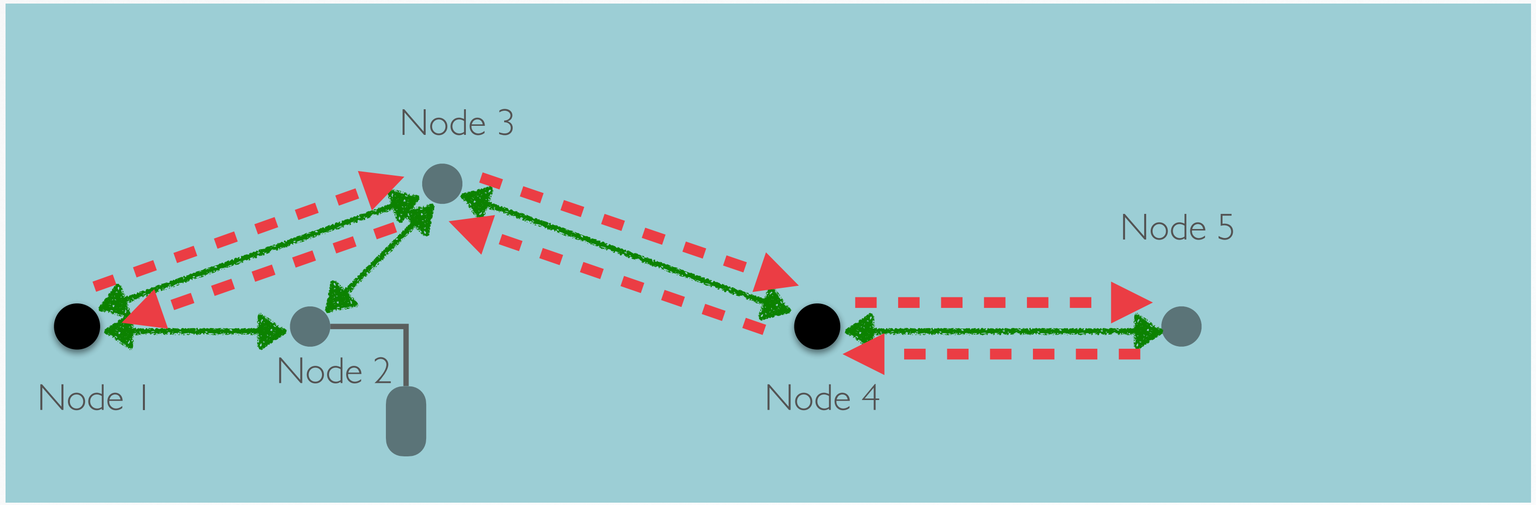
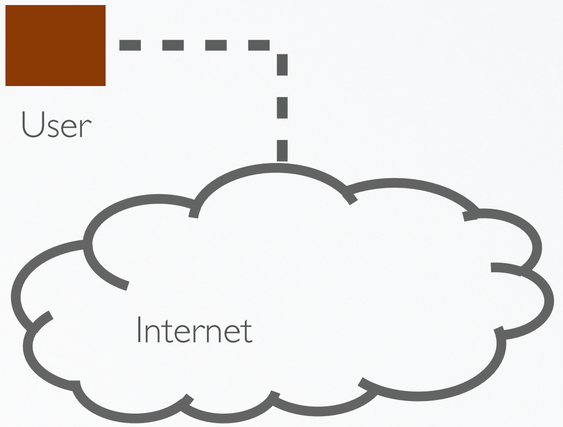
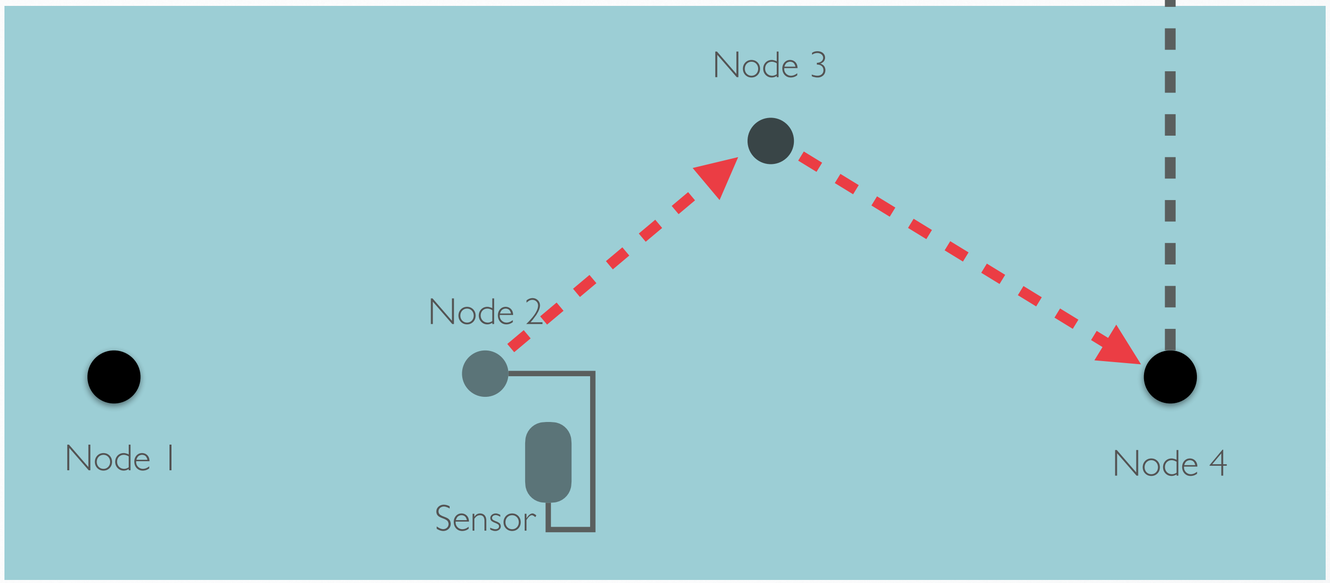
PART 5 - LOCALIZATION

WHAT HAVE WE LEARNT SO FAR ?



*Connectivity over **multi-hop links** by adding routes*

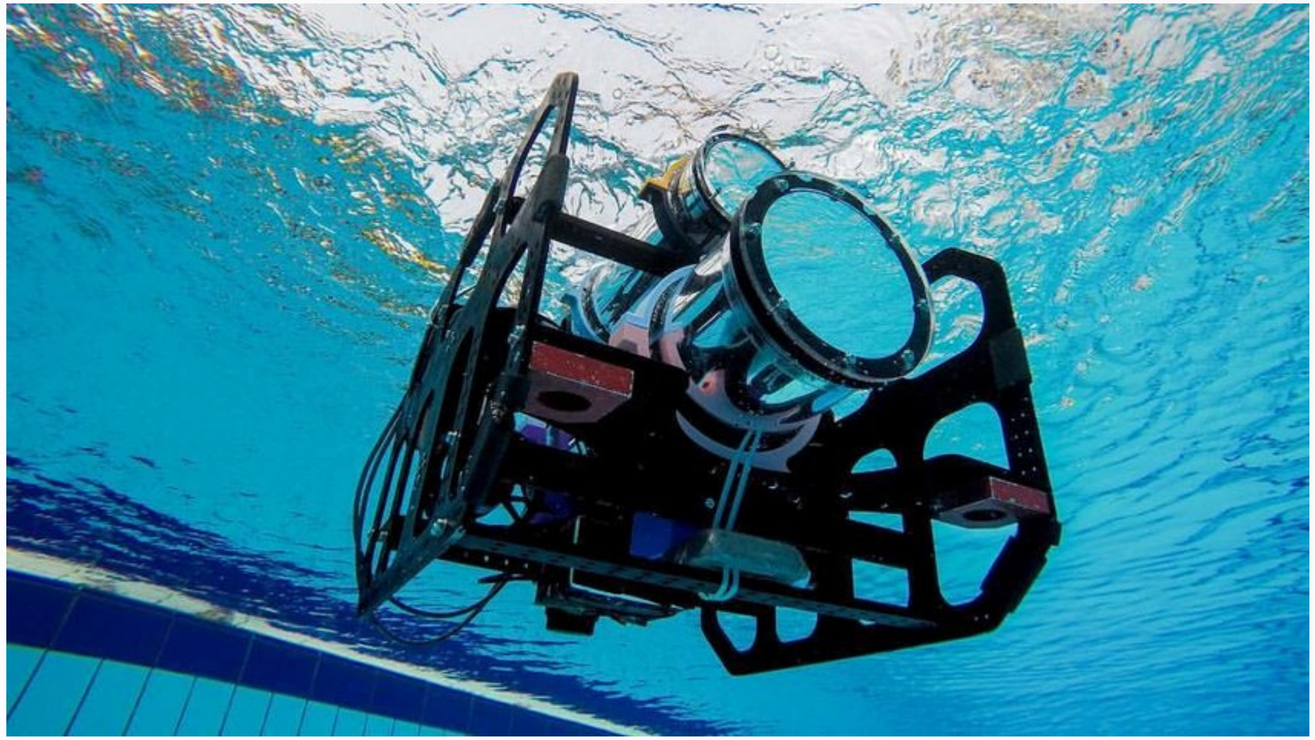




*Getting data from **sensor** to a node connected to the **Internet***

LOCALIZATION

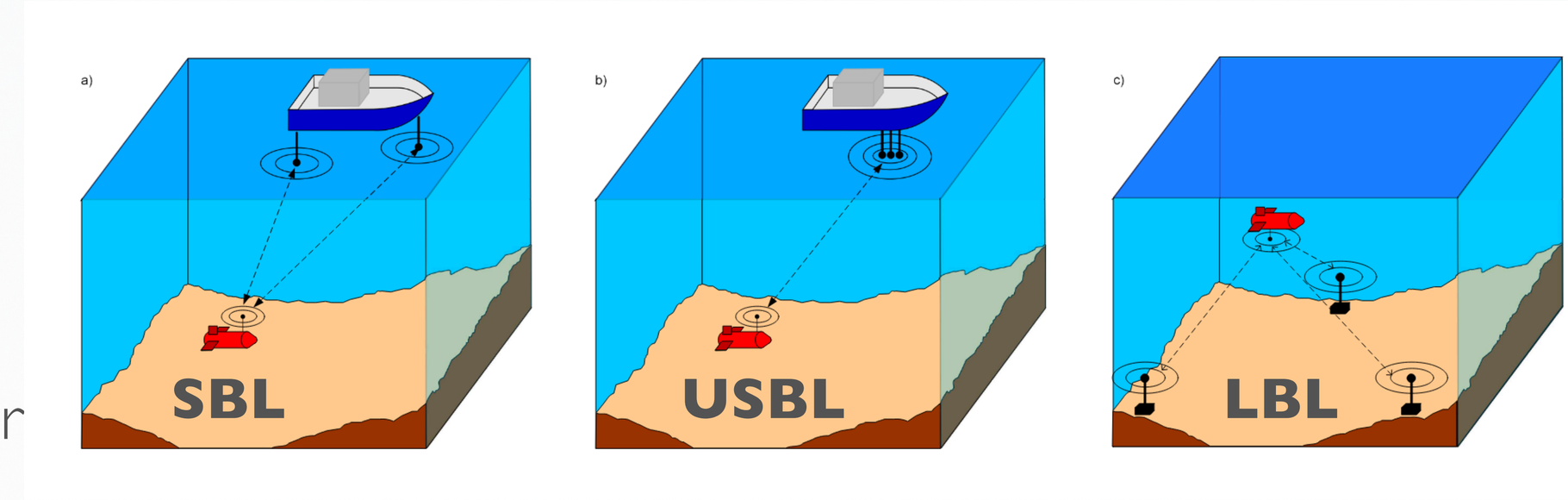
- Underwater mobile robotics is on the rise
- Many commercial and research applications
- Localization and tracking a must for enabling useful applications



Credit: SAUVC 2019

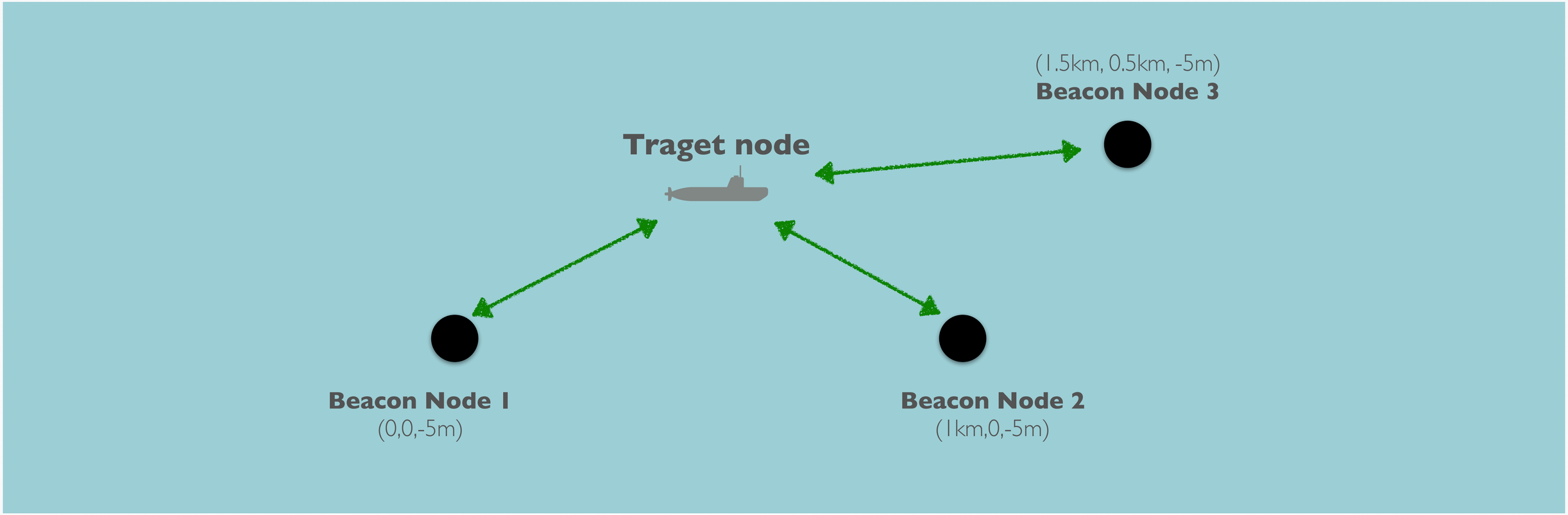
TYPICAL CONFIGURATIONS

- LBL / SBL / USBL
- Beacon nodes
- Target and a tracker



Credit: *Paull, Liam, Sajad Saeedi, Mae Seto, and Howard Li. "AUV navigation and localization: A review." IEEE Journal of Oceanic Engineering 39, no. 1 (2013): 131-149.*

TRACKING A MOBILE NODE



Tracker
User Application
e.g. Python

TRACKING A MOBILE NODE

(1.5km, 0.5km, -5m)
Beacon Node 3

Traget node

Beacon Node 1
(0,0,-5m)

Beacon Node 2
(1km,0,-5m)

DEMO 5.1

Tracker
User Application
e.g. Python

MEASURE DISTANCES

(1.5km, 0.5km, -5m)
Beacon Node 3

Traget node

R3

R1

R2

Beacon Node 1
(0,0,-5m)

Beacon Node 2
(1km,0,-5m)

DEMO 5.2

HANDS ON SESSION 5

- Try out Demo 5.1 and 5.2 using UnetStack
- Ask questions in the chat
- http://subnero.com/oceans20

NEXT...

- Part 6 : Let's meet and conclude this tutorial

Visit http://subnero.com/oceans20 for slides, code examples and other resources from this tutorial