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VPF-710
The B O B E R Project - Slovenia
White Paper

The B O B E R (Better Observation for Better Environmental Response - Boljše Opazovanje za Boljše Ekološke Rešitve) Project, Slovenia

The BOBER project was completed in 2015 and it is the largest project for monitoring the environment conditions across Slovenia. The project goals were to upgrade the national system for monitoring and analysing the state of the water environment in Slovenia. It was undertaken by the Slovenian Ministry of the Environment – Repulika Slovenija Ministrstvo Za Okolje in Prostor Agancija Republike Slovenije Za Okolje.

Its key objectives were to be able to improve forecast models, develop new national water cycle models, detect potential flooding events, to then analyse the danger posed and to then inform and warn the affected people.

Introduction

Slovenia is located on the southern side of the Alps and, because of its geographical position, receives significant annual precipitation. Nevertheless, local disruptions to the water supply are on the increase. During the last two decades, droughts have become more frequent, which have reduced groundwater reserves and the quantity of surface water flows has also decreased. In the light of the current understanding of the impact of climate changes, droughts and floods will become more frequent and severe. If, in addition we also take into account underground water pollution in areas of intensive agriculture where there are also important aquifers, clean water reserves have been quickly and, in many cases, irreversibly depleted.

Therefore, reliable data on precipitation and other atmospheric parameters was required to be able to perform analysis of the current situation in real-time. This data can then be used to issue warnings about potentially destructive natural events, such as flooding.

The Environmental Agency of the Republic of Slovenia (ARSO) is responsible for this data network. In order to speed up and extend this network of sensors and stations, and with the assistance of EU funds, ARSO implemented a major project entitled ***"Upgrading the system for monitoring and analysing the state of the water environment in Slovenia"***.

Objectives

The essential objective of the project was to ensure reliable, high quality and spatially representative meteorological and hydrological measurements, which will facilitate comprehensive monitoring and analysis of the state of the water environment in Slovenia. This data then allows

more accurate forecasting of extreme hydrological phenomena. The total investment in the project was €33 million.

Instrumentation

Biral's VPF-710 was chosen as the visibility sensor to be used across Slovenia for this important national project. This highly advanced and rugged sensor was ideal to link into the new data networks and report back local environmental conditions in real-time along with other key meteorological parameters. With a working life in excess of 10 years, the VPF-710 will be an integral part of this new meteorological network for the life of this project.

Outcome

The wider purpose of the project was to improve the ability of the Environmental Agency of the Republic of Slovenia to monitor, examine and forecast the national water cycle. In terms of environmental protection and effective and sustainable use of water resources, protecting drinking water is especially important. The protection of human health and life against the consequences of natural disasters (protection against floods and droughts) is another very important aspect, which is now based on correct and timely meteorological and hydrological forecasts and the provision of data in real time.

The upgraded system provides linkage and improved data sources for the Environmental Agency of the Republic of Slovenia to the data collections of other professional institutions extending and improving upon the current models.