

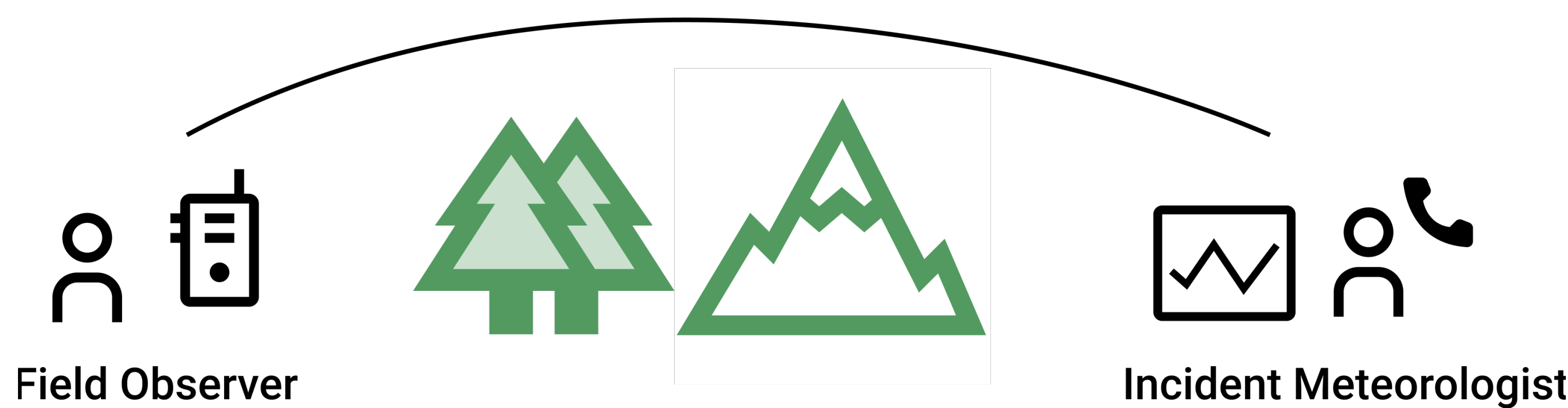
Weather Box

Weather data collection of the future

PROBLEM

The parameters of fire weather is critical for the **Fire Behavior Analysts (FBAN)** and **Incident Meteorologists (IMET)** for strategic planning to save lives.

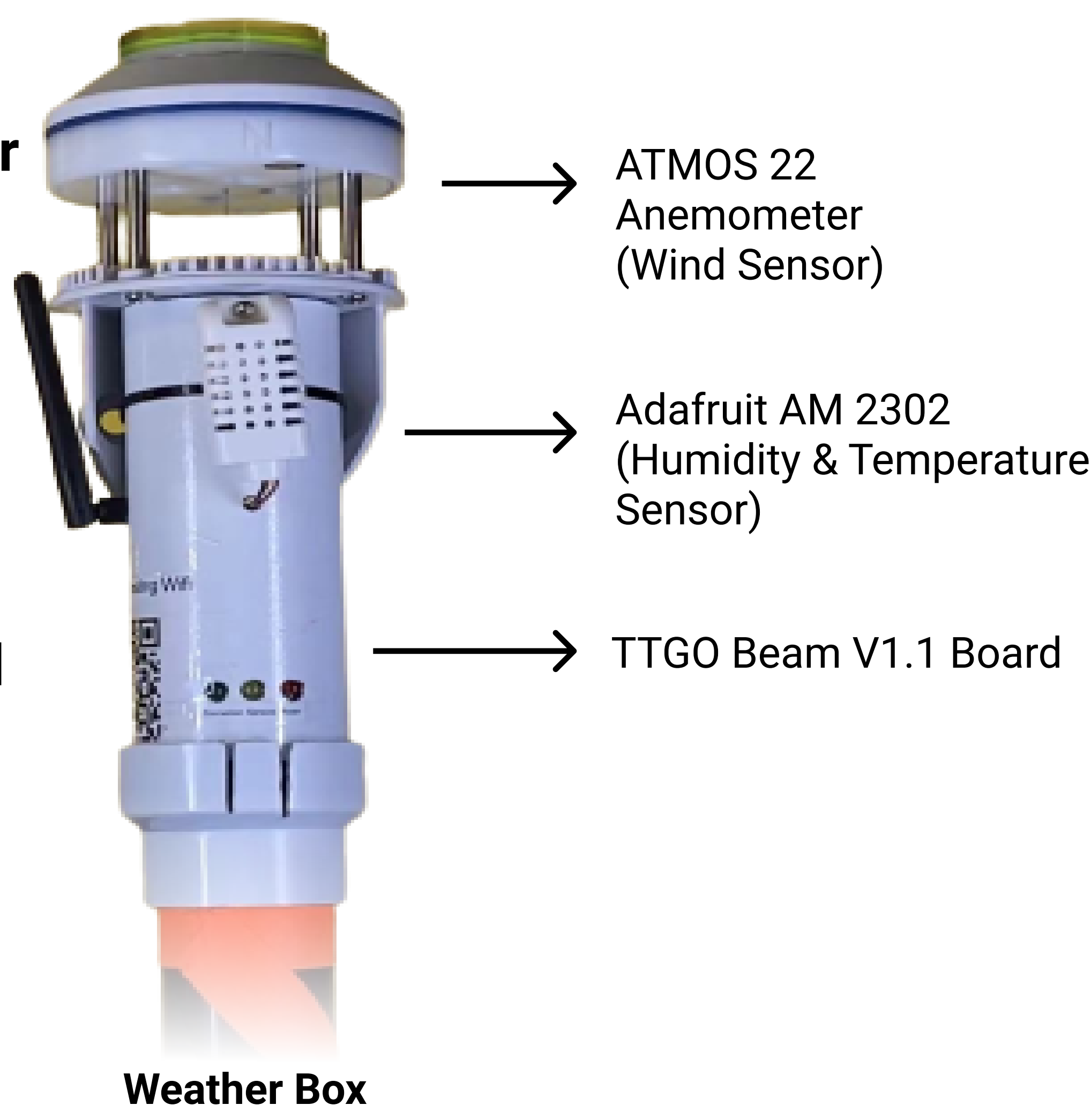
Field observers (FOBS) need to hike a few miles and back to location where the remote automated weather stations (RAWS) and portable weather stations can't be deployed, and report their weather observation to FBAN and IMET.



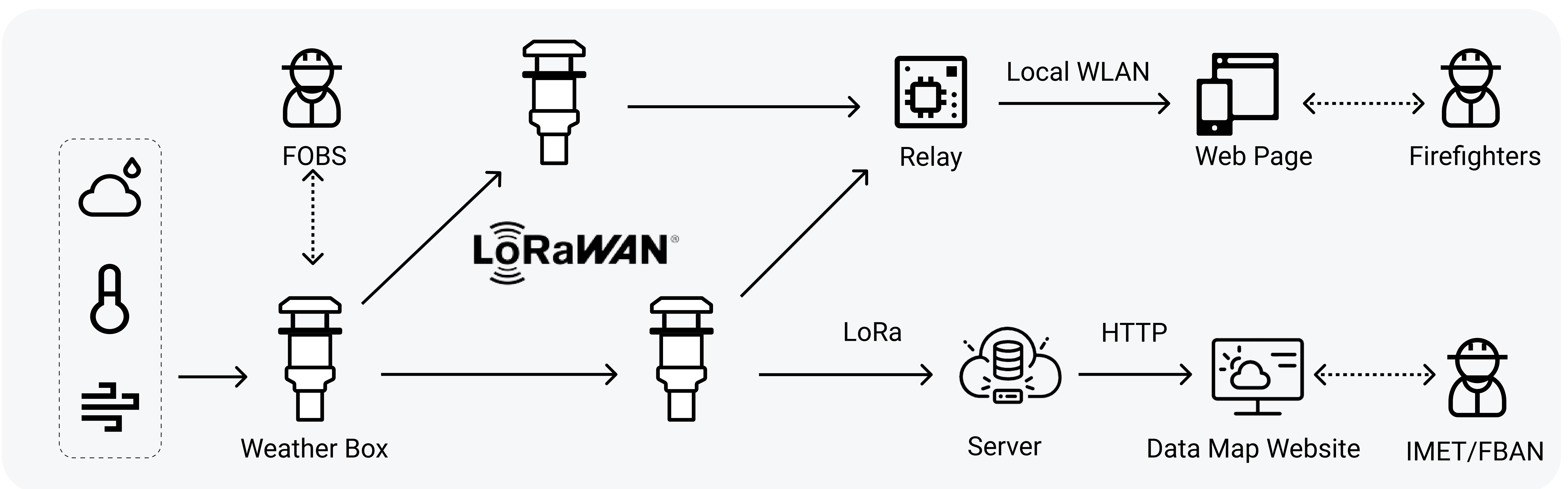
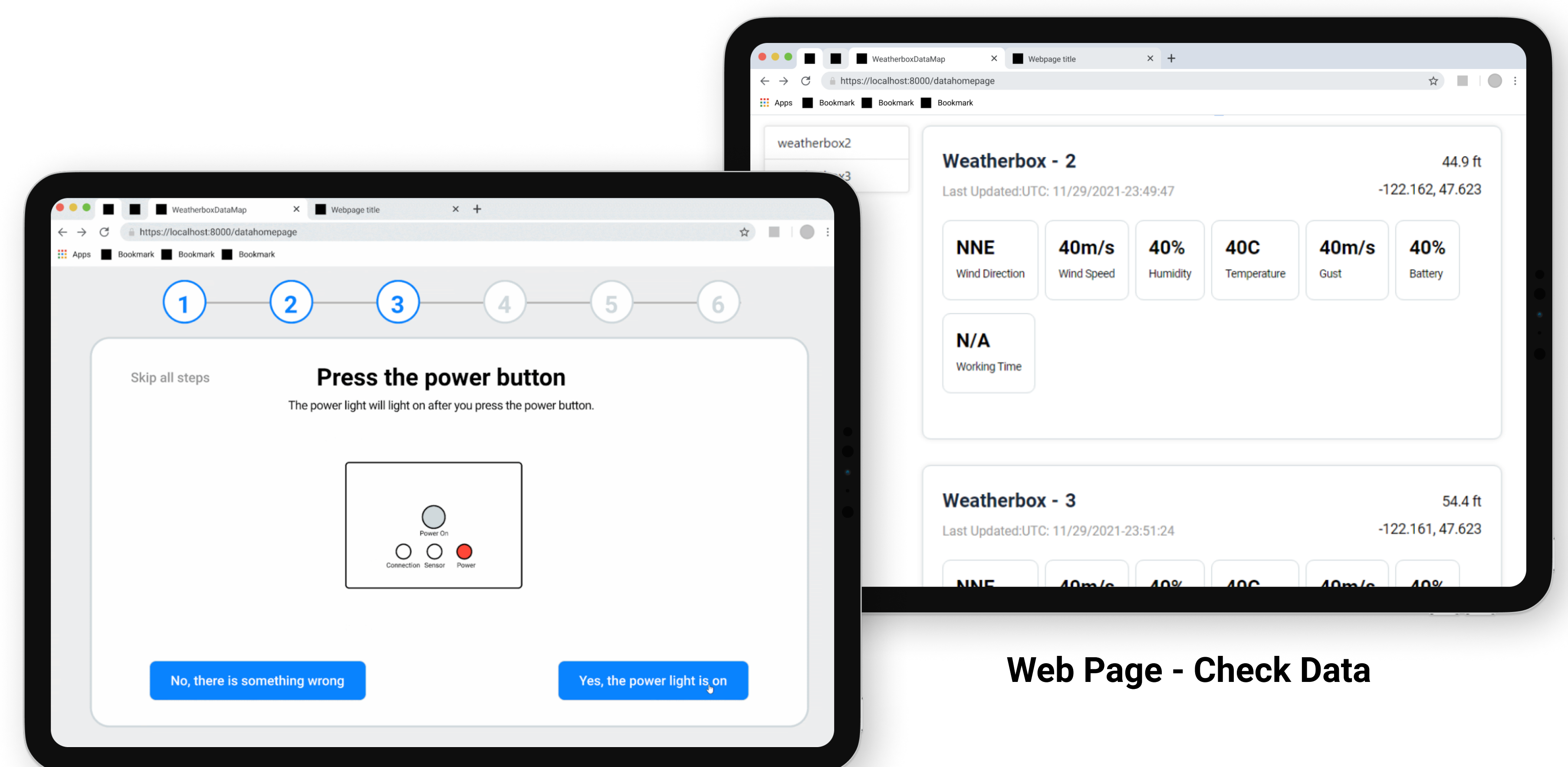
SOLUTION

We replaced the analog and time consuming weather observation method with a digital and instantaneous weather monitoring solution.

It is a system that includes weather data (**temperature, relative humidity, wind speed and wind direction**) collection devices, LoRa Mesh Network to send weather data back in low signal coverage areas, a relay and two webapps for users to access data both in the field and in the office.



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APPROACH

We first conducted secondary research and competitive analysis. After that, we conducted 4 subject matter expert interviews from DNR and NOAA to define the problem scope. We discovered that the current weather observation method is slow and analog.

We decided to create a whole new system that is able to help the weather monitoring process to be more efficient and with real time data transfer. In the evaluation stage, we evaluated our prototype with usability tests and functional tests.

