

Monitoring Crucial Environmental Conditions in Hard-to-reach Locations for EDF Corse

- **Industry:** Utilities/Energy
- **Client:** EDF Corse
- **Region:** France
- **Solution:** Remote Monitoring
- **Products:** Alertwerks Wired Environmental Monitoring



BACKGROUND

Électricité de France S.A. (EDF) is a French electric utility company, largely owned by the French state. As a global leader in low-carbon energy, the EDF Group covers every sector of expertise, from generation to trading and transmission grids. Headquartered in Paris, EDF operates a diverse portfolio of 580+ TWh of electricity generation in Europe, South America, North America, Asia, the Middle East and Africa.

Corsica, being located 170 km from the coast of France, is part of the non-interconnected island areas of the French metropolitan electricity grid, making the electricity system of Corsica unique. Being electrically isolated, the island has to produce the electricity it consumes. The power supply comes mainly from 3 sources: thermal generation, hydro

generation and interconnections with Italy. 96% of all the energy produced in Corsica is provided by EDF. EDF Corse integrates all the businesses that make it possible to ensure the public service of electricity: production, purchase, transport and distribution via an 11.000 km long overhead, submarine and underground network of power lines and substations.

THE CHALLENGE

EDF Corse owns and operates a large number of substations, typically located on high points to avoid flooding and passer-by intrusion. Although, in Corsica, also called 'the mountains in the sea', the location of substations on high points is more out of necessity. Generally, these substations are unattended, relying on a control system for remote supervision. Furthermore, since the roads in Corsica don't allow for fast transportation, the substations are poorly accessible.

EDF Corse needed to find a solution to be able to supervise the crucial switching, protection and control equipment, typically present in these isolated substations and act fast if needed. Furthermore, they also wanted the implementation of some sort of monitoring tool to view the status on different conditions, like temperature and humidity, inside the substations.

THE SOLUTION

EDF Corse decided to supervise specific environmental conditions in substations remotely from the main office in Ocana, Corsica. After having consulted a number of



BLACK BOX Serv

RELAIS PIANA

Summary Sensors Traps

h (sec.) 5 Start Online Status

Port	Type	Description
1	Humidity	Humidity
2	Temperature	Temperature
3	AC Voltage	AC Voltage3_aval di redresseur
4	-	-
5	DC Voltage	Measurc JOB 48V
6	-	-
7	Relay	REENCLEFSHIS MANUEL
8	Relay	VOYANT PRESENCE

Dry contact 17 Sys Log (240)

02/10/18 13:19:30 Humidity sensor on RJ45#1 is 57 %, status is now Sensor Normal
 02/10/18 11:59:52 Temperature sensor on RJ45#1 is 17 degrees C, status is now Sensor Normal
 02/10/18 01:01:23 Temperature sensor on RJ45#1 is 15 degrees C, status is now Low Warning
 02/10/18 00:47:13 Humidity sensor on RJ45#1 is 60 %, status is now High Warning
 01/10/18 12:35:31 Humidity sensor on RJ45#1 is 57 %, status is now Sensor Normal
 30/09/18 23:49:33 Humidity sensor on RJ45#1 is 60 %, status is now High Warning
 30/09/18 22:28:30 Humidity sensor on RJ45#1 is 57 %, status is now Sensor Normal
 30/09/18 20:25:42 Humidity sensor on RJ45#1 is 60 %, status is now High Warning
 30/09/18 11:52:36 Humidity sensor on RJ45#1 is 57 %, status is now Sensor Normal
 30/09/18 05:27:09 Humidity sensor on RJ45#1 is 60 %, status is now High Warning

< Prev Oldest

different solutions, a test phase was initiated with the AlertWerks Environmental Monitoring System from Black Box. The system consists out of base units or ServSensor hubs, and probes or Intelligent sensors. During the test phase, EDF Corse wanted to ensure hub integration with the power available in the substations and control the power of AC and DC devices, remotely. After successfully completing the test phase, EDF Corse decided to equip 24 remote substations with the AlertWerks solution, whereby the data of different temperature, humidity and AC/DC sensors is registered by central hubs, which are connected to supervisor sites via IP.

RESULTS

Ever since the AlertWerks hubs, power switches and sensors from Black Box were installed, EDF Corse no longer needs to go on-site since all devices are fully powered, and temperature or humidity issues can easily and quickly be detected. The supervisors are informed through real-time alerts by e-mail or SMS to any condition that could have an adverse effect on mission-critical equipment. EDF Corse is delighted with their choice for AlertWerks and Black Box, being present before, during and after the project.

