CAE
innovation for a safer world.

CAE MAGAZINE
n.21 · *July 2021*

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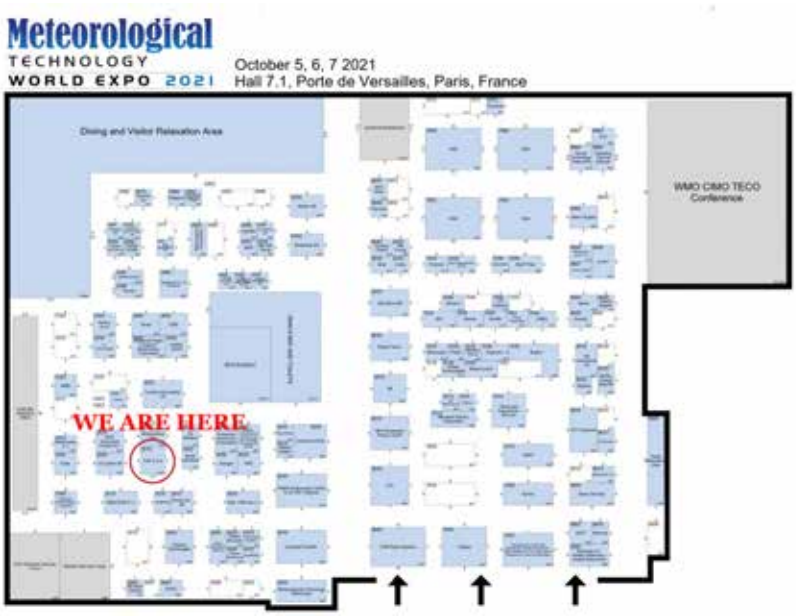
Join us at the Meteorological Technology World Expo 2021 | 5-7 Oct, Paris

After a tumultuous year due to the Covid-19 pandemics, it's time to restart with **Meteorological Technology World Expo (MTWE),** world's largest event for the meteorological sector which will take place in **Paris from 5th to 7th of October 2021**. We look forward to seeing you in **Stand #3015** with all the appropriate precautions to ensure and promote the health and safety of all attendees.
MTWE, now in its tenth edition, is a truly international exhibition attracting around 200 companies and 4,000 attendees from over 100 countries worldwide. It is the largest event in the world for suppliers and manufacturers of meteorological, hydrological, oceanographic and environmental technologies and services.



What do we bring to MTWE this year?

Come to see and get the first hands-on experience of our latest measurement and analysis technologies for **multi-hazard monitoring and early warning**, among them:

- **COMPACT** datalogger: CAE's latest datalogger characterized by an embedded **Linux** operating system and an interactive **web server** on board. Launched in 2019, the dataloggers of the Compact line has already achieved **great success** not only in Italy but also around the world (Peru, Kyrgyzstan,...);

- **PG4i** stand-alone rain gauge: A "made in Italy" solution appreciated all over the word. PG4i combines an accurate measurement of rain totals and intensity with integrated datalogger and 3G mobile modem. It is a professional all-in-one rain measurement system;

- **AEGIS** new web-based platform by CAE: a powerful decision making support tool for emergencies, which combines in real time the updated data from field sensors in a geo-spatial display. Developed on an open-source architecture, AEGIS is particularly interoperable.

That's only some of our latest developments. We will be at your complete disposal for the length of the show to provide information, dedicated meetings, specific studies, solutions and proposals, always in the name of innovation for the protection of the environment and, especially, of human lives.■

In order to better organize the event and avoid crowded gatherings, schedule a meeting with us by sending an email to alberto.bertocco@cae.it

For each appointment, we will be happy to offer you a drink and special gift!

For any information drop us an email at sales@cae.it

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WMO approves the Hydrology Action Plan

The **WMO** (World Meteorological Organization) announces that the Executive Council has approved the vision and strategy for Hydrology and the related **Hydrology Action Plan**, expressing the need to improve the monitoring and management of water in facing growing water challenges, water-related risks and water quality.
Water resources are under stress and increasing demand is adding further pressure. Climate change is increasing the variability in the water cycle, inducing a greater number of extreme weather events, reducing the predictability of water availability and affecting water quality. All these consequences threaten sustainable development, biodiversity and the enjoyment of the human right to water and sanitation worldwide.
The frequency of water-related **disasters** is increasing due to the **increasing intensity** of natural events. Floods, droughts, landslides, sea storms and glacial lake outburst floods are increasingly intense, frequent and harmful.
Until 2030, the water-related initiatives of the WMO will have to be designed in order to achieve the following eight ambitions (video):

1. no one is surprised by a flood;
2. everyone is prepared for drought;
3. hydro-climate and meteorological data support the food security agenda;
4. high-quality data supports science;
5. science provides a sound basis for operational hydrology;
6. we have thorough knowledge of the water resources of our world;
7. sustainable development is supported by hydrological information;
8. water quality is known.

The activities needed to achieve these goals are detailed in the Action Plan, which is the result of extensive consultation with the hydrological community, including two on-line rounds that brought more than 340 comments from experts from around the world.
In addition, in June the Executive Council of the WMO was in virtual session from 14th to 25th, with the aim of strengthening and expanding meteorological, climate, water and environmental services. In addition to the Hydrology Action Plan, the Council discussed an important update regarding the management of WMO data and how to bridge the gap in the global observation system. ■

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Region of Sicily: the integration of the meteorological monitoring network for the purpose of civil protection has been completed

The activation of all **265 new automatic stations**, as well as of the **19 repeaters** with radio reserve and of the new software and hardware technologies for the control centres, has been recently completed. The measurements are now updated via radio every **10 minutes** and more timely data requests are always possible also via GPRS. Thanks to this investment (made with PO FESR 14-20 funds - European Regional Development Fund, Action 5.1.4), the **Decentralized Functional Centre - Idro (CFD-Idro)** finally has the **control and monitoring systems needed for an effective prevention and real-time control of meteorological phenomena**.

It has been two years of intense work for the **Civil Protection of the Region of Sicily**. Installing 265 new stations has required both great technical effort and hard work to obtain permits. Each monitoring site required its own authorizations and had its own times and challenges: the dedication and commitment of the authorities in charge allowed to overcome the bureaucracy and achieve this result.

The effectiveness of this network is based on its consistency, timeliness, efficiency, reliability and redundancy. All the provided supplies and services aimed at creating a complex meteorological survey system, with a high technological profile, as well as at performing specialized activities and services such as aerial surveys, LIDAR surveys, **topographic surveys**, **mapping**, **DSM** and **DTM**, in order to establish and **integrate** the existing **Geodatabase**. The recently concluded extension aimed at solving some of the major problems, especially in those parts of the region where, for geological and climatic reasons, there is a greater tendency to geomorphological instability and flooding phenomena, even in small watersheds.

In order to guarantee the highest possible level of integration, a **single system** will be implemented building around the network of the Water Observatory (Osservatorio delle Acque) which, due to implementation criteria and transmission systems, has proved to be suitable for Civil Protection. **The system now integrates already existing and new stations**. The system has a single UHF radio network, as well as two main control centres: one at the CFD-Idro (DRPC), the other at the Basin Authority (AdB). This solution will allow CFD-Idro to **manage all the stations jointly and simultaneously**, without the need to overlap separate subsystems or split systems, which would involve more or less complex integration logics that often prove to be inefficient. The Giampilieri "system" has also been integrated into the UHF radio data exchange procedures. Finally, the new headquarters at the SIAS (Sicilian Agro-metereological Information Service) will also receive data from the CFD-Idro main centre, while the data collected by the stations of the SIAS proprietary network needed by the Administration will be integrated and subsequently transmitted to the main AdB and CFD-Idro centres.

As far as redundancy is concerned, backup repe-

aters have been integrated to all new repeaters, as well as to old ones not already provided with it, now guaranteeing prompt switching between the main equipment and the backup device in case one of them fails to function properly. Furthermore, a GPRS/UMTS secondary communication system has been added. ■

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Ready to intervene in a few hours: a PG4i for the landslide in Morino (Region of Abruzzo)

A landslide phenomenon has been active for some time and is digging up a slope below the fraction of **Rendinara**, in the **Municipality of Morino**. The landslide directly affects the neighbouring town of **Castronovo**, in the **Municipality of San Vincenzo Valle Roveto**.

In mid-March 2021, the danger for the population of the affected area increased, as the rains and atmospheric events of the previous period caused a **major landslide**. The instability develops towards the valley of the **Liri river**. Inside the landslide body there are several **uncontrolled springs** transporting large quantities of debris downstream, mostly clayey, conveying into the **Rio Sonno** channel, which then flows into the Liri River. The material transported in March, whose **volumes can be estimated in a few thousand cubic meters**, created the **almost total obstruction of the Liri riverbed** for a few hours, with consequent raising of the water level upstream, as well as the obstruction and alteration of the hydrogeological regime of the watercourse.

An Info Media News interview with the mayor of San Vincenzo Valle Roveto, Luciano Lancia, available at the following link, shows suggestive images helping us understanding the extent of the phenomenon, described in detail by the mayor, who also

mentions the involvement of all the Bodies and interested parties, including the mayors of the municipalities that have signed the River Contract. In CAE Magazine n.28, we talked about the meaning and importance of **River Contracts** with Meuccio Berselli, Secretary General of the Po River District Basin Authority, and in this case we face a practical example of their usefulness (to learn more click here).

This phenomenon is now being monitored with satellite technology. Furthermore, as communicated by the Civil Protection of the Region of Abruzzo (link), after the **inspection occurred on April, 29th** attended by the Civil Protection Department of the Region of Abruzzo, the Department of Civil Protection, the Competence Centre for the Civil Protection of the University of Florence, the Civil Protection of the Region of Lazio, the Regional Civil Engineers Service of L'Aquila, the INGEO Department of the University of Chieti-Pescara and the Administrations of the Municipalities affected by the landslide phenomenon, on the morning of May, 16th, the technicians of the **Functional Centre of the Civil Protection System of the Region of Abruzzo** installed a **new** PG4i **"stand alone" rain gauge in the Rendinara fraction, in the Municipality of Morino (**video**). Given the emergency situation, the rain gauge was quickly supplied by CAE**, which is currently in charge of the maintenance service of the **hydro-meteorological monitoring network of the Functional Centre of the Region of Abruzzo.** The sensor allows **real-time recording and monitoring of rainfall in the landslide area**, as well as **the display of data to the competent staff** via a **web platform**, ensuring increasingly precise analysis and processing. Moreover, **with the installation of this rain gauge, the area can be included within the experimental activity of forecasting hydrogeological instability events** that the Functional Centre of Abruzzo carries out in cooperation with Cetemps in order to identify **triggering rain thresholds**.

Once again, CAE is ready to intervene quickly during emergency situations linked to the risk of hydrogeological instability. ■

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May 27th: the Citizen Observatory at the European River Symposium 2021

The "**European River Symposium 2021**" was held on 26 and 27 May. This format was born in 2013 with the aim of increasing efforts to protect, restore and better manage rivers in Europe.

The Symposium allowed to provide information on the state of rivers, highlighting important issues and examples of initiatives that improved the protection and restoration of water courses. The event **brought** together various European institutions, organizations and firms, which play a key role in **protecting or influencing the health and quality of water and river ecosystems**.

Among the conference partners there are: European Centre for River Restoration, ECRR; International Association for Water services in the Danube Basin, IAWD; World Wildlife Fund Central and Eastern Europe, WWF CEE; International Network of Basin Organisations, INBO; Global Water Partnership Central and Eastern Europe, GWP CEE; International Commission for the Protection of the Rhine, ICPR; International Commission for the Protection of the Danube River, ICPDR; Ramsar Convention, Ramsar Bureau; The Nature Conservancy, TNC; United Nations Economic Commission Europe, UNECE; Alliance for Water Stewardship, AWS.

The Symposium highlighted the changes in rivers and the specific actions that have been undertaken by the European legislation (***Water Framework Directive***) and, above all, the possibilities and opportunities presented by the ***European Green Deal*** and the ***European Biodiversity Strategy***.

In short, the objectives of the event are:

- providing an integrated perspective on the ecological restoration of rivers to implement the Water Framework Directive;
- ensuring active involvement of sectors impacting rivers (for example, agriculture, production industry, water services, energy, navigation, tourism);
- being a dynamic and interactive event by presenting discussions and panels that ensure dialogue and interaction between all participants.

On this important European stage for the hydrological sector, on **Thursday 27th of May at 2.15 pm** during the session entitled "***Participatory basin management: how to do it & why it matters!***", organized by **INBO** in collaboration with **WWF**, Eng. **Michele Ferri**, Director of the Hydraulic, Innovation and Research Department of the Eastern Alps Hydrographic District, presented a success story: the project for the construction of the system and platform for the **Citizens Observatory on the Brenta-Bacchiglione UOM (Unit Of Management)**, within which CAE was responsible for the construction of the hydro-thermo-pluviometric monitoring network, as well as for the provision of data to be published on the platform. To find out more about this project, which is now close to testing, click here.
Complete program of the European River Symposium 2021: click here. ■

CAE MAGAZINE

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https://www.cae.it/eng/magazine-hm-30.html?mId=90