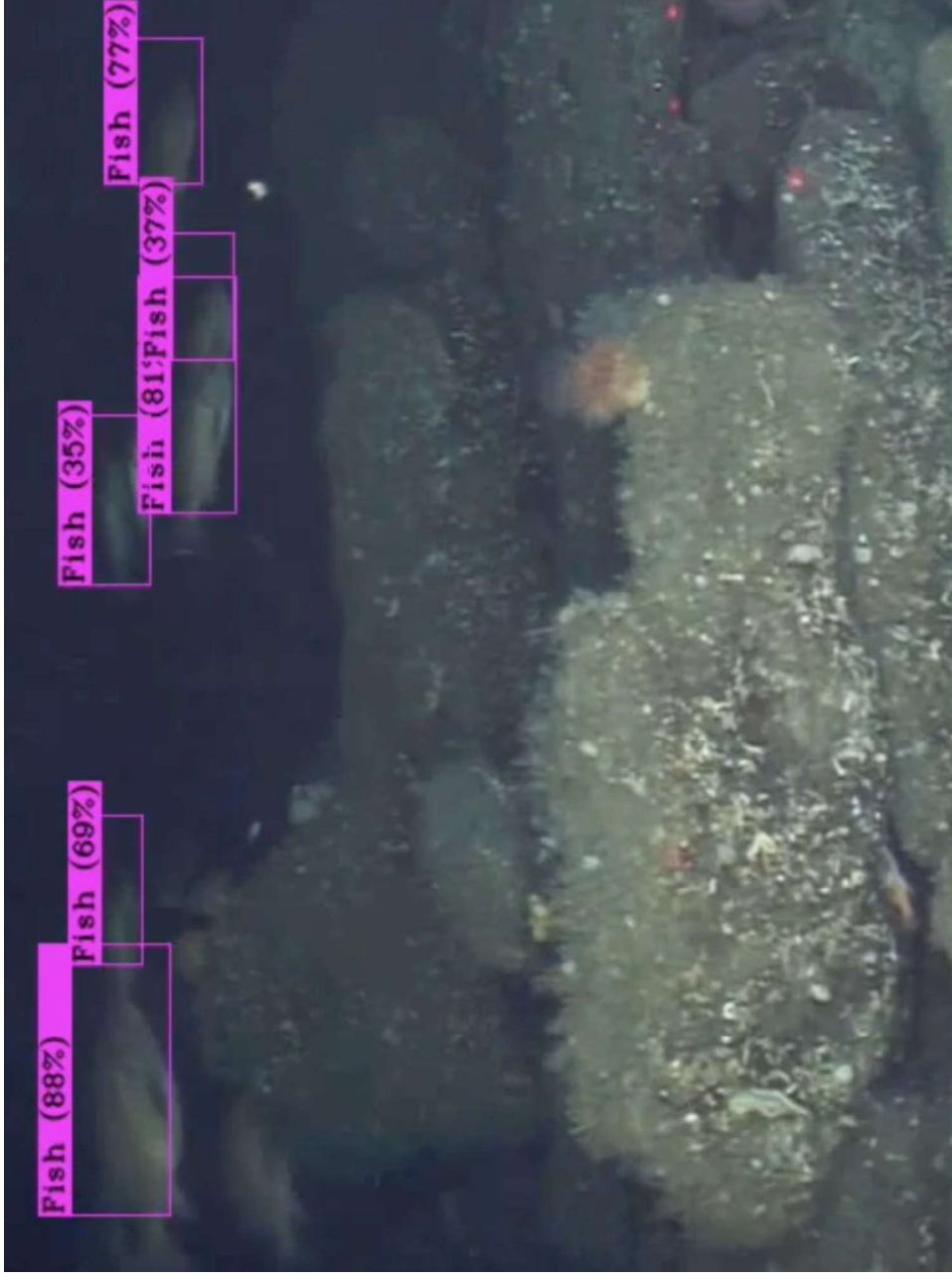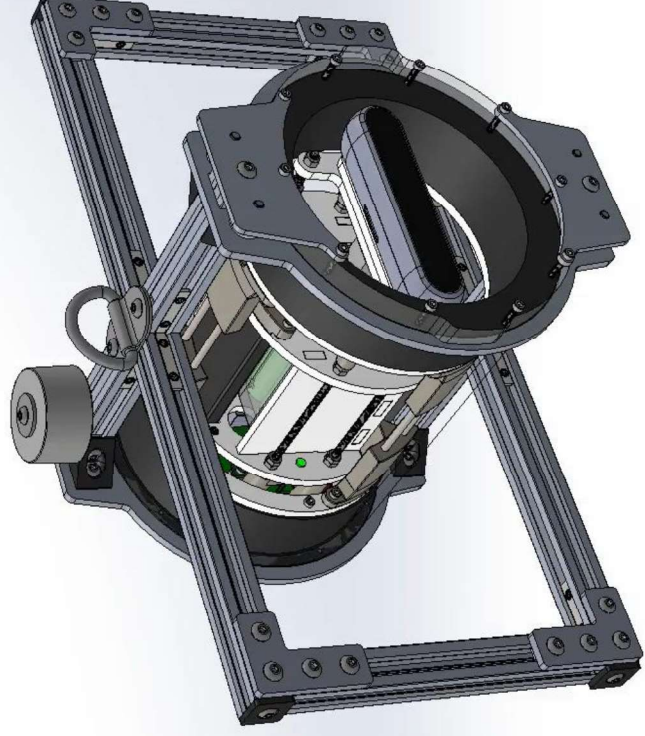# FISHSENSE

FishSense- Overview

- FishSense aims to automate the detection and biomass estimation of fish

- Uses RGB and Depth cameras along with machine learning techniques

FishSense-Overview

FISHSENSE – LOW POWER SYSTEM

Oral Project Update

Rahul Polisetti,
Mohana Seelan,
Kyle Yang

Low Power - Overview
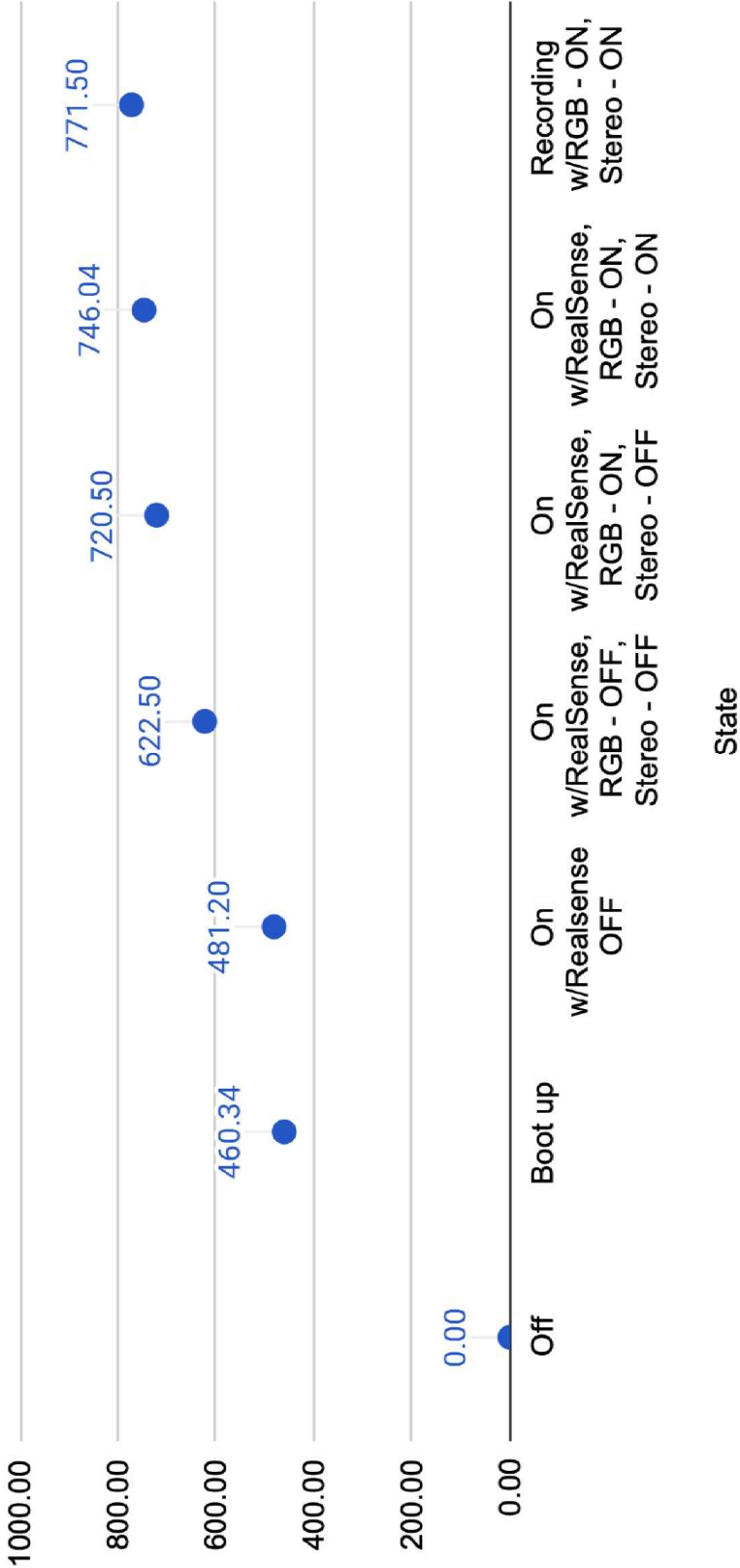
Need a solution for long term deployments

2-3 weeks Deployment window

Address issues of battery capacity and storage
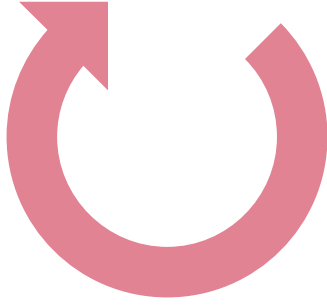
Accomplishments - Benchmarking
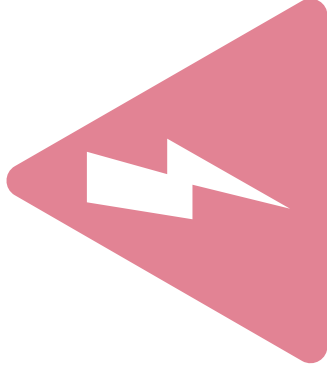
Amp Draw (mA) per State

1 battery = 5200 mA

2 batteries = 10,400

2 weeks = 336 hrs

Target Avg Amp Draw

10,400 mA hrs/336

= 30.95 mA

State	Avg Amp Draw (mA)
Off	0.00
Boot up	460.34
On w/Realsense OFF	481.20
On w/RealSense, RGB - OFF, Stereo - OFF	622.50
On w/RealSense, RGB - ON, Stereo - OFF	720.50
On w/RealSense, RGB - ON, Stereo - ON	746.04
Recording w/RGB - ON, Stereo - ON	771.50

Values shown on chart: 1000.00, 800.00, 600.00, 400.00, 200.00, 0.00

Axis labels: State / Avg Amp Draw (mA)

Updated Project Objective

Turn off and on the system at set intervals of time

Use an external, extreme low power STM32 board as a clock to control power to main system

STM32 Solution

- Interface STM32 with existing Power-IO module – to power on/off main board after set time

- Interface STM32 with Nvidia Jetson – STM32 receives power off command from TX2

CUT POWER TO SYSTEM

SEND POWER OFF COMMAND
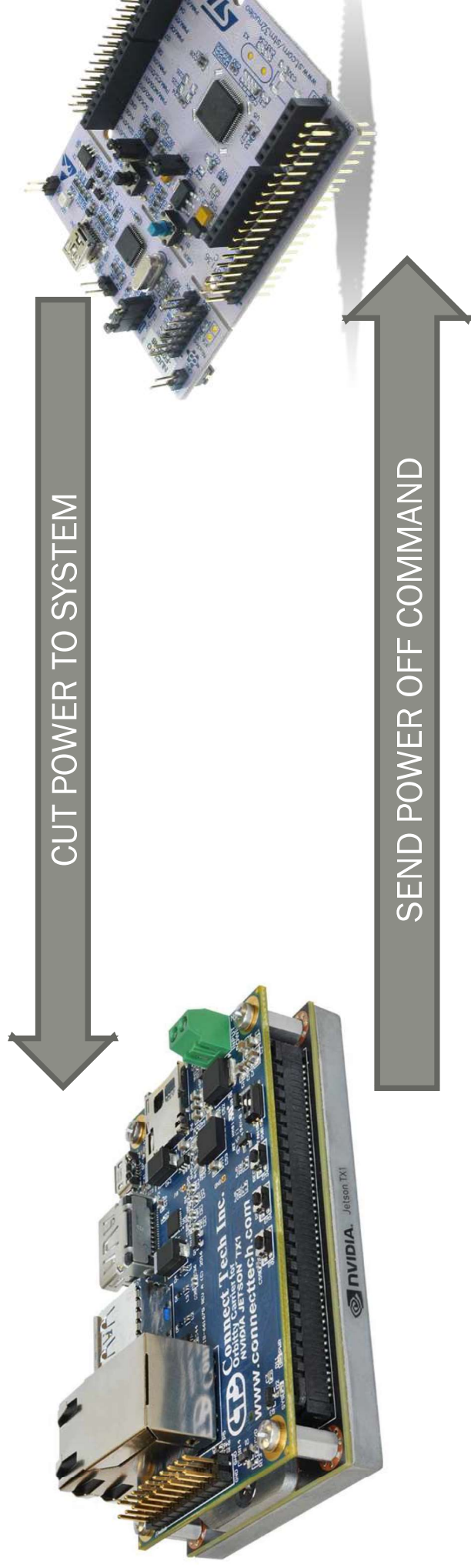
Quarter Plan

Week 7 – Program the STM32 clock firmware

Week 8 – Interface the STM32 with the TX2

Week 9 – Measure power draw of the STM32 lower-power system

Wek 10 – Final report and project video reliverables

Conclusion

What we plan to do:

- Enable the FishSense module to collect data for 2 weeks

What we did so far:

- Benchmarked current TX2 system

What's next:

- Use an external, extreme low power STM32 board as a clock to control power to main system