



## INDEX

Vietnam: new building for the Nguyet Bieu orphanage named after Giancarlo Pedrini **PAG. 1**

Compact: standard interfaces and protocols, programmability and interoperability for total openness **PAG. 4**

Sicily: local early warning system for the San Leonardo Viaduct **PAG. 6**

Early warning systems for roads and motorways: the case of the A24 **PAG. 8**

Campania Region in record time: monitoring network modernised in 90 days **PAG. 11**

# Vietnam: new building for the Nguyet Bieu orphanage named after Giancarlo Pedrini

The new structure, promoted by the “Cardinal Lambertini” Rotary Club of Poggio Renatico and financed by the Rotary District 2072, was inaugurated in **Vietnam** in favour of an **orphanage** located in one of the less developed provinces of the country. This initiative aims at alleviating the suffering of a small community of orphans housed in a convent of Catholic nuns. On this occasion, the association wanted to contribute to the **memory of Giancarlo Pedrini**, therefore the structures that the unfortunate children will benefit from have been named after him. Giancarlo, late co-founder and Vice-President of CAE, was a Rotarian and fully embodied the spirit of service that unites all members of the Club, with his generosity and altruism.

The project, to which CAE is proud to have given its support, was born on the initiative of the Rotary Club of Poggio Renatico and led by President Daniele Masetti; it's financially supported by the Rotary District 2072, with the important contribution of many of Giancarlo's friends. Among them, Prof. Massimo Sarti, full profes-



sor at the Polytechnic University of Marche, a friend of Giancarlo and a great lover of Vietnam, distinguished himself during the implementation of the project directly in the field.

The inauguration ceremony of the new structure was held on 28th June at the orphanage of Nguyet Bieu in Hue, run by 16 Catholic nuns helped by volunteers, with the participation of the Ambassador of Italy to Vietnam, His Excellency Antonio Alessandro. With her touching speech, Vincenza Mendola, wife of Engineer Pedrini, recalled how Giancarlo frequented the country for many years, moved by the desire to personally contribute to the growth of Vietnam and the well-being of its citizens. He was certainly a visionary entrepreneur, but his daily work was also guided by passion and, above all, by generosity.

Moreover, the words of the Vice-President of the Centre for Hydro-Meteorological Monitoring of the Central Provinces, Mr. Xe, described a man profoundly committed to the **progress of the country and to the mitigation of hydrogeological risk**. He was

never afraid to get involved with passion and get his hands dirty, acting in the front line on the field together with his co-workers.

CAE, which thanks to the efforts of engineer Pedrini has built a leadership position in the country, was also present in the person of Alessio De Favari, head of the company's Project Office, who brought his personal message to the ceremony. For the company it was an opportunity to recall, with a brief speech, the lasting results that the efforts of Eng. Pedrini, co-founder and Vice-President until his last day, have generated in and, most importantly, for the country. Many of these results were also obtained thanks to Giancarlo's natural ability to **encourage collaboration between companies, Institutions, Development cooperation bodies and Italian universities**, giving life to concrete evidence of how much good the **"Italian system"** can do in the world.

Giancarlo saw the charm of those places and appreciated the friendliness of their people, but he also





knew their difficulties and hardness of life, particularly in rural areas. We are sure that the construction of this building to support less fortunate children represents, on one hand, the realization of something that he would have helped to build himself, if he had been alive, and on the other hand a fair tribute to his memory. We conclude this article hoping that the work of the Catholic nuns of the Congregation of the Lovers of the Holy Cross at the orphanage will be a relief for all its little guests and will help them to live a peaceful life and future. ■



BACK TO INDEX

## Compact: standard interfaces and protocols, programmability and interoperability for total openness

In addition to the RÆVO radio-modem, the Linux dataloggers of the Compact line are also an essential element within modern open and interoperable networks; as a matter of fact, they are technologically advanced, scalable and compact products and guarantee the high standards of openness, quality, power and reliability of all CAEtech products, while ensuring low energy consumption.

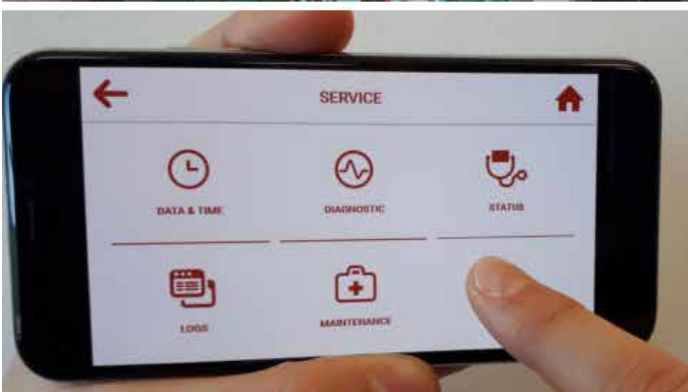
Let's analyse the main aspects that make it a reference product with regards to openness:

- configurability;
- use of standard interfaces and transmission protocols;
- access/sharing of data.

### CONFIGURABILITY

The Compact dataloggers are designed for the creation of complex **multi-risk** systems and meet the need to integrate in a single monitoring network all the elements useful for controlling the different risk factors of a territory which are useful in the large regional Civil Protection networks. They are also useful for the creation of small autonomous local warning systems where, upon exceeding predetermined thresholds, the dataloggers can activate devices useful for inhibiting traffic, as well as sending alert messages.

As a Compact datalogger can be used for different purposes, it has been designed to be **completely**



**configurable** by the customer when used in *bare metal* mode. Even when it is used in standard mode, the user can create and integrate customized processing or drivers for specific uses, thanks to the implementation of common writing languages, including **Python, LUA, C, Shell Script**.

### USE OF STANDARD INTERFACES AND TRANSMISSION PROTOCOLS

Compact dataloggers can manage all the standard sensors available on the market and the most varied transmission modules; moreover, they can be managed by control units with third-party software platforms, thanks to the use of the most common interfaces and standard protocols.

The connection of most sensors or devices is guaranteed by the presence of ports on the datalogger with **SDI-12, MODBUS, Ethernet, USB and WiFi/Bluetooth** protocol. The acquisition unit also guarantees connectivity based on **TCP/IP** standards. The Compact datalogger is equipped with the most varied standard protocols for communication: starting from the most common (e.g. ftp, http, ntp, ddns, modbus...), up to those specifically optimized for monitoring and widely used also in the **IoT world**, such as **CoAP** and MQTT. At the same time, this datalogger also maintains an **absolute level of security** and is compliant with new regulations, which lead to the implementation of **more secure encryption protocols**.

### ACCESS/SHARING OF DATA

By default, the datalogger sends data to a control unit, but it is not mandatory, as the data can also be displayed without software in the control unit, by using:

- the **website made available by the station**, without the need to install any type of additional software;
- the **web service** integrated into the station that **makes all its data available in a format that can be interacted with** by a machine (M2M). It can be queried by any customer to collect and display data as they prefer, on their own software or even on a management system provided by third parties.

Moreover, to ensure maximum interoperability and standardization, it is possible to send data in standard formats defined by national and international organizations such as WMO: SYNOP, SYREP, BUOY, MeteoXML, etc...

A year ago we reported the data relating to this product (for further information [click here](#)); today we can confirm its success. In the period between 2022 and 2023 alone, more than 1000 pieces will be delivered in Italy and worldwide, within projects in [Peru](#), [Lazio](#), [Umbria](#), [Kyrgyzstan](#), [Piedmont](#), [Ecuador](#), [the District Basin Authority of the Central Apennines](#), [Pakistan](#), [CREA](#), [Campania](#), [Molise](#), [Emilia-Romagna](#), [Vietnam](#) and many others...

To know more about the product [click here](#). ■



BACK TO INDEX

## Sicily: local early warning system for the San Leonardo Viaduct

CAE has created a local early warning system for the San Leonardo Viaduct, along the SS121 Palermo-Agrigento, in Sicily, a task commissioned by Bolognetta S.c.p.A. for ANAS Sicilia.

It is a hydrometric early warning system with 3 measuring points in as many sections, between the San Leonardo River and the Azziriolo Stream. Each point is equipped with a **WLR radar hydrometer** for level measurement and are all acquired by a single **Mha-ster datalogger**.

Through the hydraulic models, the flow values corresponding to the hydrometric levels of interest were obtained, then used to define the alert thresholds for each of the 3 hydrometers. These thresholds contribute to determining the station status, which can be:

- normal;
- alert;
- pre-alarm;
- alarm.





When one or more thresholds are exceeded, therefore in the event of increasing hydrometric levels, the datalogger can enter one of the afore-mentioned states that involve different types of actions: in particular, when entering an alarm condition, the automatic system proceeds to limit vehicular traffic, activating the traffic lights located on the side of the road, one for each direction of travel on the viaduct. In addition, the station sends an alert report to the control centre.

The data are constantly sent to the ANAS monito-

ring centre and, should an event occur, an alarm system comes into operation notifying the operator that an alert is in progress and it is therefore necessary, depending on the degree of severity of the event, to closely monitor the situation or to intervene directly on site with operators. ■





BACK TO INDEX

## Early warning systems for roads and motorways: the case of the A24

A new case of a local early warning system for securing a raised section of the A24 motorway for crossing the Tordino river near the city of Teramo (TE). CAE has installed an **automatic station** with a **WLR/L radar hydrometer** and a camera for the acquisition of images relating to the area to be monitored and in particular the 5-meter-high hydrometric rod.

The system allows to define **warning/pre-alarm/ alarm thresholds** by the system operators, which will form the basis of the automatic early warning system to generate **alarm signals via SMS**, to the persons in charge of emergency management. The system, required by the Park Roads Authority, is now managed by ANAS, which can boast a new measuring point to constantly monitor the status

of its network and ensure its safety to those who pass through it.

Considering only the competence of the Anas road network, there are over 11,000 bridges and viaducts in our country. In addition to **structural monitoring**, it is essential that road managers **monitor the surrounding natural conditions** since, for example, the **hydrodynamic action of a water-course** can **decrease the stability of** bridge piles; similarly, the **movements of the geological layers of the slopes** in support of the ends of the bridge, whether caused by **the variation of the water level in the subsoil** or not, can compromise the usability of the structure for citizens. Last but not least, as in the case of the Tordino viaduct, when a bridge is located above a river in flood that may flood





the road, **local warning systems are the only solution capable of guaranteeing immediate action**, without having reach for the analysis department in the Headquarters or depending on a natural person, in order to concretely safeguard the safety of people traveling on the bridge; therefore, the control of these parameters becomes even more important also for civil protection purposes.

CAE has acknowledged the importance of this type of system for many years, since they are ca-

pable of generating alerts even at local level. One of the first ones was built in Emilia-Romagna, near Loiano, on the **Savena stream** in the early 2000s, a system, equipped with 2 hydrometers, which, when exceeding a defined threshold, sent a signal to signs that turned on their light to indicate the prohibition to transit due to the risk of flooding.

Since then, there have been many great examples in which systems have been created to protect the safety of drivers, such as the one for the **San Leo-**

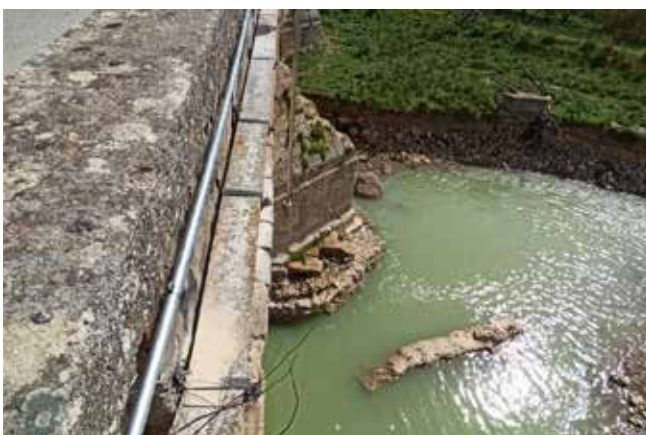
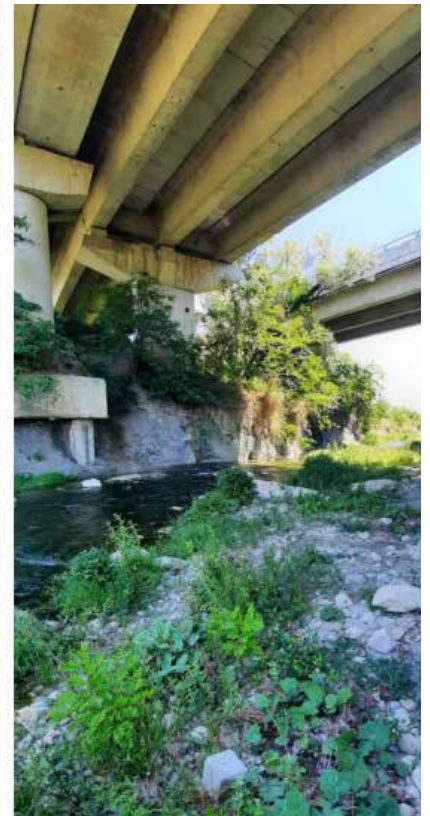


**nardo viaduct** along the SS121 Palermo-Agrigento road, in Sicily (for more information [click here](#)) or that of ANAS Sardegna for the **Oloè bridge**, on the SP46 Provincial Road, which consists of 5 stations and uses bars to inhibit traffic, minimizing the risk that may arise in some cases even due to the driver's failure to comply with signs or traffic lights (for more information, [click here](#)).

A great example is also the double warning system, located on the **Riccò** and **Scodogna** streams, each with a hydro-pluviometric station, and a traffic light control system, as well as the sy-

stems designed to inhibit traffic when the **underpasses** are **flooded** and therefore cannot be crossed safely, such as those of **Battipaglia**, **Rubiera**, **Pescara**, Giulianova, Montesilvano, Francavilla al Mare, Tortoreto, etc.

These are only a few examples **of local early warning systems** created by CAE, all with the **same operating logic** and with the same purpose, in terms of safeguarding the population, but **capable of meeting the most varied needs** according to the type of danger to which the specific road section is subjected. ■





BACK TO INDEX

## Campania Region in record time: monitoring network modernised in 90 days

A few months ago, we talked about the award of the first lot of the tender for the updating of the civil protection service trust network to monitor the hydrometeorological and hydraulic risk **of the Campania Region, which provided for the overcoming of *lock-in* situations and the use of systems based on open communication protocols, through the updating of tools and for the improvement of performance and radio polling times** (for more information, [click here](#)).



To date, we can report that in **90 days** from the report of the delivery of the sites, **the updating and technological adaptation of 70 SP200 stations**, which were of an old technology, with new CAE-tech **Compact Plus** dataloggers, the adaptation of the entire radio transmission infrastructure consisting of **264 points** where **UHF RÆVO radiomodem** were installed, the implementation of the equipment updated in the plant, as well as the technological adaptation of **22 hydrometric sensors, 25 thermometric sensors, 13 hygrometric sensors, 3 obsolete barometric and radiometric** sensors in order to align the performance of the same with

those of the most recently supplied sensors which were already used in the system and performed adequately, such as **ULM30** and **THS**.

As always, the hardware update is accompanied by all the necessary services: design, installation, training, field and remote maintenance that also includes a **24/7 assistance service**.

The station data can be consulted on the website of the Regional Functional Centre, where forecasts, alert bulletins, event reports and many other useful information useful to be well informed citizens are also available. Visit the website [click here](#). ■





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