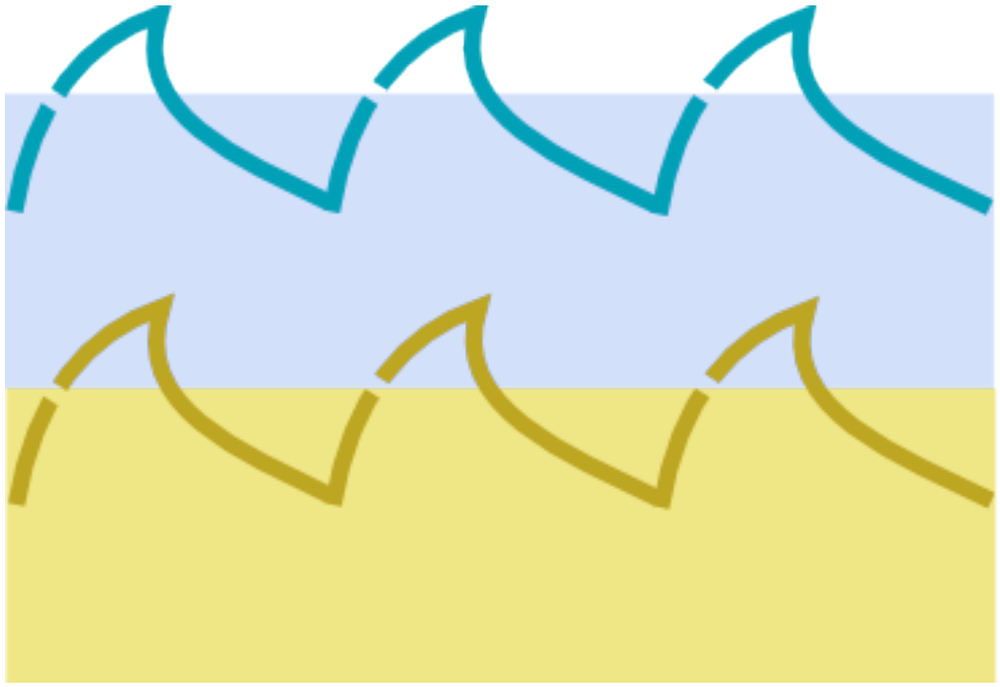
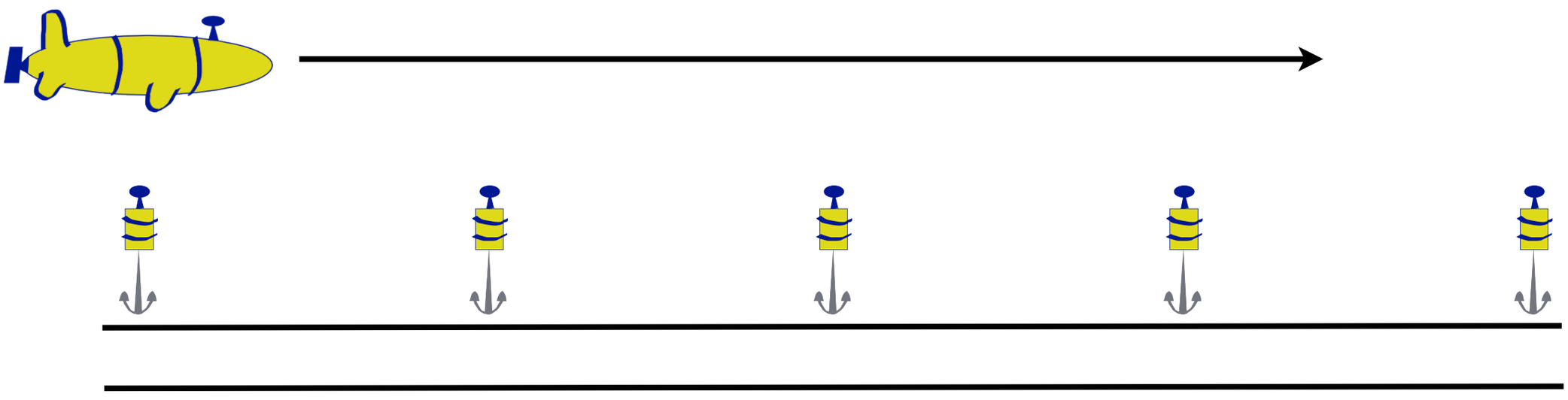


Scenario Proposal

12th DESERT meeting (21/06/2012)

Federico Favaro & Ivano Calabrese

First scenario: Underwater pipeline



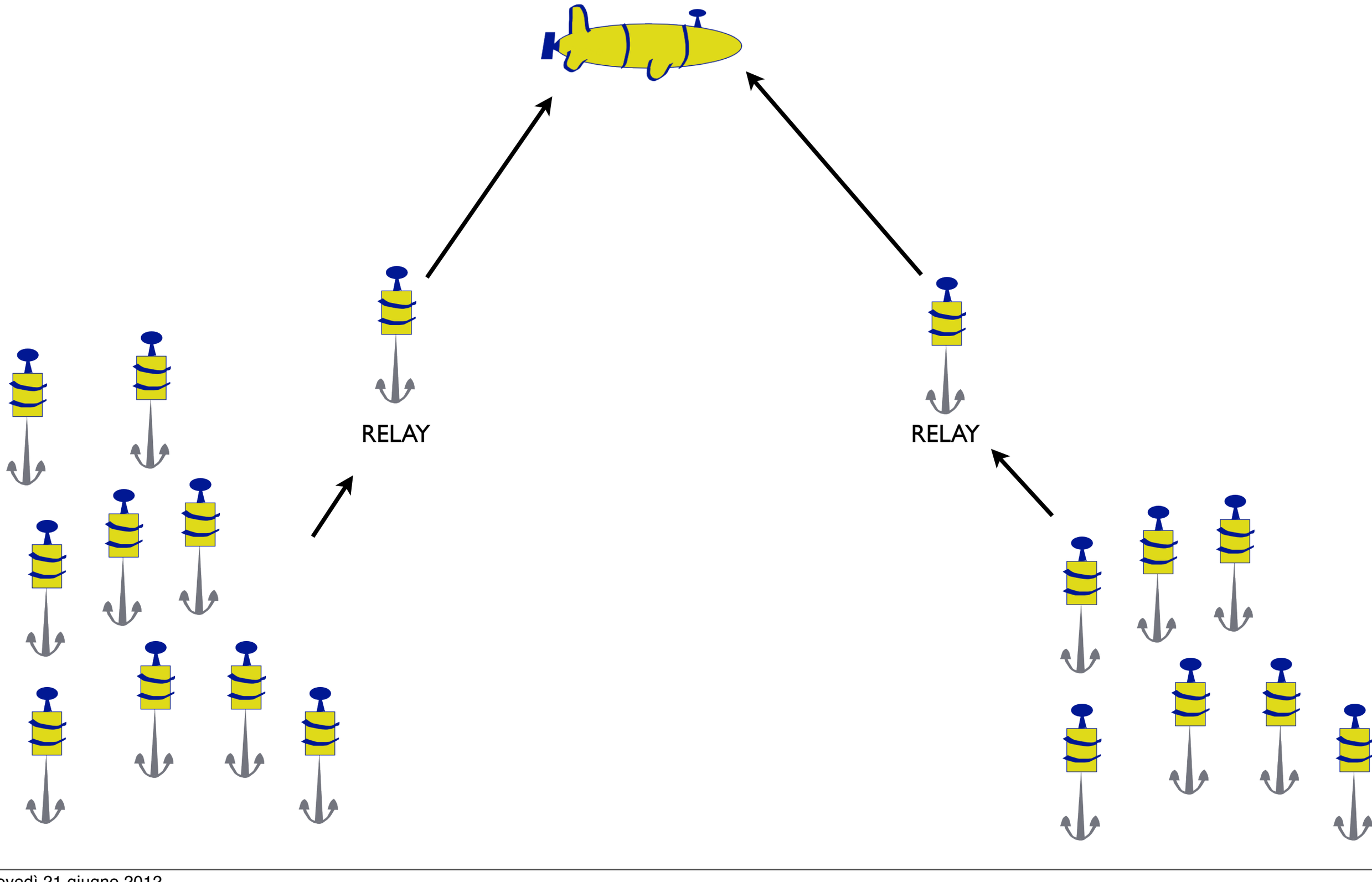
✓ Very easy to deploy

✓ Typical scenario for MAC protocols: we can test and stress UW-POLLING or CSMA-ALOHA

✓ “Scalability” is very easy to test : UW-POLLING can be tested at different nodes distances

✓ Used and also proposed in the real world (CLAM)

Second scenario: Dense network and relay

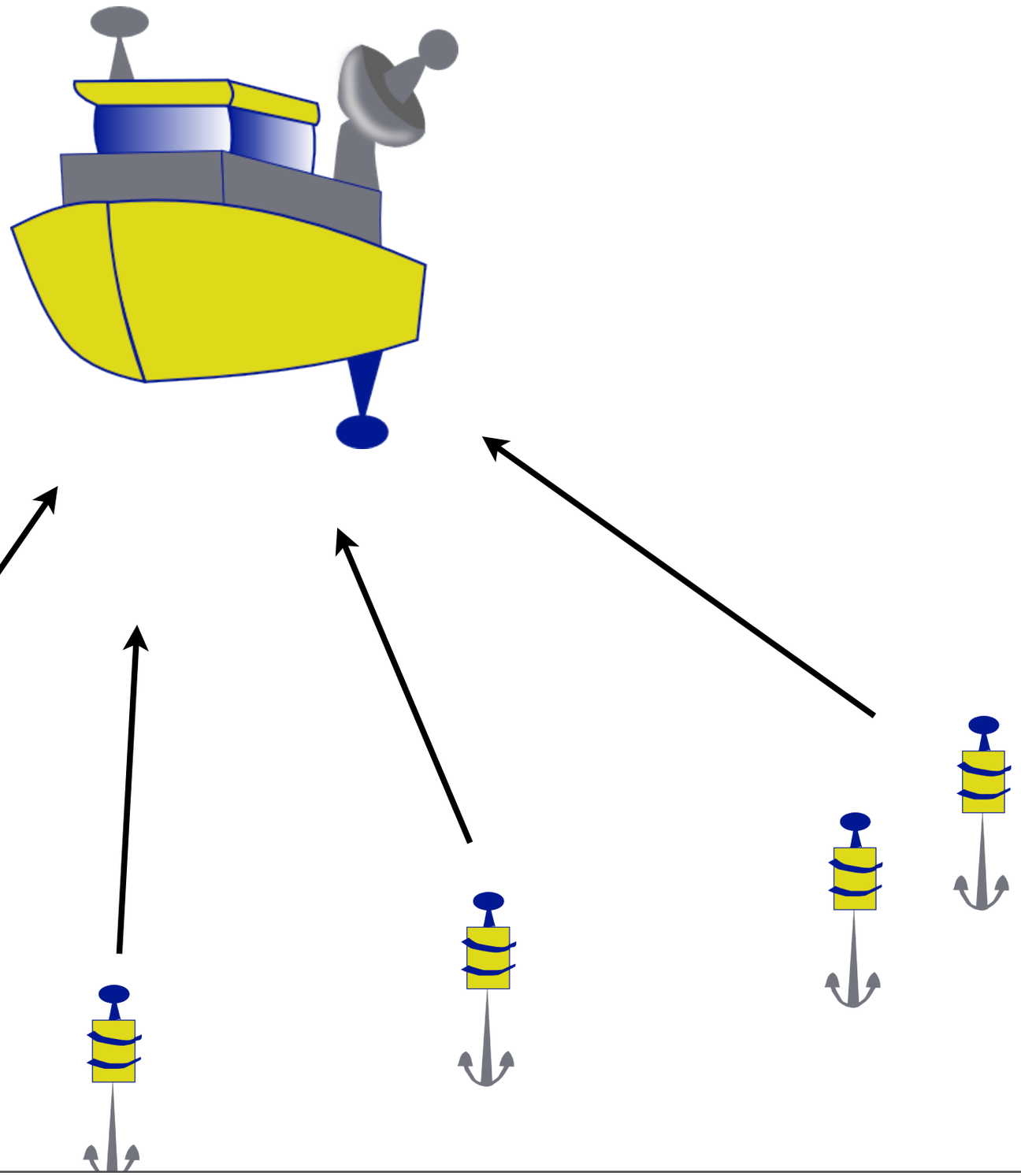


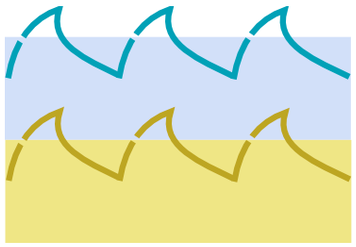
Second scenario: Dense network and relay

- The nodes are not in coverage with the AUV (or the sink)
- The nodes in the dense area can not transmit to the relay in a single hop (multi-hop network)

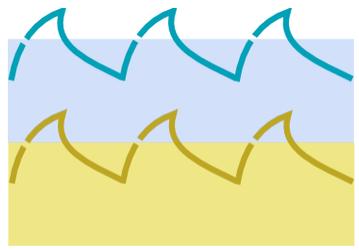
- We can test a ROUTING protocol (SUN?)
- A MAC protocol can be tested in the dense area (i.e., DACAP, T-LOHI, CSMA-ALOHA)

Third scenario: Seafloor network and superficial sink



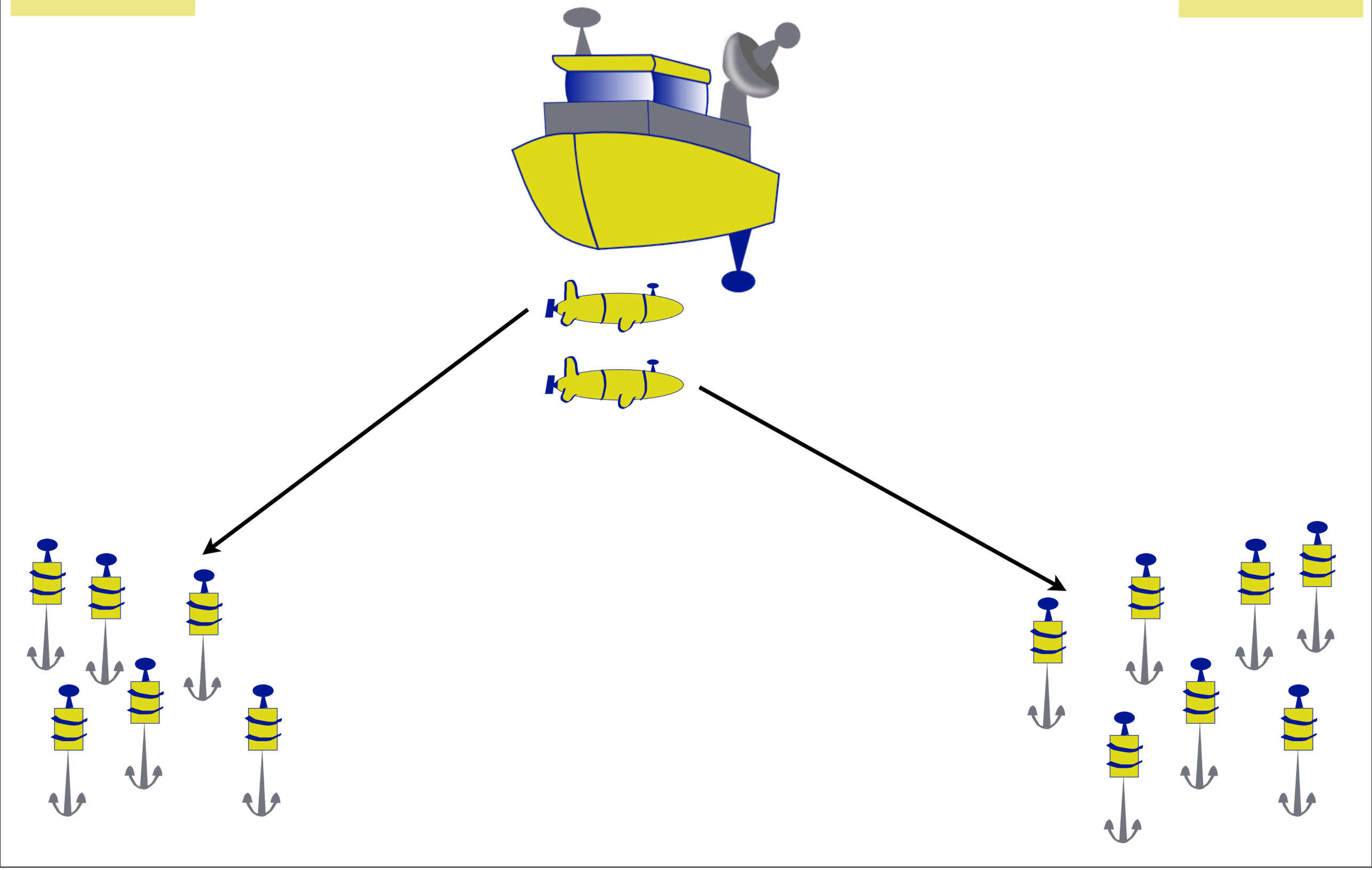


Third scenario: Seafloor network and superficial sink



- Centralized interference at the sink
- Typical scenario to test and stress MAC protocols
- We can test DACAP, T-LOHI, CSMA-ALOHA

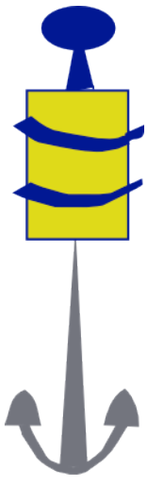
Fourth scenario: AUV retrieve data



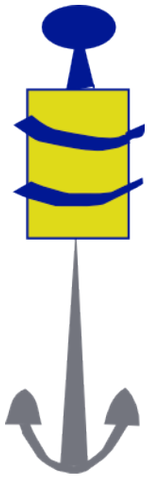
Fourth scenario: AUV retrieve data

- AUVs retrieve data from networks deployed far from the boat
- We can test UW-POLLING.
- AUV can upload the data to the boat using another protocol (e.g. CSMA-ALOHA) but we need a double MAC (automatic scenario where the AUV can be left in the water)
- We can pick the AUV and download manually the data from it

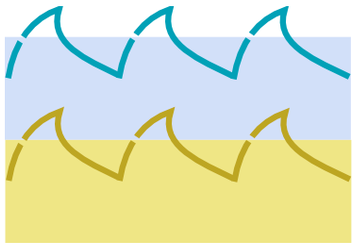
An original test for T-LOHI



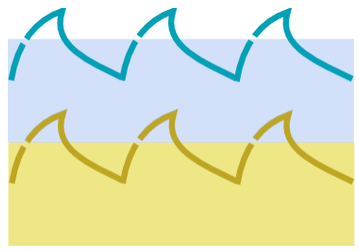
RX



TX



An original test for T-LOHI



- Can be done only if nodes actually transmit tones
- Maybe little bit difficult to do: we have to find a rock :)
- We can test the acoustic tones modality used by T-LOHI