



# STAND-ALONE HYDRO-PLUVIOMETRIC MONITORING SYSTEM WITH SENDING OF DATA TO FTP

{24/7 water resource monitoring system}

Supply: **June 2017** | Municipalities: **Ceriano Laghetto and Garbagnate Milanese**

**Est Ticino Villoresi**



**Consorzio di Bonifica**

## CHALLENGE

Execution of a stand-alone monitoring system equipped with installation supports of an increased diameter.

## WHY ETG?

The wealth of experience that ETG has acquired in the weather instrumentation sector and in real-time monitoring data acquisition, archiving, processing and circulation makes it a valuable collaborator.

## INTRODUCTORY SECTION

The monitoring system in question, consisting of 3 newly supplied stations, of which one pluviometric and 2 hydrometric, measures environmental data in real time using ETG - iLogger model - control units.

The stations, equipped with GSM/GPRS transmission modems, are programmed to automatically send monitoring data to an FTP server set up for the purpose.

As regards the hydrometric stations, the customer needed measurements with millimetric precision, and for the pluviometric station an installation on a 4-m-high post was required.

## THE SOLUTION

In order to adequately and meet the customer's requirements, also with improvements, ETG studied the problem and singled out the hydrometric radar sensors as being the best possible solution.

These sensors, engineered by ETG with the trade name RLS, have integrated intelligence that compensates the effects due to changes in temperature and atmospheric pressure that might trouble hydrometric sensors in general.

In view of the very high operational frequency, these effects are already considerably reduced.

As regards installation of the pluviometric sensor at a height of 4 metres, ETG assessed the installation characteristics necessary to guarantee utmost stability for the platform scale inside the rain gauge with specific structural and wind resistance calculations.

A post not adequately designed and studied could have generated oscillations harmful for the sensor in particularly strong wind conditions, in this way leading to an incorrect measurement of the pluviometric data. As can be seen in the associated images, ETG's engineering produced a post with increased diameter made in galvanised steel. The network thus achieved,

based on the very low consumption and high performance control units produced by ETG with the trade name iLogger, made it possible to monitor the data required by the customer with a very high precision and in a totally automated manner.

## THE BENEFITS

The solution proposed requires no field activities since it operates in an automated manner. In view of the engineering of the stations made by ETG, the monitoring stations built with this solution require no maintenance except for a simple annual inspection of the state of preservation of the equipment in order to detect any alterations compared to the initial environmental conditions.

## SUCCESSFUL DATA

The system and the underpinned stations, installed in June 2017, have been operating correctly since their activation date, with 100% of the data sent and acquired by the control centre.

## CLOSING SECTION

Every new monitoring system engineered by ETG entails peculiarities that can be solved only by those - like our company - that have been working in the sector for years.

In the case of the stations built for Consorzio di Bonifica EST Ticino Villoresi, the peculiarity tackled and solved was that concerning installation of a pluviometric sensor with a 4-m-high post.

The post was not purchased by ETG directly on the market, but to the contrary was the result of the study carried out by our structural engineers specifically for this case and for this customer. This certainly makes our proposal a winning solution.

