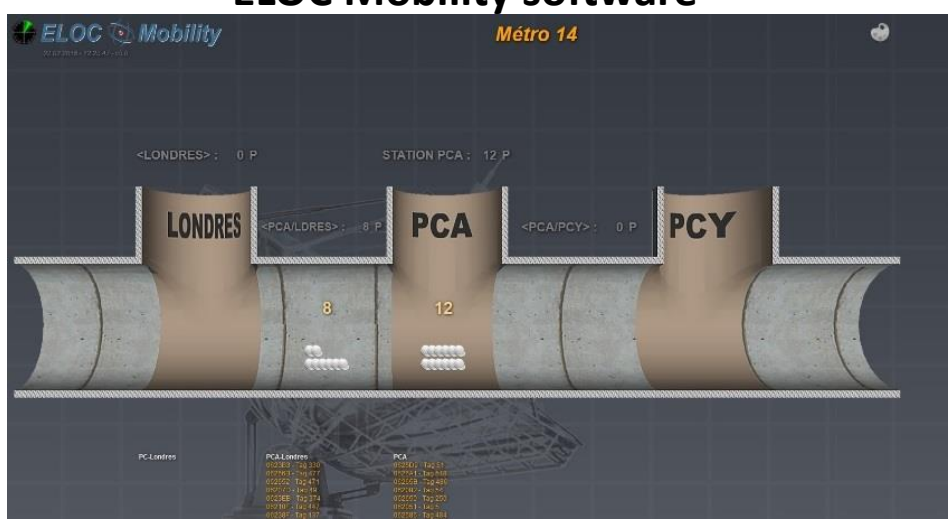


Worker Safety in tunnel

- Real-time automatic counting of entrances & exits
- Real-time Localization of workers per area



ELOC Mobility software





WORKER SAFETY



Worker Safety on Outside working sites

- Proximity detection around the mobile machines
- Automatic machine's slowing-down if worker detected
- Automatic visual & sound alarm thanks of internal reader's relay activation
- Easy and Quick Tag's installation for workers





WORKER SAFETY



Pedestrian detection around forklifts

- The forklift driver is alerted in real time of the pedestrians' presence around machinery
- Pedestrian detection accuracy over short distances (1 to 7m) and up to 80m





WORKER SAFETY



Worker Safety on Service Chairlifts

- ⚙️ Detect automatically if the guardrails of the service chairlift are not removed 30m before arriving to the station.
- ⚙️ Active Tag **BEACON H with digital input** placed on each service chairlift, a **SCIEL READER H with FOIL II H** placed at the station's chairlift arrival.
- ⚙️ The chairlifts are stopped automatically if the coming service chairlift is detected with removed guardrails.





WORKER SAFETY



Worker Safety on Remote Controller

- ❶ Detects automatically when the technician controlling the rear arm of sanitation truck is no longer
- ❷ **Specific 2.4GHz active Tag in the remote controller and a full customized Active RFID 2.4GHz reader with 6 outputs and 2 antenna's outputs, with automative Deutsch casing.**
- ❸ Management up to 5 technician's tags with automatic pairing process.





SPORT TIMING SOLUTION



Sport timing system

- ⦿ Detection of crossing of arrival line for horse races, for highspeed car races, skier races
- ⦿ COIN ID or THINLINE IR programmed at the highest transmission cycle (220ms)
- ⦿ Directional antennas like AY71 and SLENDER I





SMART BUILDINGS / SMART CITIES



Green space monitoring

- 🌐 Soil humidity monitoring
- 🌐 Waterproof long range sensor





SMART BUILDINGS / SMART CITIES



Humidity & Temperature monitoring

- 🌀 10-years lifecycle and 150m range with our new **PUCK RHT** sensor
- 🌀 Fixed installation centralized on local network for indoor application or through 3G router for outdoor application
- 🌀 Option: customized monitoring dashboard on IOT platforms



interxion™



Baxter



Bicycle Tracking & Monitoring

- Specific ILS based **COIN MAG** placed on Smoove bicycle's rear mudguard with a magnetic actuator placed on the rear wheel.
- The COIN MAG offer a **counter feature** in addition of the ID transmission.
- Parking stations and maintenance centers are equipped with Active RFID readers connected to routers.
- Client's objective : to implement a bicycle's location and preventive maintenance solution





REFERENCES

