

the **IRIS-IIoT** ecosystem



What is the **IRIS-IIoT** ecosystem?

- An integral solution for the on-line, on-the-cloud acquisition, logging and monitoring of process and environmental sensors spread over a service utility or a wide geographical area, including the control of field actuators.



What elements does the **IRIS-IIoT** ecosystem consist of?

- Wireless and/or wired sensors.
- Field actuators, when necessary.
- **ISURLOG** series field data loggers.
- Online dashboard and data sheet.



How these different elements of the **IRIS-IIoT** interchange data? By means of:

- **NB-IoT** (Narrow Band Internet of Things, based on the LTE for cellular phones)
- **LoRa** (Long Range radio communication based on spread spectrum modulation)
- Wi-Fi.
- Bluetooth.
- Wired standards: Ethernet and RS232 embedded ports.



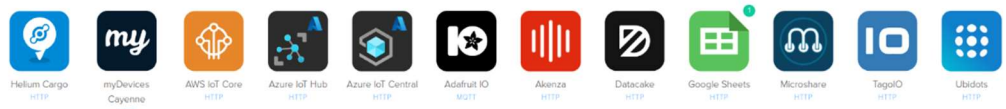
Can the **IRIS-IIoT** ecosystem interchange information with third party devices like PLCs, PCs, controllers, analyzers, transmitters, ...? Yes, by means of the next protocols:

- I²C for sensors.
- HTTP protocol.
- MQTT protocol.
- UDP protocol.



How **OPEN**, **COMPATIBLE** and **FLEXIBLE** the **IRIS-IIoT** ecosystem is?

- **No external power supply required.** Energy harvesting versions available.
- **Not software licences required.** On-line dashboard and data sheet are based on free on-the-cloud services.
- **"Software Zero" versions available** fully open to be programmed by the final user.
- **Full set of protocols** guarantees the communication with third party devices.

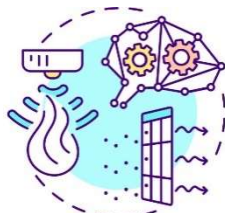




CLIMATE CHANGE



Ambulatory
Monitoring



Air Quality Detectors



ENERGY SECTOR

IRIS-IIoT ecosystem applications



Industrial
Control Systems



Equipment
Monitoring



Smart Weather
Station



Net-Zero
Buildings



Smart Grid



Medical Monitoring



Sensors System
for Irrigation



Road Sensors

IRIS-IIoT ecosystem use cases



Inlet and outlet flow control at a fish farm in Viguera, Spain.



⇧ ⇐ Up left: **ISURLOG-NB** unit in an IP67 cabinet execution for outdoors deployment and solar panel supply, used for outlet flow on-the-cloud monitoring, logging and alarming. NB-IoT plus UDP protocol based link to IRIS BOX PC master unit located at the plant input channel.

⇧ ⇒ Up right: **IRIS BOX PC** master unit in an IP66 cabinet execution for outdoors deployment supplied by the 230Vac mains, used for inlet flow on-the-cloud monitoring, logging and alarming. NB-IoT plus UDP protocol based link to ISURLOG-NB remote unit located at the plant input channel. This master unit gathers and saves the readings of both units in a single file every 5 minutes. The common file is automatically uploaded to water authority server on a hourly basis.

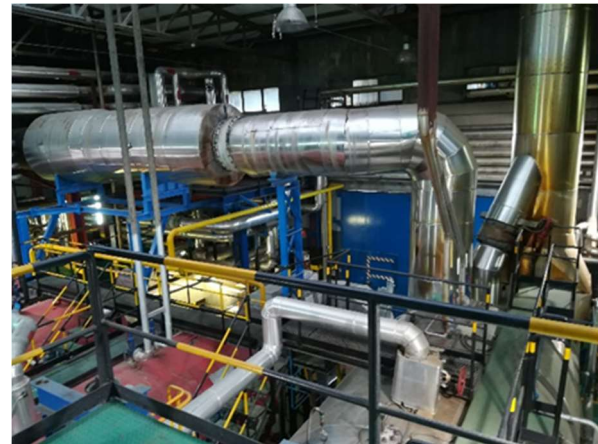
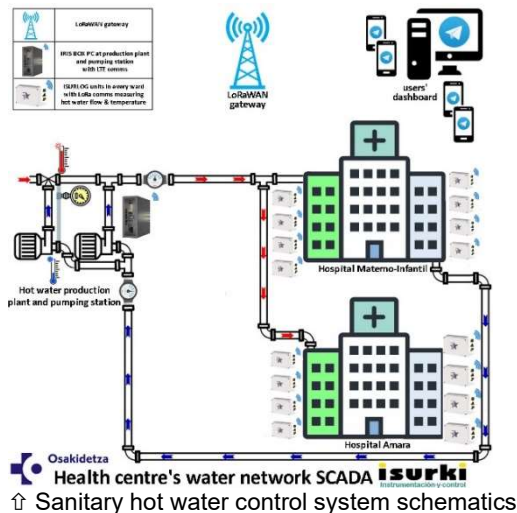
Customer's opinion



"The implementation of this telecontrol system based on the ISURKI's IRIS ECOSYSTEM solution has made it really easy for us to comply with the water authorities' requirements regarding the installation of diverted flow control systems." Mr. Mario Somalo Vallecillo, Maintenance Manager at RIVERFRESH.



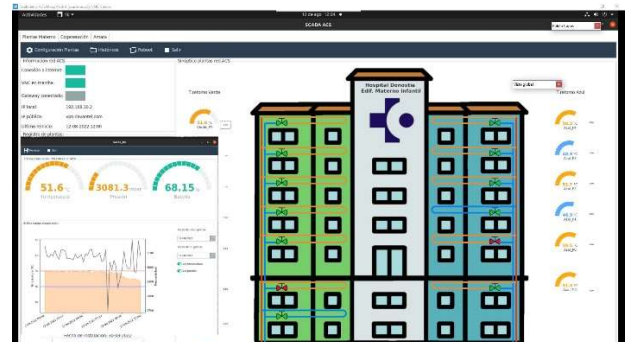
Legionella outbreak prevention system for sanitary hot water networks in public health facilities. Use case: Hospital Universitario Donostia, Spain



↑ Heating plant with pumping station controlled by an **IRIS BOX PC** based remote unit



↑ **ISURLOG-LR** field unit measuring diverted water temperature and flow.



↑ capture of a SCADA screen




Customer's opinion




"The implementation of the hot water network control system based on the ISURKI's IRIS & ISURLOG ECOSYSTEM solution has enabled us to effectively detect any undesirable scenario that could favour the proliferation of Legionella in our network and to optimise the management of the technical installations concerned".

Daniel López Ortiz. Engineer at the Projects and Infrastructures Dept.
OSAKIDETZA – OSI
DONOSTIALDEA

IRIS-IIoT ecosystem field devices

Device model	Comms	Power supply options				Input/outputs/sensors									Mounting	Size (mm)
		Batt.	Solar	Harv.	Ext.	A.I.	I ² C		D.I.	D.O.	V _{aux}	Remote I/O	Air sensor	OLED display		
ISURLOG-NB	NB-IoT	✓	✓	✗	✓	2	✗	1	2	2	12V	✗	✓	✗	Wall IP67	160x80x86
ISURLOG-LR	LoRa	✓	✓	✗	✓	2	✓	2	1	1	6-24V	✗	✓	✓	Wall IP67	160x80x86
ISURLOG-ΔT	LoRa	✓	✗	✓	✗	1	✓	1	1	1	12V	✗	✓	✗	Wall IP67	120x80x56
IRIS BOX PC	external	✗	✗	✗	6-27V	4	✗	✗	4	4	12V	✓	✗	✗	DIN rail	118x45x138

-  : compatible sensors are Pt_{100/1000}, NTC, PTC.
- **Batt.**: 1 integrated LiPo battery pack (second pack available as option). Embedded USB battery charger.
- **Solar**: Solar panel, 185x120mm, articulated bracket for wall mounting, 4 m cable, IP65.
- **Harv.**: Energy harvesting based on Peltier cell for hot/cold water/air pipe mounting.
- **A.I.**: 4 to 20 mA input signal.
- **I²C**: I2C bus for sensors and third-party devices connection.
- **D.I.**: digital inputs for counters (voltage free contact, pulse width ≥ 50 mS).
- **D.O.**: digital outputs (solid state relays, 2 Amp.). In the case of the ISURLOG-LR the use of this D.O. voids the V_{aux}.
- **V_{aux}**: auxiliary power supply for 4 to 20 mA passive sensors. In case of extended range, nominal value is user configurable.
- **Remote I/O**: via ethernet modules (i.e., Moxa ioLogik), Daisy chain configuration.
- **Air sensor**: Embedded weather / air quality Bosch BMA digital sensor with temperature, humidity, atmospheric pressure and air quality.
- **OLED display**: Embedded display OLED Display, 0.96", 128x64, blue digits, black background. Unit does not fulfill IP67 protection degree when the display is factory embedded. Therefore, outdoor use is not supported.

IRIS-IIoT ecosystem field devices

ISURLOG-NB



ISURLOG-LR



ISURLOG-AT

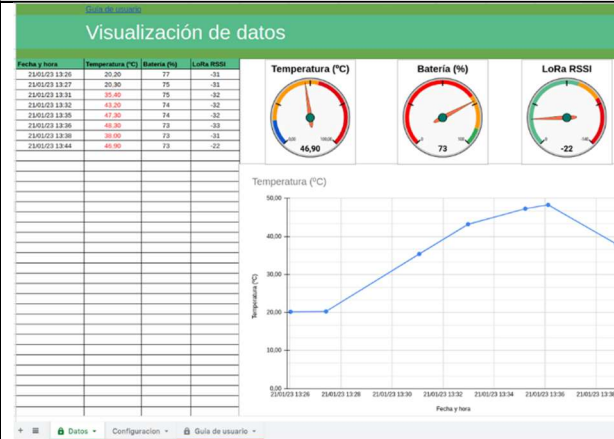


IRIS BOX PC



IRIS-IIoT ecosystem online software tools

ONLINE DASH BOARD



CONFIGURATION TOOL

Configuración

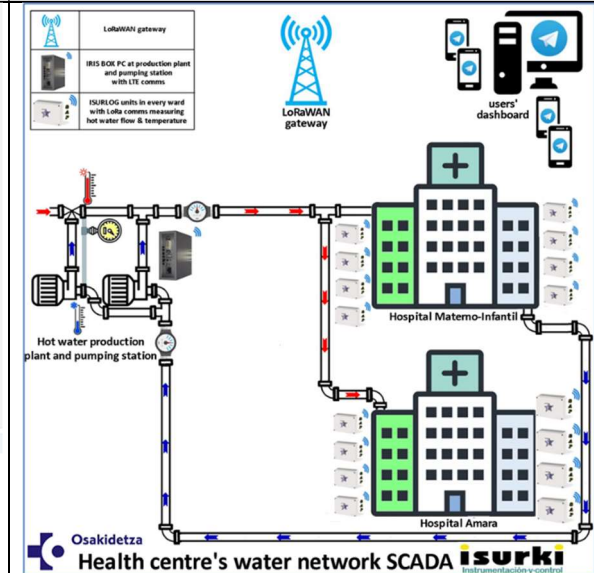
Activación: ☐ Bajo (°C) ☐ Alto (°C) Correo electrónico (Separados por coma) ID's Telegram (Separados por coma)

Alarmas: Temperatura: ☐ 25 ☐ 30 ☐ 35 ☐ 40 ☐ 45 ☐ 50 ☐ 55 ☐ 60 ☐ 65 ☐ 70 ☐ 75 ☐ 80 ☐ 85 ☐ 90 ☐ 95 ☐ 100

Fecha Inicio Datos: 25/1/23

Fecha Final Datos: 25/1/23

SCADA





A BIT OF HISTORY

ISURKI was founded in 1992 with the aim of providing the most advanced electronic, computing & communications technologies to the industry and the resources and facilities management companies to improve the supervision and control of their processes and infrastructures.



"Since our early beginnings in 1.992, innovation, excellence and customer satisfaction have driven our daily work and attitude, stepping up with every new product we have launched thanks to all those that have trusted our company". Iñaki Mutuberria, CEO at ISURKI, Instrumentation & Control.

The **IRIS IIoT** Industrial Internet of Things ecosystem is the result of applying all this expertise to the hardware and software design of this industrial set of smart devices, focused

on its reliability, flexibility and long-lasting product life.

Besides, this background and command of the aforementioned technologies allow us to design tailor-made solutions adapted to the requirements of each application, offering an extremely competitive final product in terms of price and performance.

Last but not least, an excellence-based technical assistance and hotline service during the pre-sales and after-sales stages, together with the support of our matrix suppliers, guarantee the best match of the **IRIS IIoT** ecosystem in your application.



Company headquarters in Irun, Basque Country, Spain.

Information contained in this data sheet is up-to-date and correct as of the date of issue. The constant evolution of our products can lead to differences between the features of the currently available product and those stated in this document. Please, contact us to get the last updated information.