A simple model for power consumption is as follows.

Text

Description automatically generated with low confidence

Where,  
P-prop is the propulsion power  
H is ‘hotel power’ i.e everything that isn’t propulsion.  
Cd is drag coefficient  
A is frontal area of vehicle  
p is density of water  
v is speed of vehicle  
n is efficiency

Using their example vehicle that is a 0.32m diameter torpedo-like AUV, Cd=0.2 (based  
on frontal area), A=0.082 m2 and n=0.5

Sensors

Navigation

Propulsion

Communication

Power