

## WIRELESS EXPENDABLE CONDUCTIVITY, TEMPERATURE AND DEPTH PROFILER SYSTEM

### BRIEF DESCRIPTION:

An Expendable Bathymeter (XBT) is a temperature probe that is dropped into the ocean from a ship, either by hand or using an automatic launching system. In this conventional method, the temperature profiles are recorded as the probe descends at a known speed about the upper layer (500m) of the ocean and it uses wire ropes for ascending and descending operation of the system. The temperature and salinity is one of the important parameters for deriving sound velocity in the seawater which is used for vessel based sonar's. The continuous and periodical measurements of conductivity, temperature is essential for climate mitigation. Embedding all the necessary requirements, an expendable conductivity, temperature and depth system is developed for oceanography measurements.

It can be freely dropped by hand from any ships without environmental interventions also and data is collected, transferred using wireless communication technology. The data can be collected either in descending or ascending operation which is being implemented using positive and negative buoyancy methodology. The WXCTD is a system used to measure and store the CTD data in real time upon surfacing in Ocean

### ADVANTAGE:

- It is widely used to study and understand about upper ocean thermal structures.
- The high accurate conductivity and temperature data is collected throughout the profile incorporating pressure-based depth sensor without any calculation or assumption.
- Accurate depth measurement using pressure sensors
- Single float can be configured for various depth ranges.
- Data transfer through wireless communication which avoid float losses
- Either by hand or automatic launcher. Low power operated system with rechargeable batteries.
- RTC update is possible.
- The user configurable depth profiling data is obtained and stored for transmission.

**Scale of development:** Ready for licensing of Technology

