

CASE STUDY | ENERGY

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

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 the energy business, from generation to trading and transmission grids. Headquartered in Paris, EDF operates electricity generation in Europe, South America, North America, Asia, the Middle East and Africa.

Corsica, located 170 km from the coast of France, is part of the non-interconnected island areas of the French metropolitan electricity grid, which makes its electricity system unique. Being electrically isolated, the island has to produce the electricity it consumes. The power supply comes mainly from three sources: thermal generation, hydro generation and interconnections with Italy. Ninety-six percent of all the energy produced in Corsica is provided by EDF Corse. EDF integrates all the businesses that ensure the public utility of electricity in Corsica is readily available: production, purchase, transport and distribution via an 11,000 km long overhead, submarine and an underground network of power lines and substations.

CHALLENGE

EDF Corse owns and operates a large number of substations, mostly located on high points to avoid flooding and intrusion. Although, in Corsica, also called “the mountains in the sea,” the location of substations on high points is more out of necessity. Furthermore, since the roads in Corsica don’t allow for fast transportation, the substations are even more difficult to access. Generally, these substations are unattended, relying on a control system for remote supervision.

EDF required a solution that would give them the ability to quickly supervise the crucial switching, protection and control equipment, typically present in these isolated substations. Furthermore, they wanted to implement a monitoring tool to view the status of different environmental conditions, like temperature and humidity, inside the substations.

“The AlertWerks™ solution allows us to be more confident about the operation of critical devices in our remote locations.”



CLIENT:
EDF CORSE

REGION:
FRANCE

WEBSITE:
WWW.EDF.FR

INDUSTRY:
ENERGY

SOLUTION:
ALERTWERKS™
REMOTE
MONITORING

ALERTWERKS™
REMOTE
MONITORING





BLACK BOX NETWORK SERVICES

BLACK BOX ServSensor Contact-20

Location: RELAIS PIANA

Summary Sensors Traps Mail

auto refresh (sec) 5 Start Online Status of Sensors

Port	Type	Description
1	Humidity	Humidity
2	Temperature	Temperature
3	AC Voltage	AC Voltage3 aval di redresseur
4		
5	DC Voltage	Mesure JOB 48V
6		
7	Relay	REINCL ESBS MARIEL
8	Relay	VORANT PS/SNCE
9		
10		

Dry contact Sensors

Sys Log (240 messages)

1	02/10/18 13:19:30	Humidity sensor on RJ45F1 is 57 %, status is now Sensor Normal
2	02/10/18 11:56:52	Temperature sensor on RJ45F1 is 17 degrees C, status is now Sensor Normal
3	02/10/18 01:01:23	Temperature sensor on RJ45F1 is 15 degrees C, status is now Low Warning
4	02/10/18 00:47:13	Humidity sensor on RJ45F1 is 60 %, status is now High Warning
5	01/10/18 12:35:31	Humidity sensor on RJ45F1 is 57 %, status is now Sensor Normal
6	30/09/18 23:49:33	Humidity sensor on RJ45F1 is 60 %, status is now High Warning
7	30/09/18 22:26:30	Humidity sensor on RJ45F1 is 57 %, status is now Sensor Normal
8	30/09/18 20:25:42	Humidity sensor on RJ45F1 is 60 %, status is now High Warning
9	30/09/18 11:52:36	Humidity sensor on RJ45F1 is 57 %, status is now Sensor Normal
10	30/09/18 05:27:09	Humidity sensor on RJ45F1 is 60 %, status is now High Warning

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SOLUTION

EDF Corse decided to supervise specific environmental conditions in substations remotely from the main office in Ocana, Corsica. After trying a number of different remote monitoring solutions, a test phase was initiated with the AlertWerks Environmental Monitoring System from Black Box. The system consists 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 that they could 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.

OUTCOME

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 and humidity issues can easily and quickly be detected. The supervisors are informed through real-time alerts by email or SMS to any condition that could have an adverse effect on mission-critical equipment.

EDF Corse is pleased with AlertWerks and how much Black Box helped with the deployment process before, during and after the project.

SOLUTIONS USED:



ALERTWERKS™ REMOTE MONITORING SYSTEM

