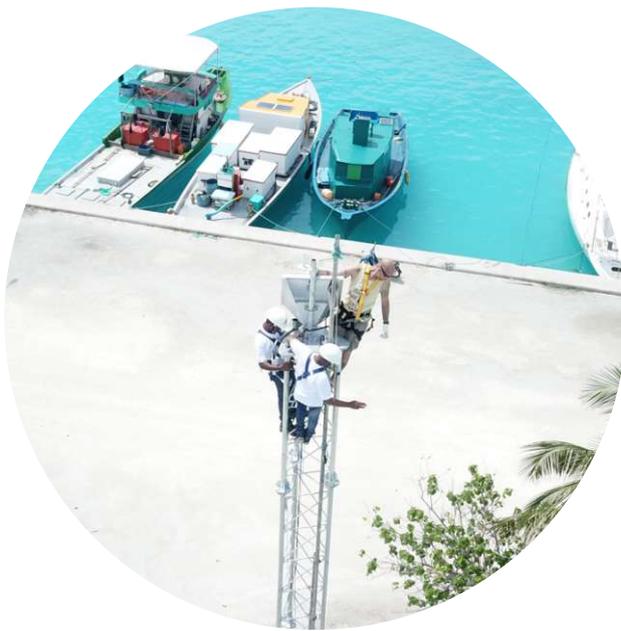




MALDIVES METEOROLOGICAL SERVICE (MMS)

Expansion of Maldives national meteorological monitoring network with 25 new stations and control center



The Maldives are highly vulnerable to **natural disasters**, especially during the South-West monsoon season due to their geoclimatic conditions, and these risks clearly affect the profile of the physical and socioeconomic vulnerability of the country.

Extreme events, including flash flooding, long periods of drought, high waves, rough seas, hurricanes, tornadoes and strong winds, will become more frequent and intense due to the effects of **climate change**, and will negatively affect all major sectors of the national economy. Because of all these phenomena, it is important to **strengthen real-time monitoring of meteorological conditions**, by creating an efficient network of stations that act as an **Early Warning System**.

Summary

Location: The Maldives

Work completion: 2018

Focus: Risk due to extreme weather events

Challenges:

- Maldives is highly vulnerable to natural disasters and frequent extreme weather events
- Strengthen real-time meteorological monitoring

CAE solutions:

- 25 new weather stations and control center
- Mhaster datalogger, an open source technology based on embedded Linux operating system
- Wide range of sensors: Rain gauge PMB25, THS,...
- Specific field and classroom training activities

FEATURES

CAE won the tender and signed the contract on December 4th, 2017 during a ceremony attended by Mr. Giancarlo Maria Pedrini - Vice President of CAE, Mr. Thoriq Ibrahim - Minister of Environment and Energy of the Maldives and Mr. Abdulla Wahid - Chief Executive of Maldives Meteorological Service.

The aim of this project is to **expand the existing real-time meteorological monitoring network** of the Maldives with new automatic weather stations, distributed in remote areas of the islands, in order to implement a **prompt warning action, to alert the population and prevent catastrophes.**

Thanks to **CAE's state-of-art technology**, it is possible to alert the population and transmit the latest available information on climate and on possible environmental dangers, in order to save human lives and minimize damages in case of natural disasters.

Moreover, in this project the **environmental impacts, the needs of local population** and problems related to the lack of space, which are typical of small islands, have been taken into account.



COMPOSITION

The project consists of the "turnkey" supply of 25 new weather stations, located in the various islands and in the new airports which are about to be built.

These stations are composed of:

- **Mhaster datalogger**, an open source technology based on embedded Linux operating system;
- Wide range of sensors to measure wind speed and direction, rainfall intensity and quantity (Rain gauge **PMB25**), atmospheric pressure, air temperature and relative humidity (thermo-hygrometer **THS**;
- Through the **GPRS communication system**, each station transmits the collected data in real time to the **new control center**, located at Maldives Meteorological Service in Malé;
- **Solar panels and rechargeable batteries** supply energy to the installed stations, which are therefore equipped with a power supply independent from the main electric system.

In addition, in order to view and analyse the collected weather data, CAE has provided not only the **software** to be used on the server and workstations, but also the **tools for managing these data "on the go"**, which is to say apps for mobile devices and a website.

The project ended with **specific field and classroom training activities** addressed to the personnel of the MMS.

