SOFREL LogUp

A simple, optimal, and cyber-secure solution for water network monitoring



LACROIX

TOWARDS MORE **EFFICIENT** AND **SECURE** WATER NETWORKS



SOFREL LogUp data logger

A unique and scalable hardware model for all drinking water and wastewater applications

SOFREL LogUp, a 3-in-1 solution to optimize the management of your water networks



LX CONNECT centralization platform

Remote fleet management and automatic deployment of cybersecurity



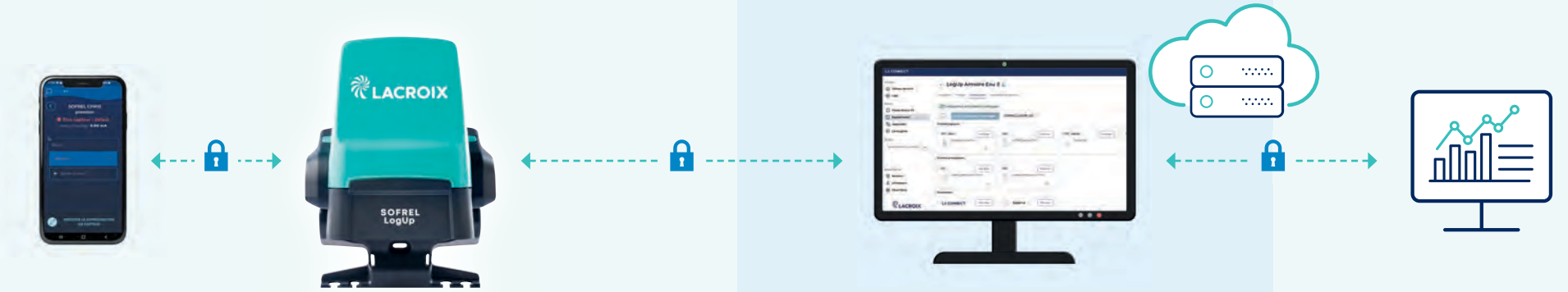
My SOFREL LogUp mobile app

to minimize on-site commissioning time

IEC 62443

Compliant with IEC 62443, SOFREL LogUp helps you modernize the monitoring of your networks while ensuring a high level of cybersecurity

SOFREL LogUp, MORE THAN A DATA LOGGER, AN **OPTIMIZED SOLUTION** TO SIMPLIFY WATER NETWORK OPERATIONS



My SOFREL LogUp
mobile application
for local management

4G LPWAN
data logger

LX CONNECT
Centralized platform
for fleet management

Data transfer
to your **SCADA**

The advantages of the **SOFREL LogUp** solution

Reduce your operating and intervention costs by minimizing travel and on-site presence

Configure your data loggers before receiving them and **simplify** their deployment

Secure your data and its **exchanges**

SOFREL LogUp, A DATA LOGGER TO ENHANCE **PERFORMANCE** AND **IMPROVE THE EFFICIENCY** OF DRINKING WATER NETWORKS

REMOTE METER AND FLOW METER READING

- Automatic reading of high-consumption customer usage
- Local detection of consumption anomalies
- Monitoring of water transfers between interconnected networks
- Support for billing processes and control of distributed volumes



DISTRIBUTION NETWORK DISTRICT METERING

- Remote reading of index meters and flow meters within DMA zones
- Automatic calculation of average and night flows, detection of high-loss areas
- Performance monitoring and support for network efficiency improvement
- Pressure measurement and continuous monitoring of its stability
- Immediate detection and alert in case of upstream or downstream pipe burst

PRESSURE MONITORING

- Monitoring of two simultaneous pressure points
- Alert in case of pressure threshold exceedance
- Continuous measurement of service quality

WATER QUALITY MONITORING

- Monitoring of water quality indicators (chlorine, pH, conductivity, etc.)
- Alert in case of quality anomaly
- Pollution detection and immediate alert

SOFREL LogUp, A **STANDALONE** AND **ROBUST** DATA LOGGER FOR **CONTINUOUS MONITORING** OF WASTEWATER AND STORMWATER NETWORKS



PERMANENT DIAGNOSIS AND SELF-MONITORING

- Measurement of effluent levels, flow rates, and velocities
- Detection of overflows in CSOs
- Automatic calculation of the number and duration of overflows, and estimation of discharged volumes
- Verification of proper network sizing
- Detection of Infiltrated Clean Water (ICW)

RAINFALL MONITORING

- Counting of rain gauge pulses
- Calculation of rainfall intensities
- Correlation with network operation data

QUALITY AND PHYSICO-CHEMICAL PARAMETER MONITORING

- Power supply and control of Modbus sensors (pH, conductivity, ORP, etc.)
- Measurement and logging of water quality data
- Monitoring of industrial discharges into the network

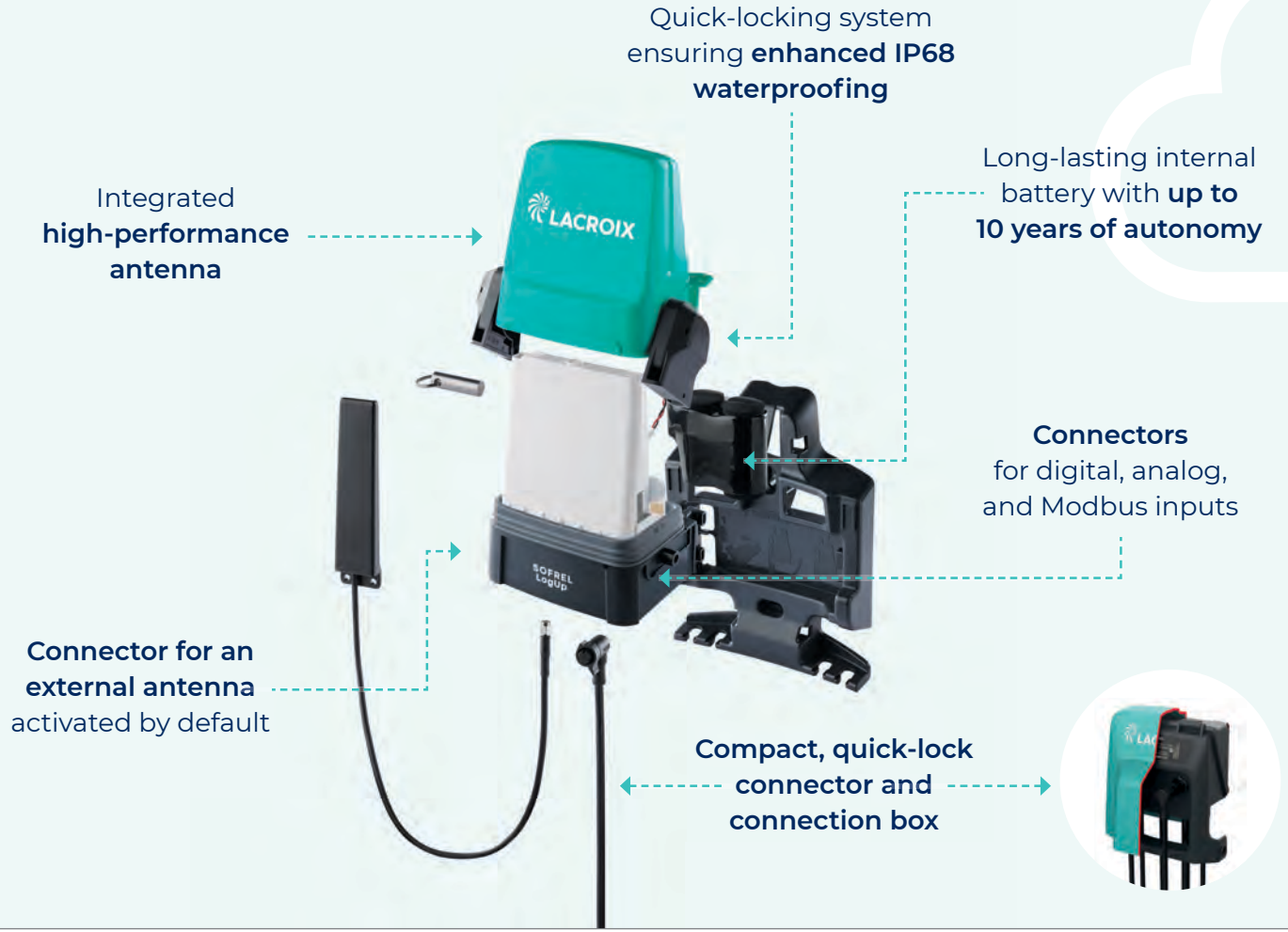
SOFREL LogUp, AN **INNOVATIVE**, ROBUST, COMPACT, AND **SCALABLE** DATA LOGGER

Optimized costs
- Quick installation and field implementation
- Robust, waterproof, and designed to last for many years
- Embedded energy management optimizing autonomy

For more simplicity
- A single model for all uses, drinking water and wastewater
- Connection of sensors via quick-lock connectors

Comprehensive security
- Automatic integration of security certificates
- Efficient and secure data transmission
- Intrusion detection on-site and product movement detection

Innovative and easy to install, the SOFREL LogUp data logger provides an effective and economical solution for remote management and diagnosis of water networks



SOFREL LogUp, A UNIQUE, **ECO-DESIGNED**, AND PATENTED MODEL



Tightening tool





2 PATENTED INNOVATIONS FOR IMPROVED WATERPROOFING

- Simple and effortless locking system ensuring the waterproofing of the data logger
- Designed to keep the connectors dry

AN ECO-DESIGNED PRODUCT FOR A REDUCED CO_2 FOOTPRINT

- Significant improvement of the carbon footprint throughout the product's entire life cycle (greenhouse gases, water consumption, raw materials...) from manufacturing to recycling



IP 68

Certified
(4 m / 30 days)

Sealing air bubble:
Keeps the connectors dry by trapping air under the data logger with a protective skirt

A SINGLE DATA LOGGER MODEL WITH **UPGRADEABLE REMOTE SOFTWARE**

CHOSE AND ORDER A SINGLE COMMON HARDWARE
FOR BOTH DRINKING WATER AND WASTEWATER IN A PACK THAT MEETS YOUR NEEDS



101
1 counting DI
1 dry contact DI

202
2 counting DI
2 dry contact DI

222
2 counting DI
2 dry contact DI
2 AI 4–20 mA

M101
Open Modbus
1 counting DI
1 dry contact DI

M222
Open Modbus
2 counting DI
2 dry contact DI
2 AI 4–20 mA

Remotely upgrade your equipment's capabilities and integrate all new functions

THE **MY SOFREL LOGUP APPLICATION,** TO REDUCE FIELD DEPLOYMENT TIME

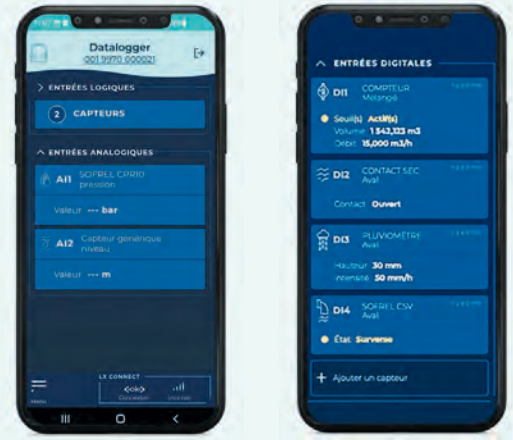
Optimization of implementation costs
- Increase efficiency in commissioning and configuring your data loggers thanks to a highly intuitive mobile application
- Reduce on-site presence time to the bare minimum

For greater simplicity
- Configure the data logger and sensors via a dynamic interface
- View current values and operating statuses locally

Enhanced Security
- Rely on a secure Bluetooth connection (data encryption) to connect locally with your equipment

The solution includes the **My SOFREL LogUp** mobile application through which a user can commission, configure, and diagnose its installation

Data is transmitted between the mobile application and the data logger via the secure local connection



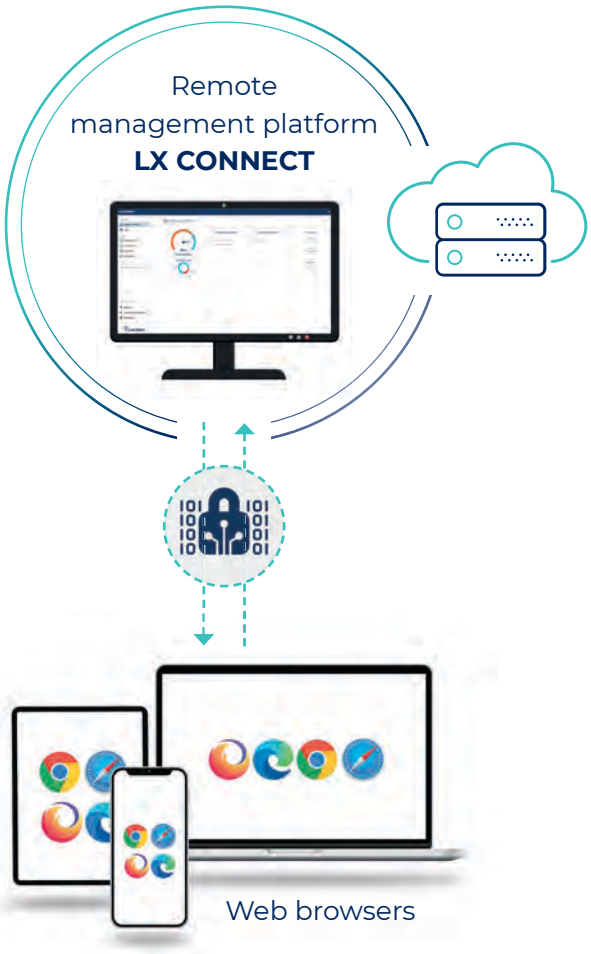


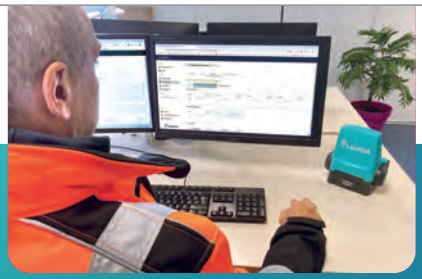
The configuration of the data logger is carried out optimally while allowing for a reduction in on-site presence time

The configuration can subsequently be retrieved and completed remotely from **LX CONNECT**

LX CONNECT: THE IoT PLATFORM FOR SOFREL LogUp DATA LOGGERS

The **LX CONNECT** platform enables centralized management of a remote monitoring network and automates cybersecurity as well as software updates for your equipment fleet





COST OPTIMIZATION BY ANTICIPATING OPERATIONS

- **Preconfigure your data loggers** before commissioning, and adjust them remotely at any time
- **View the operational status** of your equipment fleet (battery, firmware) **at any time** and remotely for optimal maintenance
- Access your data from any web browser and **manage your fleet in real-time**

SIMPLICITY ON A DAILY BASIS

- **Manage user rights** associated with the equipment fleet
- **Centralize** all your field data on the LX CONNECT platform
- Centrally and coordinatedly **update** your equipment fleet and its software versions
- **Remotely modify** business configurations
- **Share** field data from the platform with one or more SCADA systems

SECURITY AT THE HEART OF THE SOLUTION

- Rely on the **high level of security** of the solution, which fully meets the requirements of the IEC 62443 standard
- Connect the solution to a Microsoft PKI for the **automatic creation and renewal of authentication** certificates for data loggers

CYBERSECURITY AT THE CENTER OF THE SOFREL LogUp SOLUTION

A solution that fully complies with the European cybersecurity regulatory framework

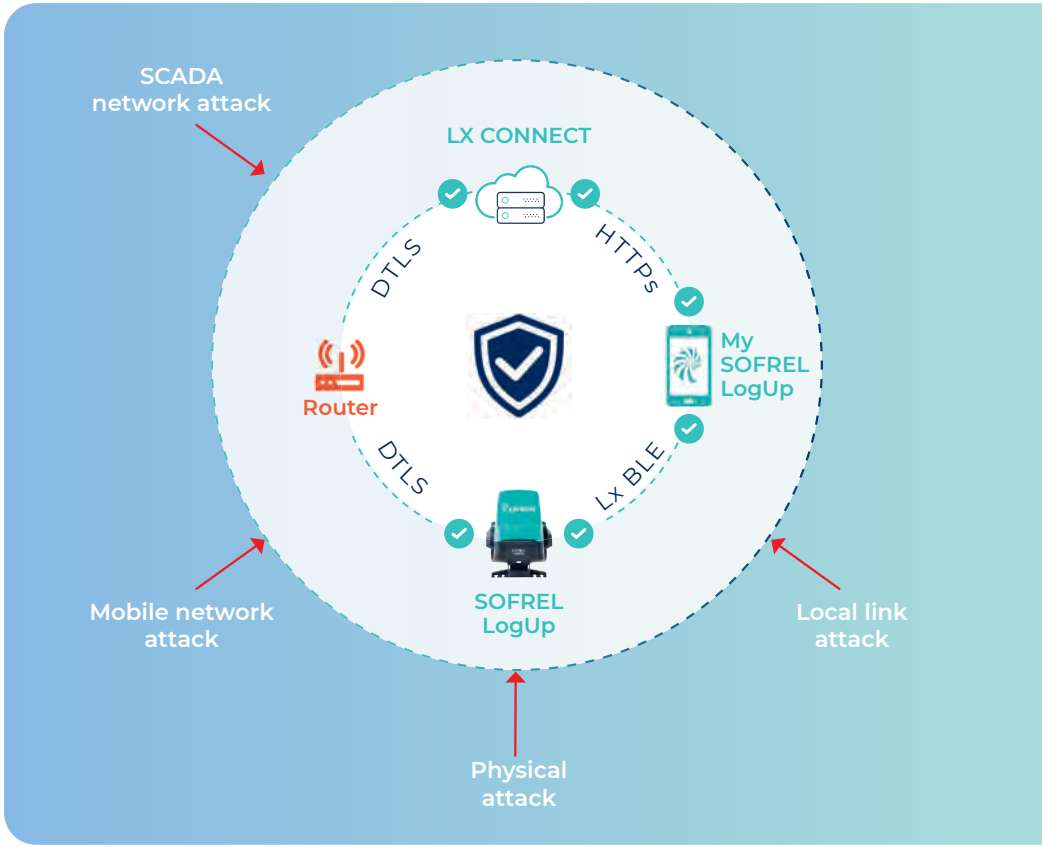
The SOFREL LogUp solution natively integrates a level of cybersecurity compliant with IEC 62443

"Secure by design," the **SOFREL LogUp**, data logger, the mobile application, and the **LX CONNECT** platform are cybersecurity-secured from end to end

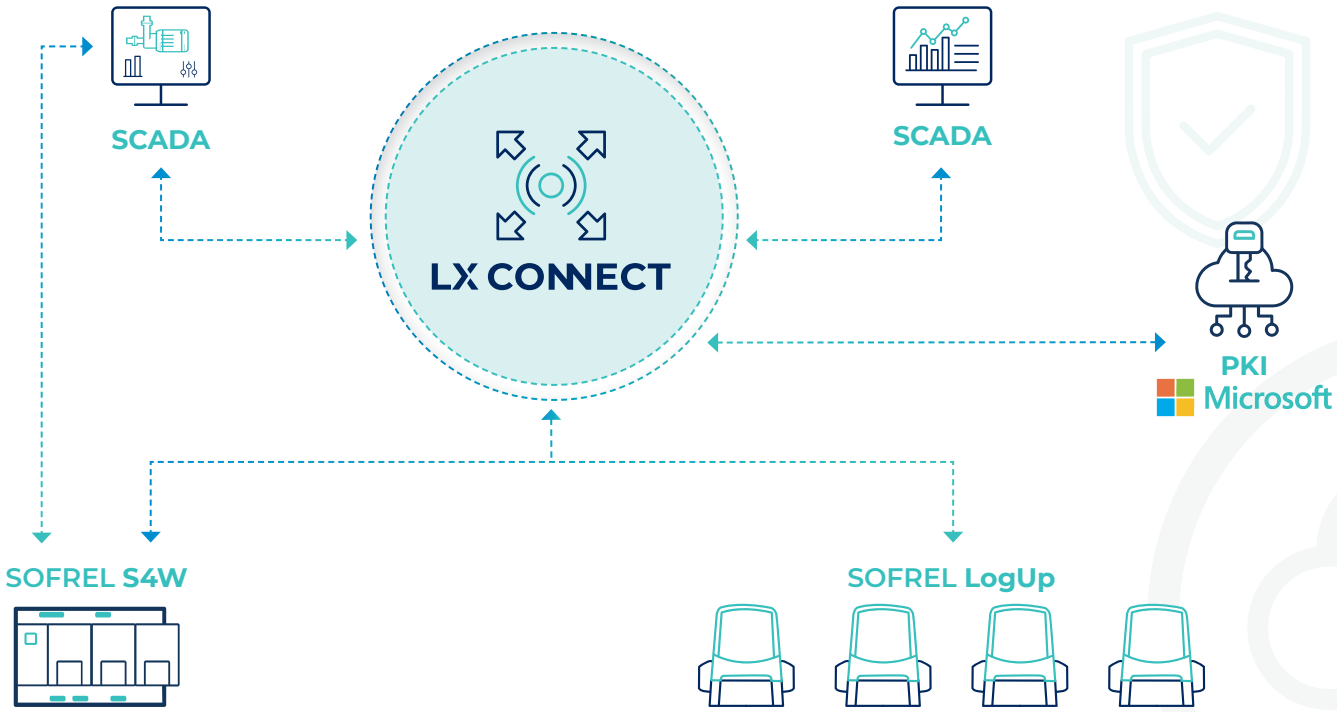
Cybersecurity is deployed automatically and transparently for the user

To maintain the level of cybersecurity at all times, regular updates of authentication certificates are automatically conducted by LX CONNECT without user intervention:

- Deployment of cybersecurity for **data exchanges** between field devices and supervision
- **Management of users**, their rights, and the history of their interactions with the ecosystem
- **Mutual authentication** of devices through certificate exchanges to prevent any attempt at impersonation
- **Integrity of the system** ensuring that exchanged data cannot be modified
- **Encryption of data** ensuring that it cannot be read by unauthorized individuals



LX CONNECT: A NEW ARCHITECTURE FOR AUTOMATED CERTIFICATE MANAGEMENT



A **common** platform for **SOFREL products** available in **3 versions**

LX CONNECT EDGE
A centralization platform that is easy to deploy and manage for data and equipment management, closely connected to the telemetry network

LX CONNECT PREM
An evolving centralization platform that can be deployed in a private cloud or a managed data center

Platform managed by the network operator

LX CONNECT SaaS
Centralization platform for LogUp accessible from any web browser

Platform managed by LACROIX services

LX CONNECT: A FLEXIBLE AND SCALABLE MANAGEMENT SYSTEM FOR TELEMANAGEMENT EQUIPMENT

3 service packs

		Centralized management of equipment and users	S4W	LogUp
Included	**CONNECTIVITY** Pack	Update of individual firmwares	X	X
		Monitoring and automatic renewal of certificates	X	X
		Access to event logs		X
		Centralization of configurations		X
		Data visualization		X
		Data sharing with a third-party application (e.g., SCADA)		X

		Orchestration of software and cybersecurity updates for the equipment fleet	S4W	LogUp
License required	**ADVANCED FLEET MANAGEMENT** Pack	Advanced monitoring of a fleet of SOFREL S4 & LogUp equipment	X	X
		Campaign management for mass and scheduled updates of SOFREL equipment regarding firmware and certificates	X	

		Operational data reporting to multiple third-party applications	S4W	LogUp
License required	**DATA SHARING** Pack	Data sharing to multiple SCADA systems via Web Services		X

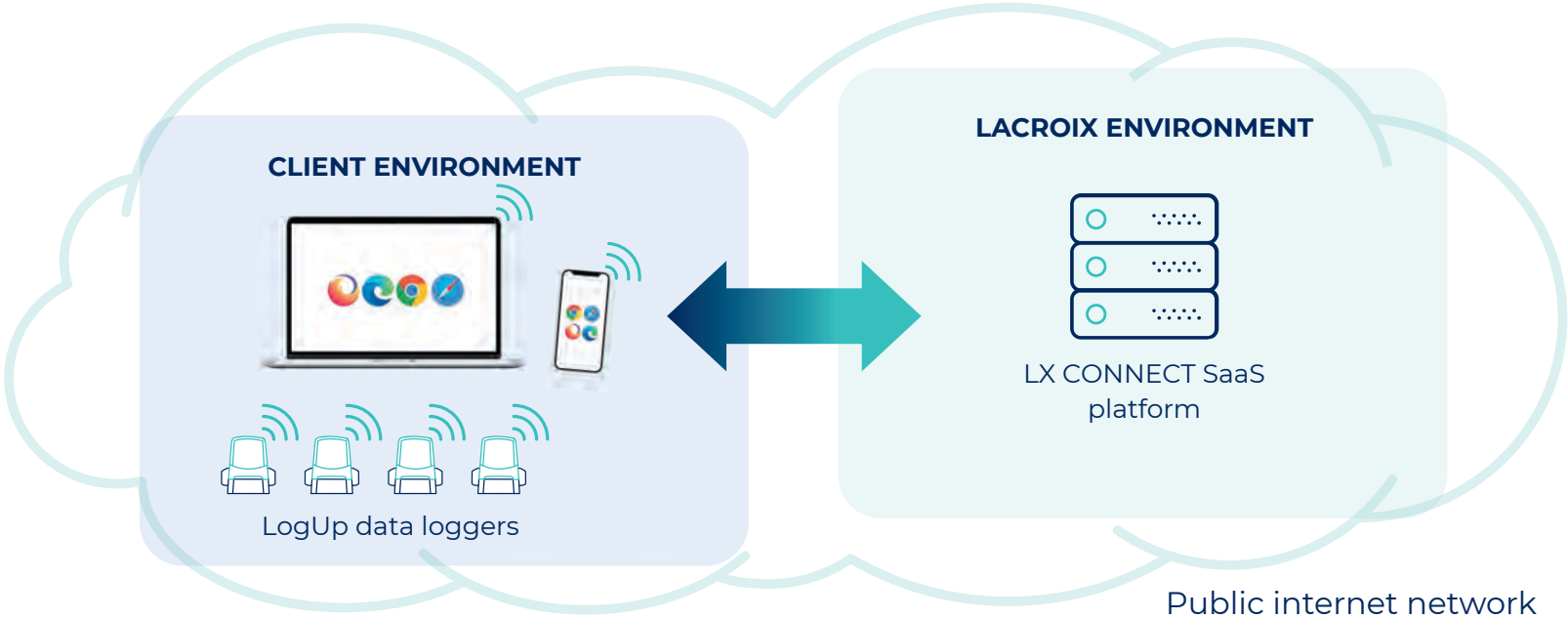
LX CONNECT SaaS THE IDEAL VERSION FOR **SIMPLIFIED MANAGEMENT** OF **SMALL DATA LOGGER NETWORKS** WITH **NO IT INFRASTRUCTURE**

Focus on your area of expertise, not on technical platform management!

KEY BENEFITS FOR IMMEDIATE NETWORK OPERATION

- Accessible from any connected device
- Automatic software updates to keep the system always current and secure
- Reduced infrastructure costs: no need for dedicated servers or IT teams
- Centralized security and backup: the SaaS solution of LX CONNECT includes automated backup and cybersecurity mechanisms ensuring data integrity
- Scalable subscription flexibility: a service tailored to actual user needs and adapted to network size

SaaS operating diagram



LX CONNECT SaaS OFFER

LX CONNECT	**EFFICIENT** ✓ Centralization and sharing of business data ✓ Equipment fleet management ✓ Operational use of business data	**ESSENTIAL** ✓ Business data sharing ✓ Individual device management ✓ Remote configuration
Remote creation and management of configurations	✓	✓
Data sharing with SCADA via Web Services	✓	✓
SCADA alert notifications	✓	✓
Dashboard and network equipment mapping	✓	
Business data visualization	✓	
Estimation of autonomy during configuration	✓	
Dynamic calculation of remaining autonomy	✓	
Automatic cybersecurity management	✓	✓
Centralized user and rights management	✓	✓

CONNECTED
TECHNOLOGIES
FOR **SMARTER**
WATER &
ENERGY

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