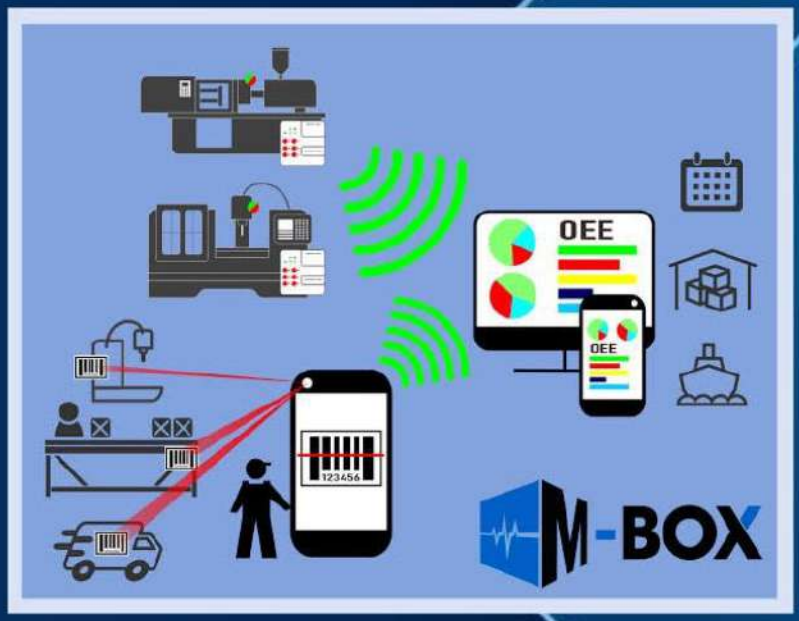
Introduction:

The flood monitoring and warning system developed by ENVIRA IoT receives accurate and reliable information about real risks, so measures to protect the most vulnerable areas can be established and Public Administrations can collect real data to generate statistics for the design of optimal protection strategies.

Notification system – informs the responsible persons through a voice or text message about an emergency and at the same time summons the personnel to emergency management meetings.



Flood Monitoring system – monitors the actual hydro-meteorological situation (total precipitation, water levels in rivers)

Early Warning system – provides early warning for the population in endangered areas based on the information delivered by a monitoring system.

Object:
Flood monitoring is to prevent floods from harming the environment. Flood alarm stations are set up to provide real-time data on rivers, lakes, reservoirs or other water bodies.

Flood warnings:

A Flood Warning is issued when the hazardous weather event is imminent or already happening. A Flood Warning is issued when flooding is imminent or occurring. Flood Advisory: Be Aware: An Flood Advisory is issued when a specific weather event that is forecast to occur may become a nuisance.

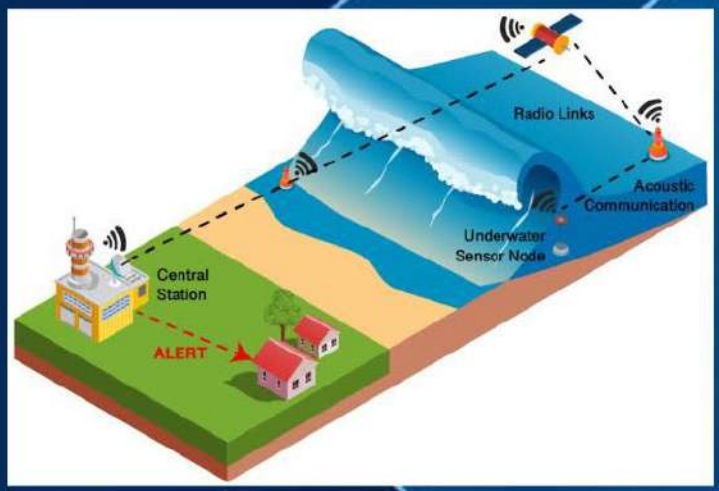
Advantages

Timely detection of possible flood risks and floods.

Highly reliable and available real-time data.

Tailored solution that can be integrated with external developments at any level (device, connectivity, cloud or user application).

Characteristics of early warming systems:
(i) risk knowledge,
(ii) monitoring and warning services,
(iii) dissemination and communication and (iv) response capability.



The warning system includes:

Wireless sensor network capturing relevant variables about the flow of rivers and streams (level, flow, speed, water temperature, etc.).
A smart computer system for the exploitation of hydrometeorological and weather data captured to generate warnings and notifications for events that may involve a flood risk situation.

Central Water Commission (CWC): provides statistical methodology (gauge to gauge correlation) based short range flood forecast. Presently, flood forecasts are issued by CWC at 332 stations (133 Inflow Forecast Stations and 199 Level Forecast Stations). Annually, about 10,000 flood forecasts are issued by CWC.

Conclusion:

the developed flood monitoring and early warning system that utilizes ultrasonic sensor to detect water level, functions perfectly according to the specification provided. It successfully passed several tests based on the different parameters.