



**ADEUNIS FACILITATES THE DEPLOYMENT
OF YOUR IOT PROJECTS,
thanks to its connected sensors and
solutions, as well as an expert service**



Adeunis, a global offer for you

In a connected world, Adeunis designs, manufactures and markets sensors and wireless solutions used by professionals.

Adeunis is the expert in IIoT solutions dedicated to the smart building, smart city and smart industry sectors.

Our mission: to support you in the digitalization of your equipment and services through IoT for :

- more energy performance,
- more comfort for users,
- optimising the maintenance of your equipment.

Adeunis supports you through a range of connected solutions and services throughout the different stages of your IoT digitisation project.





SMART BUILDING



Office buildings



Collective housing



Industrial buildings



Health care
institutions



Schools



Commercial buildings

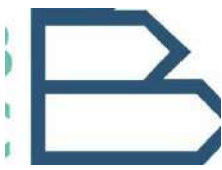


Sports and cultural
centers



Buildings accommoda-
tion and catering

Boost the performance & comfort of your building.



Energy performance

Improve your multi-technical management: analyse the values of fluid meters (electricity, gas, water...) and check in your rooms, temperature, humidity, lighting...



Maintenance

Monitor the proper functioning of equipment remotely and anticipate their maintenance: boiler, solar panels, ventilation system...



User comfort

Collect information on the use of your buildings to optimize your multi-service offers (cleanliness, occupancy of meeting room, janitorial services...) and improve the quality of life of the occupants.





SMART CITY

Optimise your service contracts: transport, collection, mobility, distributed equipment parks



Services

Provide an optimal service to satisfy the city's users.



Infrastructures

Supervise your installations and ensure the good condition of your infrastructure



Energy efficiency

Guarantee the energy performance of your buildings, equipment and networks.





SMART INDUSTRY

Digitalise your infrastructure, optimise your industrial processes



Operation and Maintenance

Optimise your maintenance operations: supervise your installations to reduce your operating costs.



Energy efficiency

Analyse and reduce your machine consumption to optimise your energy costs.



Our solutions :

TO HELP YOU ACHIEVE YOUR GOALS:

A wide range of **IoT sensors** developed by our R&D radio experts.

Complementary **services** to facilitate the development of your IoT projects:

- **applications** to configure, decode and monitor data and sensors,
- **expert support** throughout the various stages of the project.

A close-up, high-angle shot of a person's face and hands as they work on a circuit board. The person has light-colored hair and is looking down intently at their work. The background is blurred, showing what appears to be a laboratory or workshop setting with various equipment and materials.

**IOT
SENSORS**



APPLICATIONS



SUPPORT







IOT SENSORS

Manufacturing connected
objects is our core business





MONITOR

Monitor the changes in a data item such as fluids consumption, changes in status, operating changes, etc.



ALERT

Provide a warning when a situation deemed to be critical or abnormal has been reached so that action may be taken accordingly:

Provide feedback about faults, alerts regarding thresholds being crossed, carry out motion detection for intruders, control access, and handle break-ins.



ACT

Take direct action on an equipment item:

Restart, activate, or actuate machines or equipment items remotely.





MEASURE

Determine a precise measurement of numerical values such as a humidity rate, a specific consumption amount, a power level, an intensity, or a temperature.



DISSEMINATE

Broadcast a signal in order to extend the range of an existing network or to replace a wired network in order to transmit data over a long distance.



TEST

Subject the network to an examination so you can verify the present coverage, select the most appropriate network, and make sure that your products are well-positioned.



KARE+

COMFORT CO2



Monitor indoor air quality.

5 functions: CO2, temperature, humidity, alert button, dry contact input



MEASURE

- Monitor:
 - CO2 concentration
 - Temperature
 - Humidity level
- Count the number of events on the alert button or the dry contact input



ALERT

Trigger an alarm if:

- high or low threshold(s) exceeded
- press the alert button
- event on the dry contact input



TECHNICAL SPECS

- Periodic and / or event modes
- Interchangeable battery
- Dimensions: 111 x 61 x 40 mm
- Casing: IP20 (indoor use)
- Integrated fixing system: wall or laid

BENEFITS

- User information: indicator light on the unit
- CO2 calibration: automatic or manual
- Design for any environment
- Data logging to optimise shipments
- Local and remote configuration
- Battery powered product

BREATH

Monitor indoor air quality.

4 functions: PM (1, 2.5, 10), VOC, alert button, dry contact input



MEASURE

- Monitor:

- The level of fine particles
- The level of TVOCe

- Count the number of events on the alert button or the dry contact input



ALERT

Trigger an alarm if:

- high or low threshold(s) are exceeded
- press the alert button
- event on the dry contact input



TECHNICAL SPECS

- Periodic and / or event modes
- Interchangeable battery
- Dimensions: 111 x 61 x 40 mm
- Casing: IP20 (indoor use)
- Integrated fixing system: wall or laid

BENEFITS

- User information: indicator light on the unit
- Design for any environment
- Data logging to optimise shipments
- Daily 24-hour summary screen
- Local and remote configuration
- Battery powered product



MOTION

Detect a presence and monitor the brightness.

4 functions: presence, brightness, alert button, dry contact input



MEASURE

- Monitor:
 - Occupancy rate of a room
 - Brightness rate
- Count the number of events on the alert button or the dry contact input



Trigger an alarm if:



ALERT

- exceeded high/low brightness threshold
- presence / non-presence detection
- press on alert button
- event on the dry contact input

TECHNICAL SPECS

- Periodic and / or event modes
- Interchangeable battery
- Dimensions: 111 x 61 x 40 mm
- Casing: IP20 (indoor use)
- Integrated fixing system: wall or laid

BENEFITS

- Design for any environment
- Data logging to optimise shipments
- Local and remote configuration
- Battery powered product



COMFORT



Monitor temperature and humidity.

4 functions: temperature, humidity, alert button, dry contact input



MEASURE

- Monitor:
 - Temperature
 - Humidity level
- Count the number of events on the alert button or the dry contact input



ALERT

Trigger an alarm if:

- high or low threshold(s) exceeded
- press the alert button
- event on the dry contact input



TECHNICAL SPECS

- Periodic and / or event modes
- Interchangeable battery
- Dimensions: 111 x 61 x 40 mm
- Casing: IP20 (indoor use)
- Integrated fixing system: wall or laid

BENEFITS

- Design for any environment
- Data logging to optimise shipments
- Local and remote configuration
- Battery powered product



DELTA P

Monitoring the operation of ventilation box system.



MEASURE

Measure a delta pressure

- Between the atmospheric pressure and the inside of the ventilation box
- On both sides of an element (e.g.: filter)

Collect data of a 0-10V sensor

e.g. ammeter clamp for distinguishing a power failure



ALERT

On exceeding threshold(s)

Pressure difference or through 0-10V input

On digital input events

e.g.: indication of a machine fault



ACT

Controlling the AON outputs



TECHNICAL SPECS

- Periodic modes or event-based modes
- Operating temperature : -20°C / +70°C
- Pressure delta: -500/+500Pa
- Dimensions: 200 x 63,5 x 34 mm
- Casing : IP68
- Integrated fastening system: DIN rail, tube, wall, collar

BENEFITS

- Differential pressure delta measurement
- 2 digital inputs/outputs (All Or Nothing): to be connected to a PLC to send alarms or operating states
- 1 analogue 0-10V input: to be connected to a sensor
- Local and remote configuration
- Battery operated product



MODBUS

Query, write and read one or more registers on one or more Modbus slaves.



ACT

- Reading a slave's registers from the network
- Write to a slave's registers from the network



MEASURE

- Receive feedback on faults and alerts from Modbus slaves



ALERT

- Feedback of measurement data from MODBUS slaves



TECHNICAL SPECS

- Periodic modes or event-based modes
- 6-30V external power supply
- Pre-wired with 2 cables: 2 wires + 6 connectable wires
- Dimensions: 105 x 50 x 27 mm
- Casing: IP67 (IP68 on request)
- Integrated fastening system: DIN rail, tube, wall, flange

BENEFITS

- RS485/RS232 compatible
- Supervision of up to 20 slaves
- Several periodic frames with different frequencies
- Indicator lights for installation assistance
- Control and supply of power to the sensor
- Also available in: LoRaWAN US 902-928 and AS 923



KARE+



TECHNICAL SPECS

- Periodic modes with log
- Soldered battery
- Dimensions: 105 x 50 x 27 mm
- Casing: IP68
- Integrated fastening system: DIN rail, tube, wall, flange

PULSE

Give all your meters communications capability.



MONITOR

- Reading of water, gas and electricity meters:
- Periodic transmission of the index
- Periodic monitoring of flow rates (min/max), fraud and leaks



ALERT

- Alert when the flow rate exceeds a threshold

BENEFITS

- Up to 2 connectable meters
- Detection of tampers and leaks
- Flow rate monitoring
- Data logging for optimal autonomy
- Redundancy for better service continuity
- Also available in version IP67: LoRaWAN US 902-928, AS 923 and Sigfox RC4



The PULSE is available in ATEX mode,
for use in explosive atmospheres.



The available versions:

- PULSE ATEX
- PULSE ATEX + CONNECTEUR BINDER
- PULSE ATEX + CONNECTEUR GAZPAR JAE
- PULSE ATEX ou PULSE avec 6 FILS CBL

The ATEX PULSE is used in explosive atmospheres:

- Gas & vapour:
Zone 1: immediate proximity of the sensitive area
Group IIC: hydrogen gases and vapours, acetylene...
- Dust:
Zone 21: immediate proximity of the sensitive area

ATEX II 2 G D

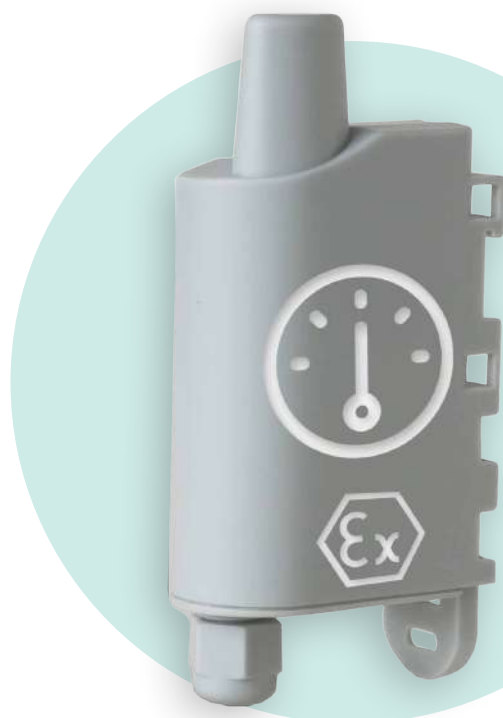
Ex ib IIC T4 Gb

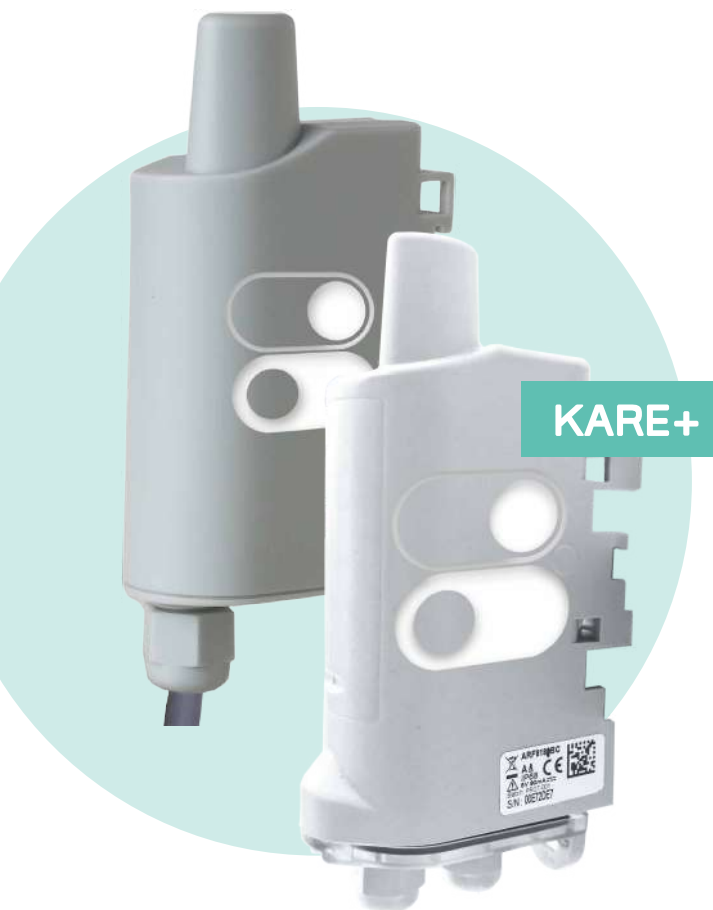
Ex ib IIIC T135°C Db

-20°C < Tamb < +40°C LCIE 18 ATEX 3019 X

Uo ≤ 3.9V; Io ≤ 6.1mA; Po ≤ 6mW; Co ≤ 440μF; Lo ≤ 930mH Ui ≤ 15V:

Ii ≤ 1000mA; Pi ≤ 3750mW; Ci = 0μF; Li = 126nH





KARE+

DRY CONTACTS

Report 0-1 statuses and control relays.



ACT

- Activate or restart machines and equipment items remotely



ALERT

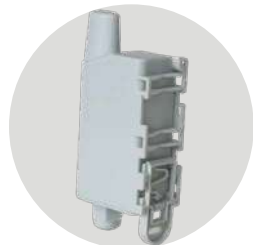
Alerting during events:

- Fault reporting,
- Alert on detected events,
- Access control,
- Detection of water presence.



MONITOR

- Count the time spent in a given state



TECHNICAL SPECS

- Periodic modes or event-based modes
- Replaceable battery
- Pre-wired: 1 x 70cm / 6 wire cable
- Dimensions: 105 x 50 x 27 mm or 132 x 62 x 34
- Casing : IP67 (IP68 on request)
- Integrated fastening system: DIN rail, tube, wall, flange

BENEFITS

- Available in two versions:
 - Dry Contacts
 - Dry Contacts IP68 - Class C LoRWAN
- 4 configurable inputs/outputs
- Data time stamp (LoRaWAN)
- Local and remote configuration
- Battery powered product



The Dry Contacts is available as a packaged version already connected to a sensor:

DOUBLE LEVEL SENSOR

Monitor a fluid level.



CONTACT SENSOR

Monitor the entrances/exits of a room.

WATER LEAK CABLE

Detect a water leak on the ground, around an object or equipment.



WATER LEAK SPOT

Detect a water leak on the ground at a specific location.



KARE+



TEMP

Measure and monitor temperature changes.



ALERT

- Alert on high/low temperature thresholds



MEASURE

- Measure temperatures
- Identify temperature losses



TECHNICAL SPECS

- T° range external probe:
Sensor: $-55 + 155^{\circ}\text{C}$ (± 0.1)
Wire: $-30 + 105^{\circ}\text{C}$
- Periodic modes or event-based modes
- Replaceable battery
- Dimensions: 132 x 62 x 34 mm
- Casing: IP68
- Integrated fastening system: DIN rail, tube, wall, flange

BENEFITS

- Two remote probes
- Locally and remotely configurable
- Battery-powered stand-alone product
- Data logging for optimal autonomy
- Redundancy for better service continuity





TEMP 2S

Measure and monitor temperature changes.



ALERT

- Alert on high/low temperature thresholds



MEASURE

- Measure temperatures
- Identify temperature losses



TECHNICAL SPECS

- T° range internal probe: -30 + 70 (+/-0.1)
- T° range external probe:
Sensor: -55 +155°C (+/-0.1)
Wire: -30 +105°C
- Periodic modes or event-based modes
- Replaceable battery
- Dimensions: 132 x 62 x 34 mm
- Casing: IP68
- Integrated fastening system: DIN rail, tube, wall, flange

BENEFITS

- Ambient and remote temperature probes
- Locally and remotely configurable
- Battery-powered stand-alone product
- Data logging for optimal autonomy
- Redundancy for better service continuity



ANALOG

**Give IoT connectivity
to wired analog sensors.**



ALERT

- Provide warnings should thresholds be exceeded



MEASURE

- Continuously monitor the values of an equipment or a 0-10V or 4-30 mA sensor (current clamp, temperature, rain gauge, etc.)



TECHNICAL SPECS

- Periodic modes or event-based modes
- Dimensions: 105 x 50 x 27 mm
- Casing : IP67 (IP68 on request)
- Integrated fastening system: DIN rail, tube, wall, flange

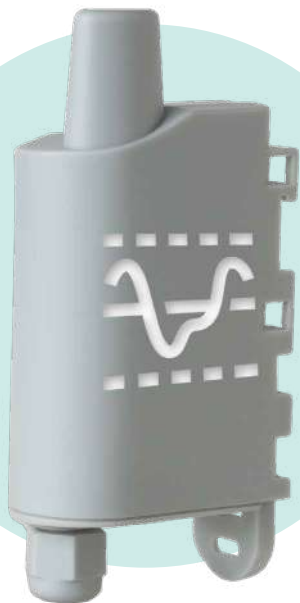
BENEFITS

- 2 inputs 0-10V or 4-20mA
- Periodic or event-driven transmission
- Battery-powered
- Local and remote configuration



ANALOG POWER

The **ANALOG PWR** is powered by an external power supply unlike the battery-powered **ANALOG** version.



CURRENT SENSOR

The **CURRENT SENSOR** version, allows to measure a current by associating the **ANALOG** with a clamp ammeter.

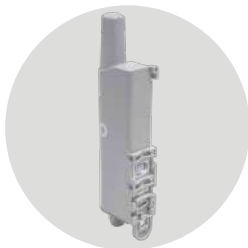
Current transducer :

- Cable dimensions: 70cm
- Accuracy: +/- 2%.
- Resistance: to fire UL94-V0
- Available in 50 A and 100 A



REPEATER

Extend sigfox network coverage.



BROADCAST

- Increase sigfox network coverage in a specific area.
- Repeats uplink (downlink not supported)



TECHNICAL SPECS

- Interchangeable battery
- Range: up to 300m outdoor and 50m indoor
- Dimensions: 185 x 50 x 27mm
- Casing: IP67
- Integrated fixing system: Rail-DIN, tube, wall, flange

BENEFITS

- For all types of Sigfox RC1 network sensors
- Several modes for setting the WhiteList (local or remote)
- Easy to install: battery-operated product
- A dedicated application for better control



Field Test Device

Qualify and validate network coverage.



TEST

- Ensuring the correct positioning of connected objects
- Determining the correct position of a gateway



MEASURE

- Check network coverage
- Choose the most appropriate network



TECHNICAL SPECS

- Viewable data: UL/DL - Channels - RSSI/ SNR/PER - GPS - Temperature
- Self-powered and rechargeable
- Dimensions: 180 x 72 x 21 mm

BENEFITS

- Immediate viewing of network coverage data
- Geolocation of measuring points
- Dedicated Web application
- A benchmark product widely praised by public network operators
- Also available in: LoRaWAN US 902-928, AS 923 and Sigfox RC4



SMART DELTA P



Supervise and anticipate the maintenance of ventilation systems.



MEASURE

- Retrieve aggregated data on differential pressure
- Retrieve aggregated data on current measurement



ALERT

- On anomaly detection*
- On clogging filter detection*

*Function only available when paired with BL Predict from Carl Software.



ACT

- Controlling digital inputs

TECHNICAL SPECS

- Periodic modes or event-based modes
- Operating temperature : -20°C / +70°C
- Pressure delta: -500/+500Pa
- Dimensions: 200 x 63,5 x 34 mm
- Casing : IP68
- Integrated fastening system: DIN rail, tube, wall, collar

BENEFITS

- Adapts to any existing ventilation system (AHU, CMV)
- No configuration on the sensor thanks to the on-board AI
- Identifies normal operating modes, automatically deduces drifts and alert thresholds



Supervising and anticipating the maintenance of ventilation systems with ease.



1 global
solution



adeunis IoT sensors: Smart Delta P

Sensor with dedicated firmware embedding mathematical aggregates



Artificial Intelligence & Edge Computing

Allows processing of data shared between the sensor and the platform



Platform of CMMS Carl Source

Processes the data sent back through AI and creates the associated numerical models

HIGHLIGHTS

- Organization and qualification in advance of the maintenance to be carried out.
- Decrease in intervention costs
- Increase in the life span of the observed equipment

IAMo: Indoor Air Monitoring

A global solution for
**monitoring air quality
and indoor comfort**



Objectives

- Monitor Indoor Air Quality over time
- Observe and guarantee the comfort of users
- Detect ventilation anomalies



Highlights

- A turnkey solution
- A data pre-processing service
- Easy to deploy APIs for easy integration
- Concrete indicators based on the monitoring of:
 - Temperature
 - Humidity
 - CO₂
 - TVOC
 - PM
 - Ventilation
 - Light



OPERATION



IAQ and COMFORT indicators

Enable rapid identification of faulty areas

Optional



Users

Be aware of IAQ in their area and open windows if necessary



Maintenance team

Controls maintenance actions, intervenes in case of failure and adapts the instructions in the BMS



Facultatif



VENTILATION monitoring indicators

Allows to identify a ventilation failure or a clogged filter and to adjust the ventilation accordingly.



Building Management System

Allows to adapt the flow rates and to control the air renewal

CONTENT

COMFORT CO2



Temperature
Humidity
CO2

BREATH



PM1
PM2.5
PM10
VOC

MOTION



Luminosity

DELTA P



Air pressure
delta

**The IAMo offer is marketed with the sensors of your choice from the range presented above.*

COMFORT METRICS

ICONE Index
Overall air quality
Thermal comfort
Lighting comfort



MAINTENANCE METRICS

Ventilation monitoring
Filter Fouling Monitoring



THIRD-PARTY CLIENT PLATFORM

Via API

OU



IAMo PLATEFORME



CONNECTION
ANALYSIS
DATA
SEARCHING
VERIFICATION
FORUM



SERVICES

To facilitate and
and guarantee the
smooth running of
of your IoT projects

Adeunis supports you in the implementation of your **IoT solutions**: we build with you a complete solution adapted to your needs.

We have made a choice to remain open-minded and totally impartial regarding the various existing connectivity solutions. We are experts in **public and private LPWAN networks**: LoRaWAN and Sigfox.



RADIO-MAPPING



CONNECTIVITY



CONFIGURATION
of sensors



DEPLOYMENT
on site



data
DECODING



MAINTAINING
OPERATIONAL CONDITION
of the sensors



ACCOMPANIMENT
Formation
Technical Support



START

PREPARE YOUR PROJECT WELL TO ENSURE ITS SUCCESS OVER TIME

On-site radio-mapping

We carry out **on-site connectivity** studies and make recommendations on **network** selection and sensor placement.

Connectivity

You need to deploy IoT sensors and define the networks more adapted to your project?

Let's define together the best **network solution** and the **most suitable operator** for your projects. **Public network? Private network?** Our reflection takes into account your needs, your uses and the target environment.



PRIVATE NETWORKS

- Provision of infrastructure elements
- Support for implementation
- Deployment support



PUBLIC NETWORKS

- Subscription
- Provisioning objects
- Redirecting data to your application server

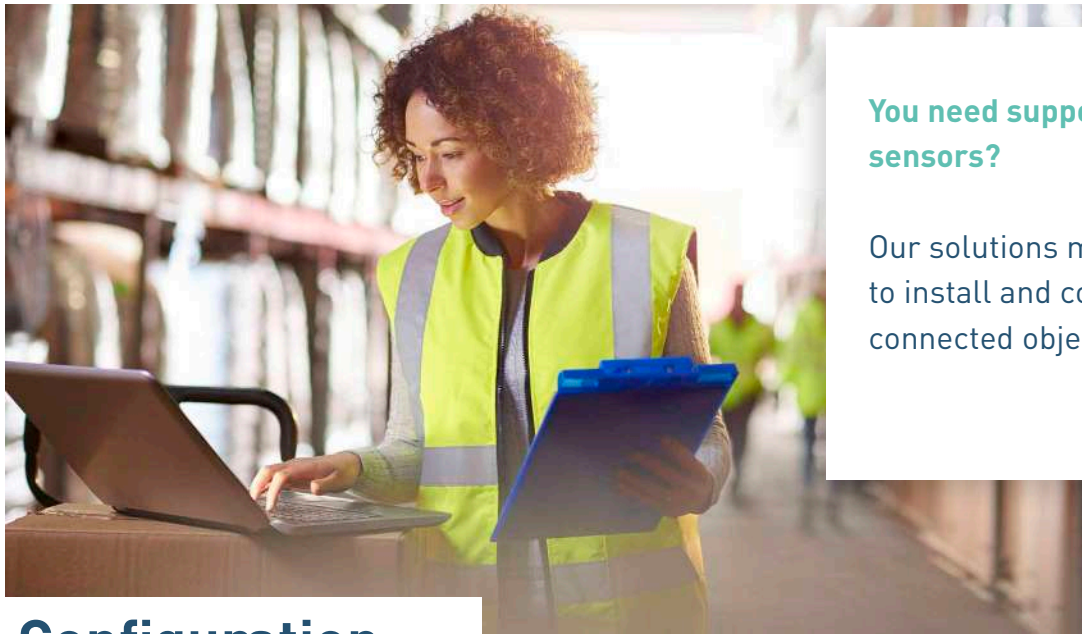
Training

The world of IoT

Adeunis offers **training** courses on IoT themes to enable everyone to learn more about the world of connected objects, as well as support for the development of **your own solutions**.



DEPLOYMENT



You need support to set up your sensors?

Our solutions make it easy to install and configure your connected objects.

Configuration

IoT Configurator

Local configuration, via connection to the USB port of your sensor

Pre-Configuration

Delivery of ready-to-use products, already configured

KARE

Supervision of remote sensors and configuration per fleet

On-site deployment

We come to your site to assist you in the [installation and deployment](#) of your sensors and solutions.

OPERATE

QUICKLY DECODE THE DATA TO EXPLOIT IT OVER TIME

Data decoding

Save time, thanks to our solution: [CODEC](#), which decodes the transmitted data for you.

Data processing

Take advantage of our partnerships to set up the [IoT platform](#) that best suits you.



MAINTAIN

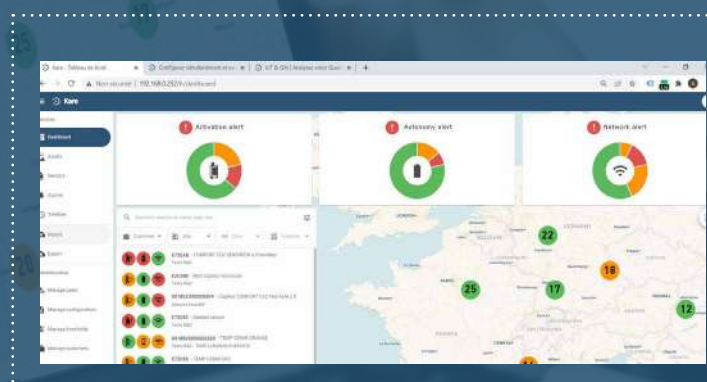
GUARANTEE THE SUSTAINABILITY OF THE SOLUTION AND THE SENSORS

Device management

KARE+

Do you want to guarantee the performance, proper functioning and data security of your Adeunis products?

WITH OUR KARE+ SOLUTION, YOU CAN KEEP YOUR ADEUNIS CONNECTED OBJECTS IN OPERATIONAL CONDITION.



Device Management
Platform for the
Operational Maintenance
of your adeunis sensors.

Dedicated application for
the simultaneous and
Over The Air (OTA) update
of a fleet of adeunis
sensors (configuration /
firmware).



Optimize your operating costs

By intervening on site at the right time and avoiding unnecessary trips.



Consolidate your business model

By ensuring the proper lifetime of the products and adjusting their configuration.



Increase the satisfaction of your end customers

By allowing continuity in the service rendered.



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