Innovation Module

# Problem

Establishing a wireless underwater communication modem to tackle the limitations of wired communication systems without compromising on the data rate and reliability

# Solution

Underwater Acoustic Communications is a method using sound waves to establish communication between remote underwater sites. Reliable communication over long ranges with high data rates can be achieved using spread spectrum schemes which tolerate channel distortions and uses the bandwidth efficiently

# Innovative aspect:

We have used a type of modulation called quaternary chirp slope keying at the physical layer communication. This modulation is proven to be robust in the harsh underwater conditions without compromising on the data rates.

# End Customers:

People involved in:

·       mobility of autonomous vehicles

·       gather oceanographic data for weather predictions

·       monitor underwater pollution

·        deep sea diving

·        Defense

·        marine archeology

·       offshore oil industries

·       aquaculture industries

·       search and rescue missions