

## Flood monitoring and early warning system for the City of Belgrade



The **City of Belgrade** is the largest urban settlement in the Republic of Serbia, as well as its administrative and commercial centre. In May 2014, the city suffered substantial damage, in particular in the peripheral area, and that led to the evacuation of many people.

This event pointed out how vulnerable cities are to **natural disasters**, which is why the City of Belgrade has planned a 3-year cooperation to improve **Belgrade's resilience to natural disasters**. An annual work plan was drawn up within which the activities were defined and distributed over time, and the funds for their implementation were identified. Among these activities there is also the implementation of **monitoring and early warning systems**.



## Beograd

### Summary

**Location:** City of Belgrade, Serbia

**Conclusion:** 2020

**Focus:** Hydrometeorological risk

**Challenges:**

- Strengthening the resilience and preparedness of the City of Belgrade in response to natural disasters and moments of crisis

**CAE solutions:**

- 34 PG4i stand-alone rain gauge stations
- 7 stations equipped with heated PG2R rain gauges
- 22 hydrometric stations
- 3 UHF repeaters
- Centralized system for the configuration and maintenance of the network
- Data visualization software, mobile app
- Specialized training

## FEATURES

CAE, in a temporary consortium with an important Serbian company, won the tender organized within the project aimed at **strengthening the resilience and preparedness of the City of Belgrade** in response to natural disasters and moments of crisis.

These are all **cutting-edge supplies**: the stand-alone rain gauge stations consist of **PG4i** equipped with integrated datalogger and **3G** module. **PG4i** is a stand-alone rain gauge that performs the activities of an entire rain gauge station, allowing you to record and send diagnostic information to a control center or to an **FTP** server, in addition to the data on rainfall intensity and totals.

The **heated rain gauge stations** are equipped with **PG2R**, a rain gauge designed to reduce consumption to a minimum, which allows it to be used on stations powered exclusively by a solar panel and battery.

The consortium took care of carry out **installation, start-up, calibration and testing** activities, as well as **integration services** with existing data belonging to the Hydro-meteorological Service of the Republic of Serbia and of **specialized training** to the end users.



## COMPOSITION

The project provides for the supply of:

- 34 stand-alone rain gauge stations;
- 7 stations equipped with heated rain gauges;
- 22 hydrometric stations;
- 3 UHF repeaters;

As far as the **software** is concerned, a centralized system was provided for the configuration and maintenance of the network, together with a database, **data visualization software** and **mobile app** that allow to monitor the progress of the network even "on the go".

