



## ABOUT THE TEAM



Left to right: Alex Miller (CPO), Clara Orndorff (CEO) and Nicholas Orndorff (CTO) braid their tether  
(Credit: A. Miller)

**Alex Miller** (10<sup>th</sup> grade, Garfield High School<sup>1</sup>, 6<sup>th</sup> year of MATE competition): Chief Product Officer, pilot

**Clara Orndorff** (12<sup>th</sup> grade, Ingraham High School<sup>1</sup>, 6<sup>th</sup> year of MATE competition): CEO, tether manager

**Nicholas Orndorff** (10<sup>th</sup> grade, Ingraham High School<sup>1</sup>, 6<sup>th</sup> year of MATE competition): Chief Technology Officer, pilot

Seattle, WA, USA to St. Johns, Newfoundland, CA: 7192.3km/4469.1mi

## ROV SPECS

**Cost:** Total value \$8931; Amount spent \$3194.25

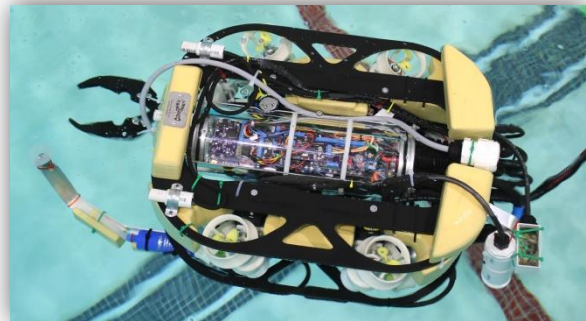
**Dimensions/Weight:** 0.33m tall by 0.8m long by 0.5m wide; 22.67kg

### **Special features:**

- Custom printed circuit boards (PCBs)
- Custom thrusters which use brushless motors to maximize the power-thrust ratio and are cost-effective compared to brushed motors
- Remote programming feature for easy troubleshooting
- Built in simulator LEDs enable testing of the control system without being connected to the ROV
- 24m-long tether, braided for minimum size and maximum flexibility
- Interlocking manipulator can retrieve objects of various shapes and sizes

### **Safety features:**

- Anti-leak vacuum testing system and danger labels for moving parts
- 25A fuse within 25cm of power on the positive line, main power shutoff switch
- Inboard, shrouded thrusters and strain relief on tether and all cables
- Voltage and amperage meters at the surface, isolated switching power supplies to protect all electronics, no sharp edges
- A comprehensive JSA that meets the HSE standards for all necessary safety practices



The ROV during a pool test (Credit: A. Miller)

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<sup>1</sup> AMNO & CO is not affiliated with any school or organization