

## Incremental development

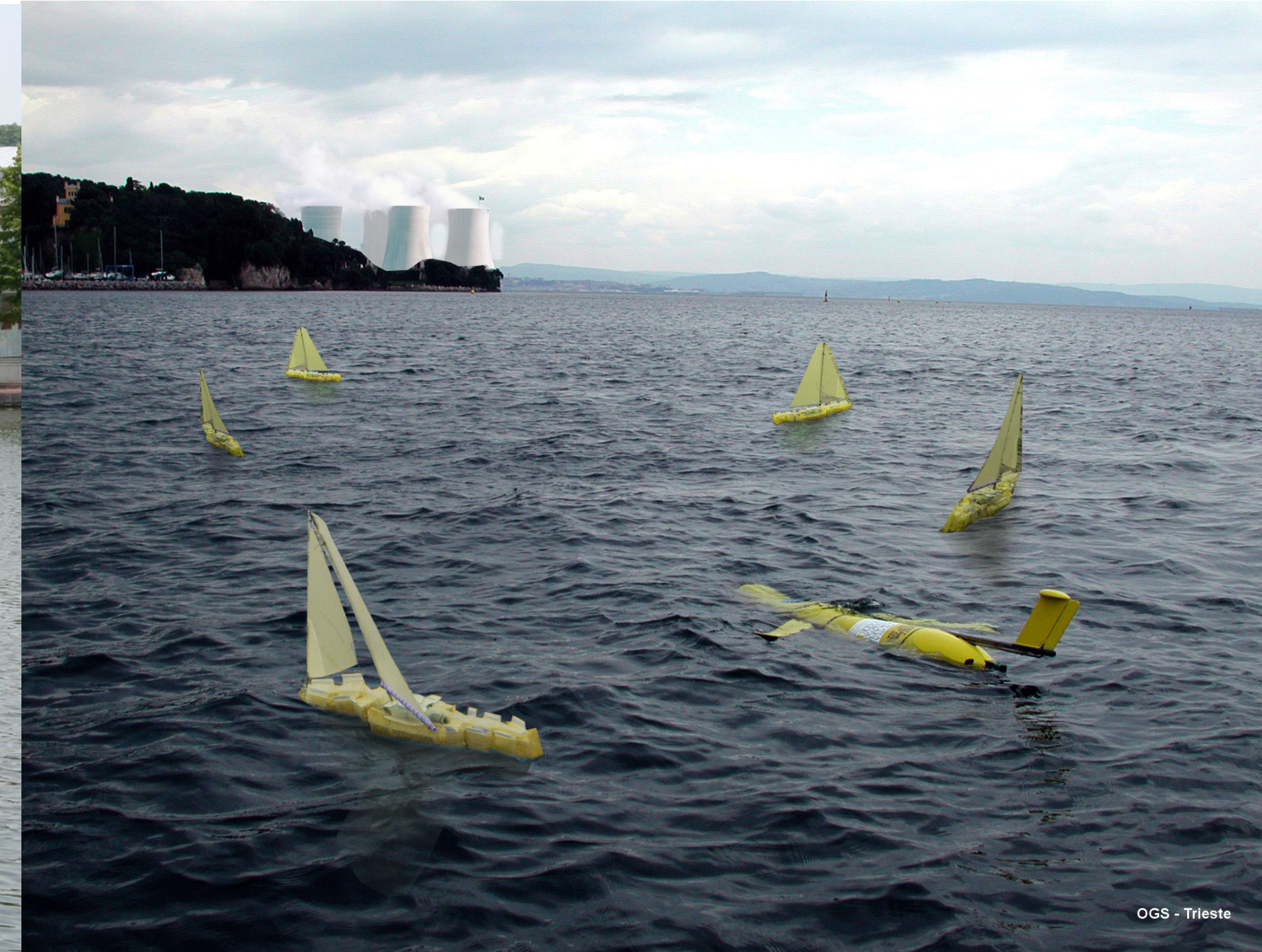
2012



### Protei 1m Remotely Controlled

For hobbyists, kids, hackers  
To put our technology in the hands of our community  
Sold for under 500 USD

2013



### Protei 1m Autonomous

For ocean sensing, for scientists, engineers.  
To detect oil spills, measure radioactivity, map coral reefs, study algae blooms, monitor fisheries, provide general oceanographic data, communication with underwater vehicles.  
Sold for under 1000 USD

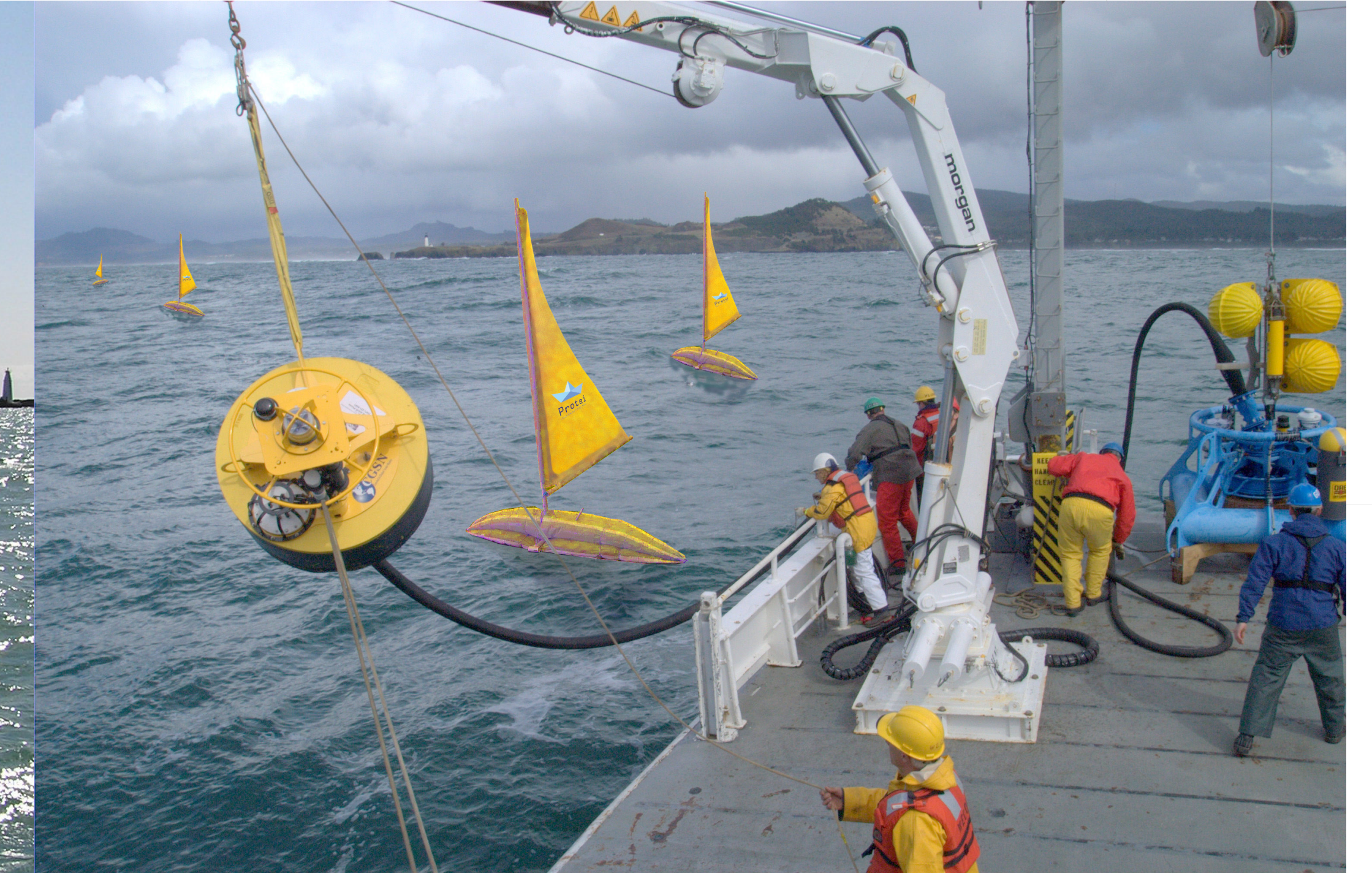
2014



### Protei 6m manned

For sailors.  
To develop high performance hulls, pushing the limits of the technology.  
Sold for under 5000 USD

2015

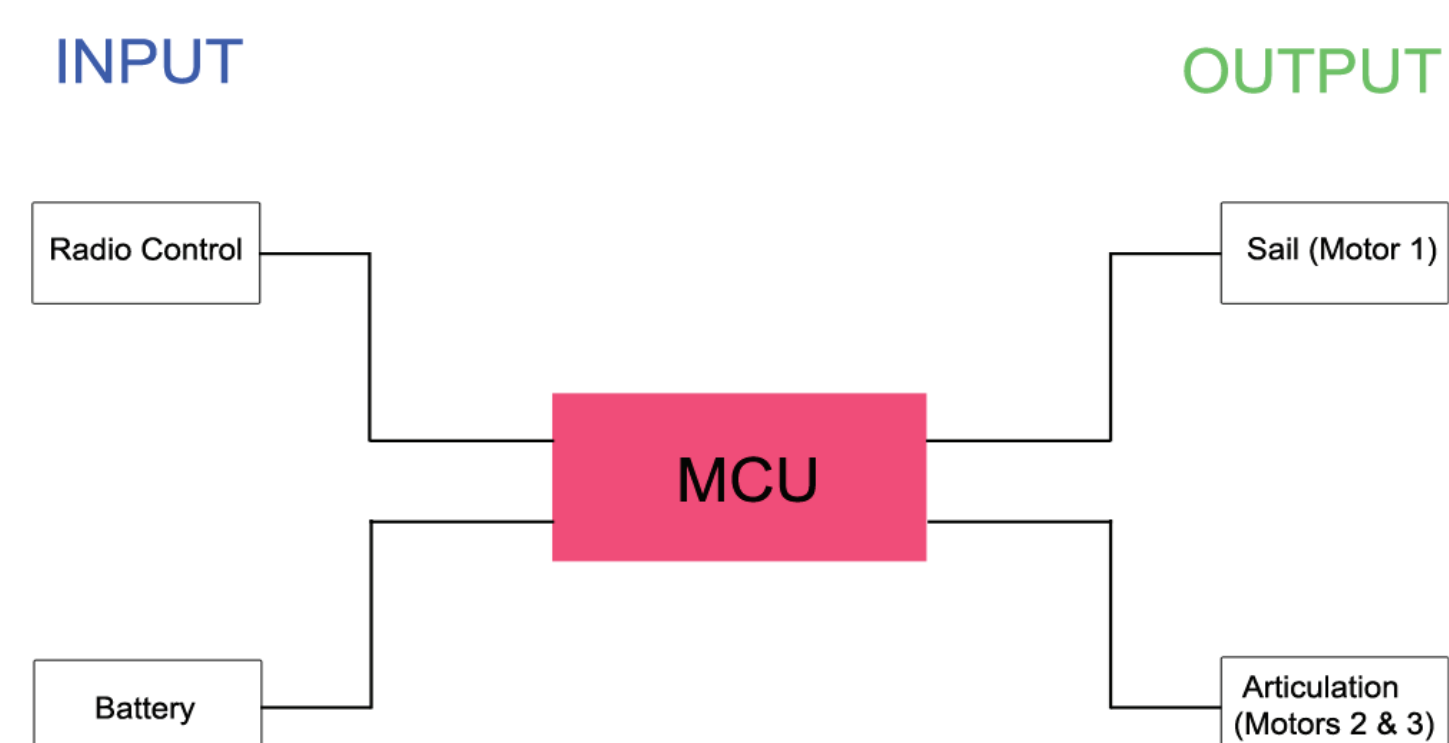


### Protei 6m autonomous

For ocean sensing and cleaning, to carry large and heavy payloads, clean oil spills, collect plastic debris, measure radioactivity, map coral reefs, study algae blooms, monitor fisheries, provide general oceanographic data, communicate with underwater vehicles.  
Sold for under 20'000 USD

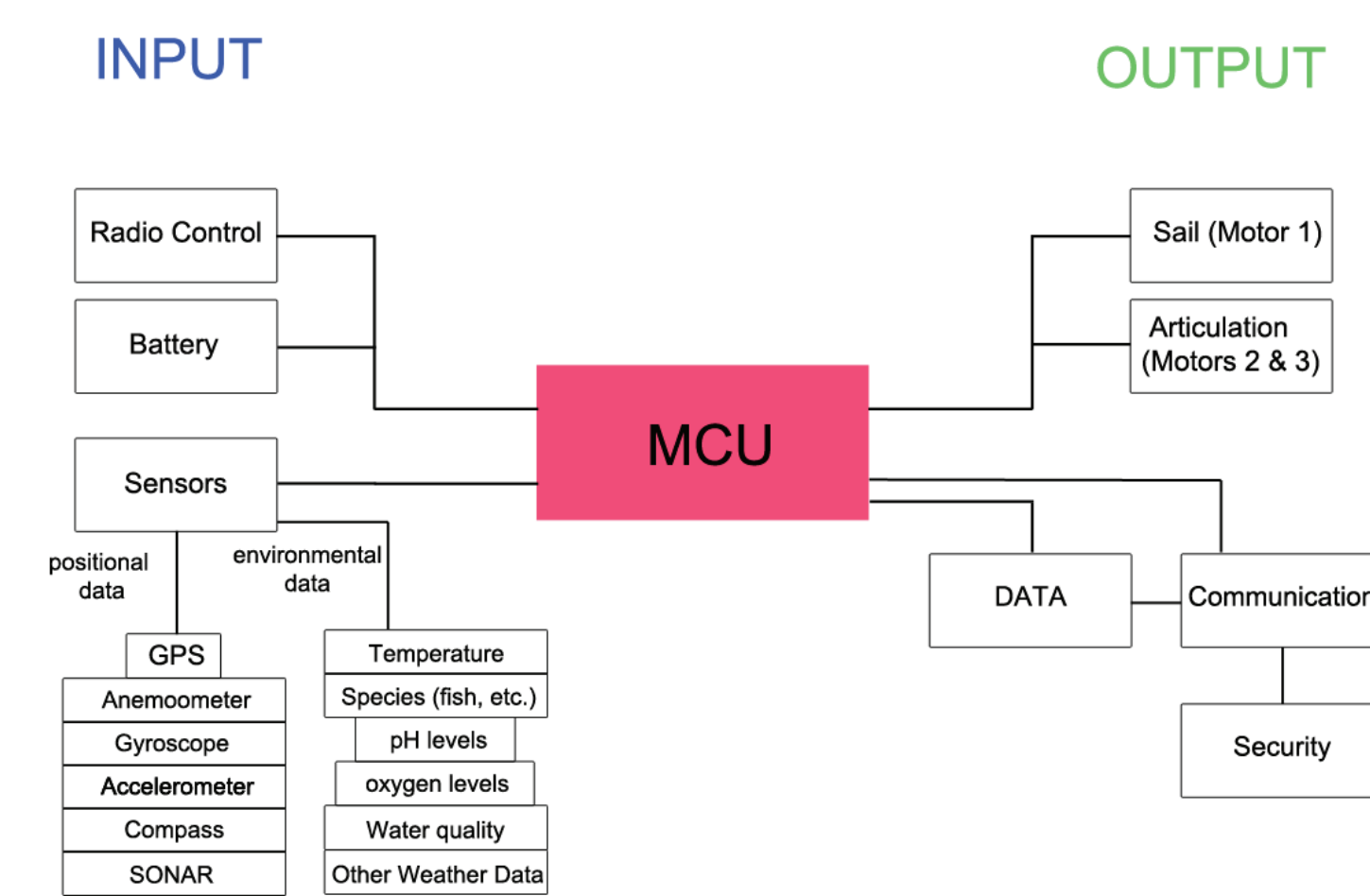
## Firmware Architecture Evolution

Remote controlled



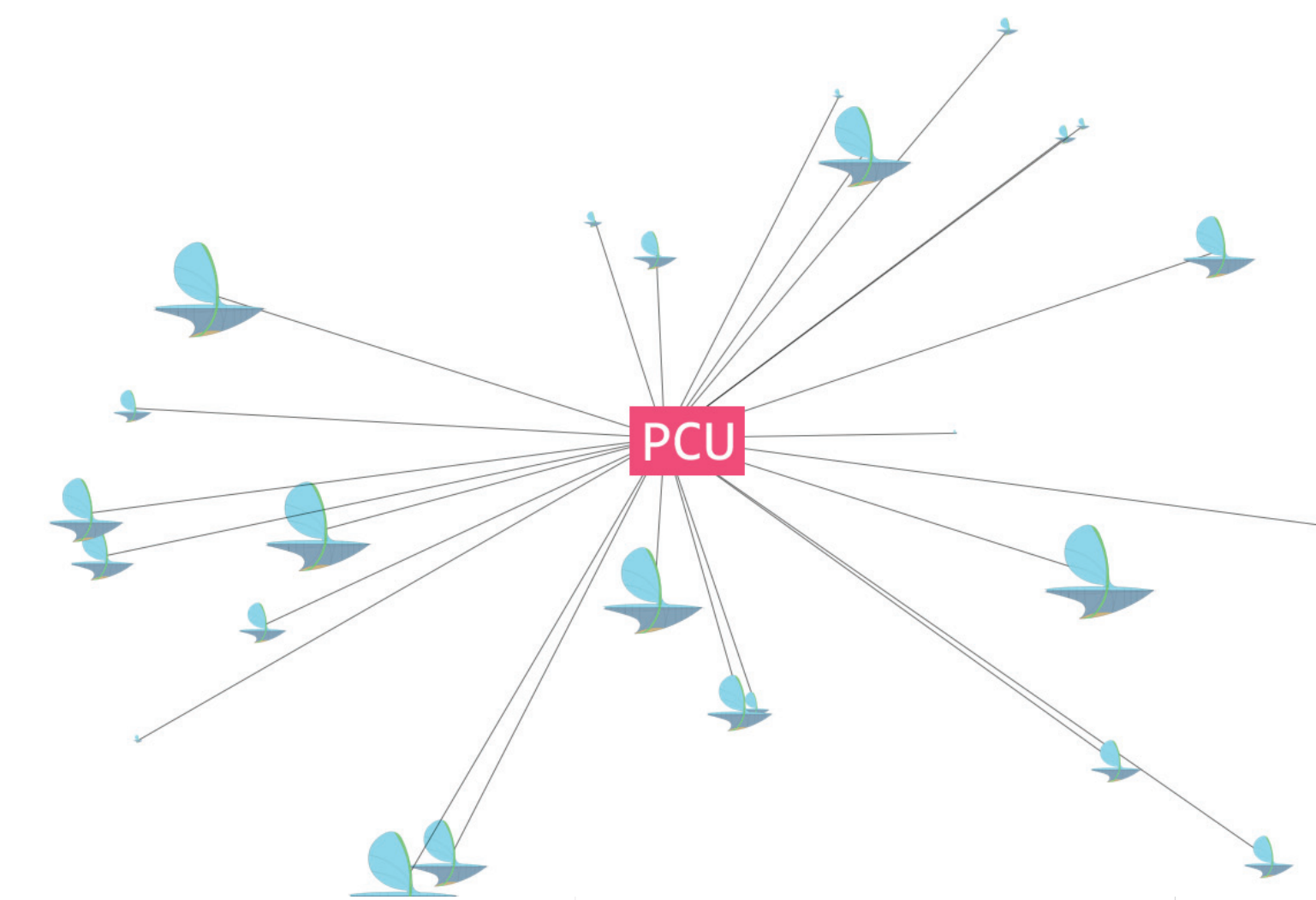
In the early stages Protei is simply remotely controlled via 2 channels through a Master Control Unit (MCU).

Autonomous



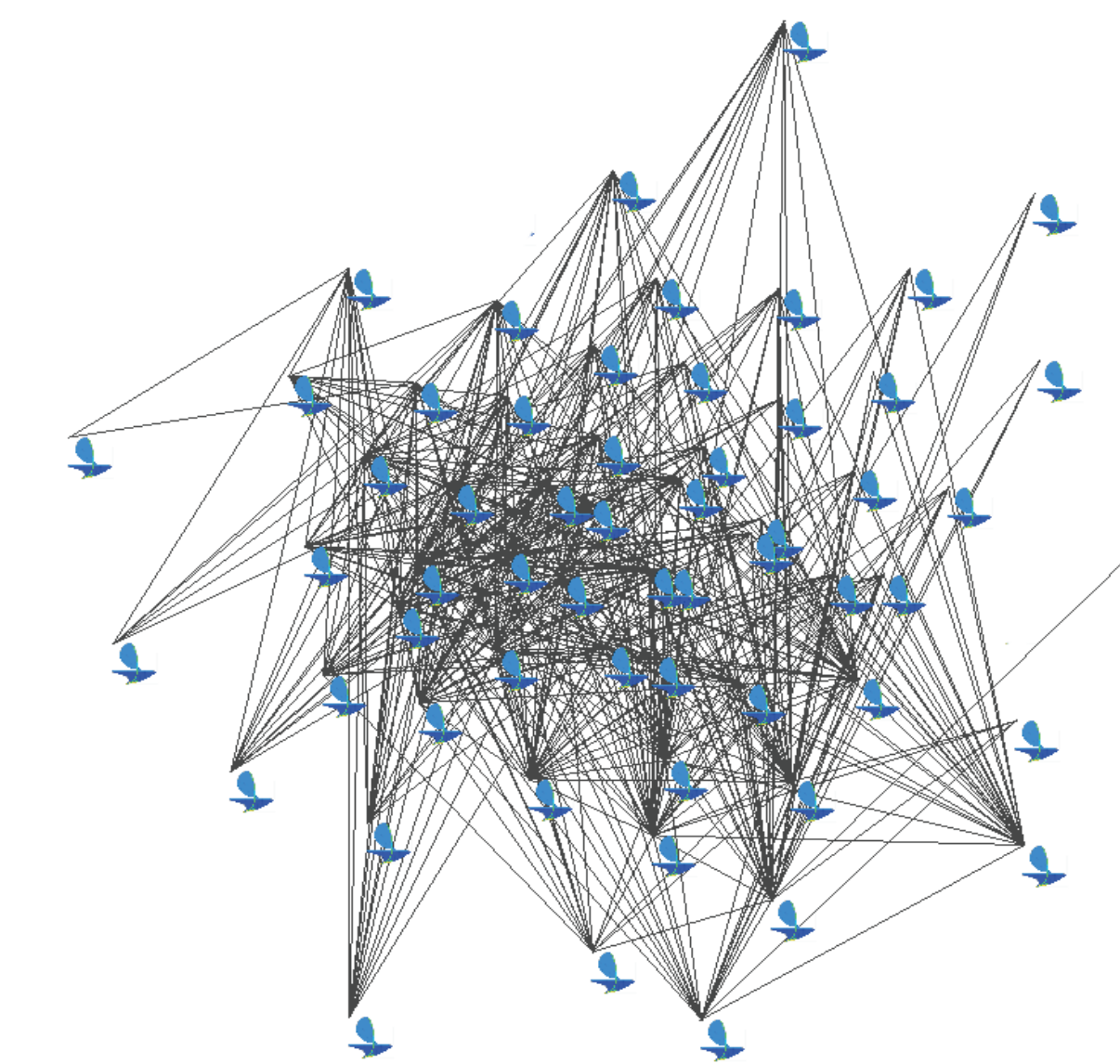
The next stage implements environmental sensors on board of Protei giving it the capacity to make autonomous decisions based on real-time environmental data.

Centralised



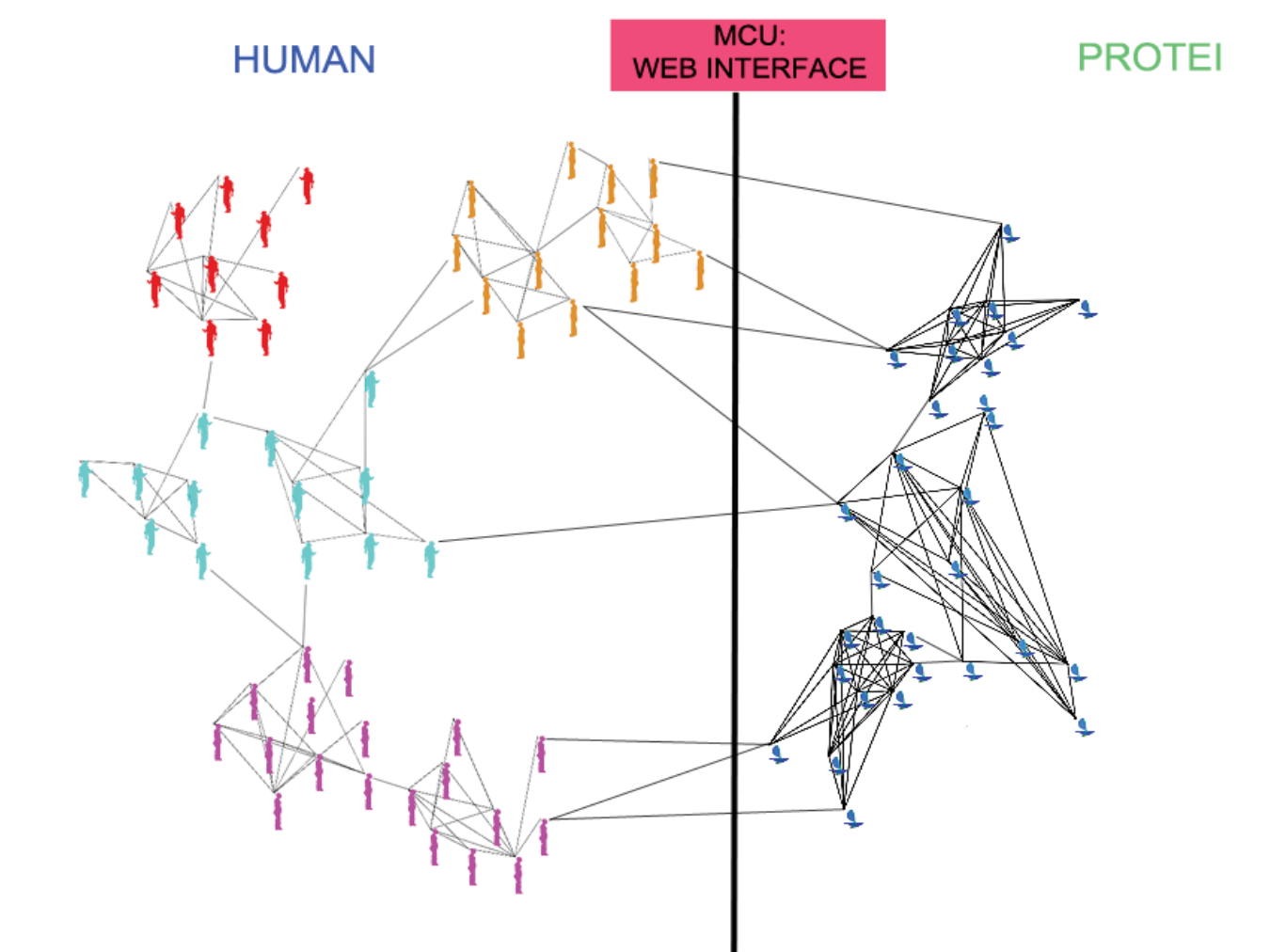
The fleet of Protei is controlled via a central computer most likely situated on a mothership, the Central Processing Unit (PCU).

De-centralised



Each Protei is capable of decision making and communicating to all other Protei. It is a free agent wireless mesh network.

Gaming network



The fleet of Protei is operating autonomously but groups of humans can override and take control over either one or multiple Protei units to perform specific tasks.

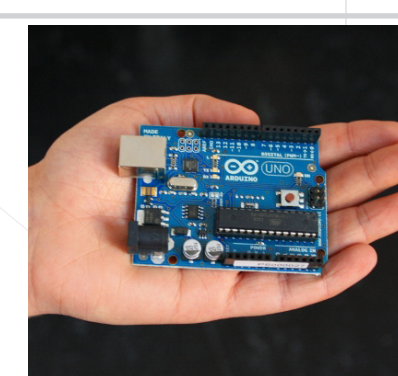
## Communications & Computation

Remote control



250m range

Arduino



Single Processing

XBee



500m range

BeagleBone



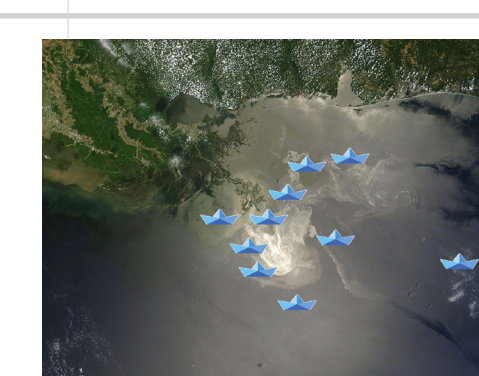
Multi-threading

Raspberry π



Controlled through any web browsing device.

Web interface



GSM



6km range

Android/iPhone



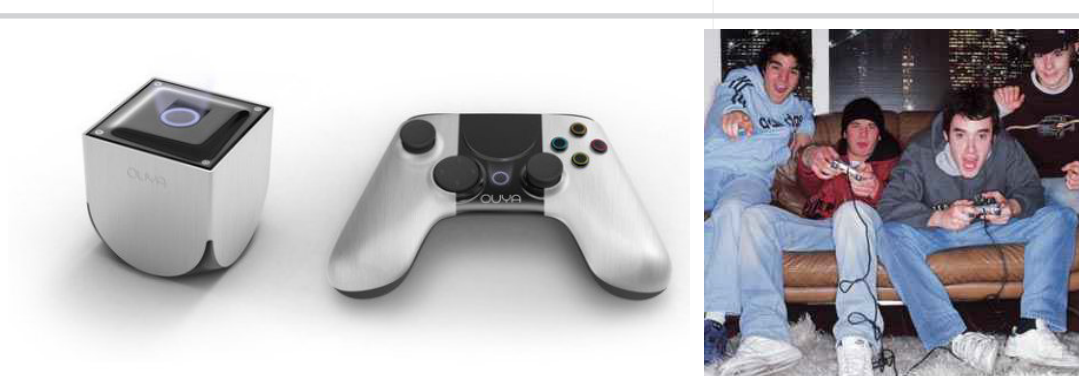
Mobile App

Iridium



global range

OUYA Gamers



Cloud-based multi-player gaming.

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