

Company CEO: \_\_\_\_\_

Company Name

Product demonstration station officials: \_\_\_\_\_

**Safety**

**Check here if the company has their PASSED safety inspection card**

Companies without their safety inspection PASSED card cannot participate in the product demonstration.

**Check here if tamper seal on fuse is still intact**

Companies with a broken tamper seal on their fuse must see the safety inspectors before their ROV enters the water.

**Check here if the company presented you with a JSA (Jobsite Safety Analysis)**

**Check here if vehicle (and float) matches photo taken at safety inspection**

Companies must use the same vehicle, float, and other devices that went through the safety inspection.

Organizational and Operational Effectiveness (up to 10 points)	Points	
<b>Up to 4 points - Teamwork/Collaboration &amp; Communication</b>		
Chain of command evident	0	1
Roles clear and executed well	0	1
Composure under pressure	0	1
Supportive of each other and communicate well with each other	0	1
<b>Up to 2 points - Project Management</b>		
Task plan is well thought out to maximize score	0	1
Alternate plans available and all team members are aware of the plan	0	1
<b>Up to 2 points - Problem Solving &amp; Ability to Deal with Obstacles</b>		
Awareness of time	0	1
Adjusting timeline to adapt to situations	0	1
<b>Up to 2 points - System Design &amp; Control/Electrical</b>		
ROV deployed by the end of the 5-minute set-up period	0	1
ROV is under control of pilot and prepared to perform tasks	0	1
<b>Total Organizational and Operational Effectiveness (out of 10)</b>		<b>Total</b>

Bonus points for weight	Points		
<b>Weight bonus (up to 10 points)</b>	0	5	10
ROV is less than 18 kg – 10 bonus points			
ROV is between 18.01 kg and 25 kg – 5 bonus points			
ROV is between 25.01 kg and 35 kg – 0 bonus points			
Vehicles heavier than 25 kg may not compete			
	<b>Judge initials:</b> _____		<b>Total</b>
	<b>CEO initials:</b> _____		

**Fuses:** ROV systems are allowed one replacement fuse during the product demonstration. In the event that the ROV system blows the second fuse during the demonstration, time will stop, the demonstration run will be over, and no additional points will be earned. Companies should have adequate replacement fuses on hand, MATE will not provide replacements.

Task # 1: OOI: Coastal Pioneer Array (up to 50 points)	Points	
<b>1.1 up to 50 points – Release the multi-function node</b>		
<b>10 points</b> – "trigger" the release of the multi-function node	0	10
<b>5 points</b> – visually determine that the recovery has failed	0	5
<b>10 points</b> – pull a pin to release the failed recovery float to the surface	0	10
<b>5 points</b> – return the failed recovery float to the surface, side of the pool	0	5
<b>20 points</b> – connect a recovery line to the bale on the multi-function node for manual recovery	0	20
<b>Total Task # 1 (out of 50)</b>		<b>Total</b>

Task # 2: SMART Cables for Ocean Observing (up to 70 points)	Points		
<b>2.1 up to 70 points – Deploy a SMART Cable</b>			
<b>up to 20 points</b> – deploy SMART cable through three waypoints			
<b>5 point each</b> – deploy SMART cable through two waypoints located on the bottom of the seafloor	0	5	10
<b>10 points</b> – deploy SMART cable through a waypoint located on top of a seamount	0		10
<b>10 points</b> – place the SMART repeater in the designated location	0		10
<b>5 points</b> – return the ends of the cable to the surface, side of the pool	0		5
<b>up to 15 points</b> – measure the temperature to check the SMART cable sensor readings			
<b>15 points</b> – within 1 degree C	0	5	15
<b>5 points</b> – between 1.01 and 2 degrees C			
<b>up to 20 points</b> – connect the AUV docking station to the SMART cable repeater			
<b>5 points</b> – retrieve the power connector from the AUV docking station	0		5
<b>15 points</b> – install the power connector	0		15
<b>Total Task # 2 (out of 70)</b>			<b>Total</b>

Task # 3: From the Red Sea to Tennessee (up to 160 points)	Points		
<b>3.1 up to 30 points – Probiotics 2</b>			
<b>10 points</b> – place a probiotic irrigation system in the designated area	0		10
<b>10 points</b> – deploy the probiotic sprinkler on the coral head	0		10
<b>10 points</b> – activate the irrigation system	0		10
<b>3.2 up to 40 points – Coral Restoration</b>			
<b>10 points</b> – transplant branching coral	0		10
<b>up to 30 points</b> – transplant brain coral			
<b>30 points</b> – autonomously	0	10	30
<b>10 points</b> – manually			

Task #3 continued on next page

<b>3.3 up to 40 points – 3D Coral modelling</b>			
<b>up to 40 points</b> – via photogrammetry, autonomously create a scaled 3D model of the coral restoration area			
<b>20 points</b> – create a 3D model of the coral restoration area		0	20
<b>10 points</b> – measure the length of the coral restoration area (within 5 cm)		0	10
<b>5 points</b> – scale the 3D model using the length of the coral restoration area		0	5
<b>5 points</b> – use the properly scaled 3D model to estimate the height of the coral restoration area (within 5 cm)		0	5
or			
<b>up to 30 points</b> – manually (CAD) create a scaled 3D model of the coral restoration area			
<b>10 points</b> – measure the length of the coral restoration area (within 5 cm)		0	10
<b>10 points</b> – measure the height of the coral restoration area (within 5 cm)		0	10
<b>10 points</b> – create a scaled 3D model of the coral restoration area displaying the length and height measurements		0	10
<b>3.4 up to 50 points – Determine the location of sturgeon spawning grounds</b>			
<b>10 points</b> – recover an acoustic receiver		0	10
<b>up to 20 points</b> – determine the location of a potential spawning site			
<b>15 points</b> – create a graph of sturgeon locations from the acoustic receiver data		0	15
<b>5 points</b> – determine the potential spawning site		0	5
<b>up to 20 points</b> – characterize the habitat at potential spawning site			
<b>10 points</b> – place an ADCP		0	10
<b>10 points</b> – recover a sediment sample		0	10
<b>Total Task # 3 (out of 160)</b>			<b>Total</b>

<b>Task # 4: MATE Floats! 2024 (up to 70 points)</b>		Points	
<b>4.1 up to 70 points – MATE Floats!</b>			
<b>5 points</b> – prior to the competition, building an operational vertical profiling float		0	5
<b>5 points</b> – deploy the float into the designated area		0	5
<b>10 points</b> – float communicates with the mission station prior to descending		0	10
<b>up to 50 points</b> – float completes two vertical profiles			
<b>Vertical Profile #1</b>			
<b>10 points</b> – float completes 1st vertical profile using a buoyancy engine		0	10
<b>5 points</b> – float communicates data to the mission station		0	5
<b>10 points</b> – data is graphed as depth over time		0	10
<b>Vertical Profile #2</b>			
<b>10 points</b> – float completes 2nd vertical profile using a buoyancy engine		0	10
<b>5 points</b> – float communicates data to the mission station		0	5
<b>10 points</b> – data is graphed as depth over time		0	10
<b>NOTE:</b> If a company does not design and construct a float, or the float does not communicate at all to the mission station, companies may graph MATE-provided data. The following replaces all communication and graphing points above.			
<b>10 points</b> – MATE-provided data is used to graph depth over time		0	10
<b>Total Task # 4 (out of 70)</b>			<b>Total</b>

Penalty Points (deduct 5 points for each infraction)	No. of Infractions	
<p><b>Safety:</b> Product demonstration officials may deduct points for safety violations. Minor violations are a 5 point penalty. Major violations may be 10 or more points. Product demonstration officials may also disqualify a company for extreme safety violations. <b>Note: An official's decision to disqualify a company due to safety concerns is final. If there is a safety concern, please contact the lead safety inspector or competition coordinator.</b></p>		
<p><b>Tether Pulling:</b> Company members cannot pull on the tether to assist in moving or turning the vehicle. Judges should issue a warning for the first infraction and begin deducting points AFTER the first infraction.</p>	a	
<p><b>Illegal communication:</b> Company members at the side of the pool may not communicate visual evidence of the ROV status such as location of vehicle, need to turn, that the vehicle is stuck, etc.</p>	b	
<p><b>Debris:</b> Companies that leave debris (e.g. parts of their ROV, including weights and flotation) in the pool at the end of the product demonstration time, or leave debris that a diver must retrieve will receive penalty points. Product demonstration props are NOT considered debris. A company constructed collection basket is considered debris if it is still in the water, not under control of the ROV, when product demonstration time ends.</p>	c	
<p><b>Diver Assistance:</b> Any diver assistance (if available) must be requested by the company and will result in a 5 point penalty. The clock does not stop during diver assistance.</p>	d	
<p style="text-align: right;"><b>Total Penalty Points</b></p>	<p>(total a + b + c + d ) plus safety violations</p>	<b>Total</b>
		<p style="text-align: center;">X 5 =</p>

TIME BONUS (1 point for every minute and 0.01 point for every second under 15 minutes)		
Duration of Product Demonstration: _____		
Minutes under 15 remaining: _____ X 1 point = _____		
Seconds remaining: _____ X 0.01 point = _____	<b>Time bonus</b>	<b>Total</b>

<b>TOTAL PRODUCT DEMONSTRATION SCORE</b>		<b>Grand Total</b>
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Official's initials: \_\_\_\_\_

Company CEO's initials: \_\_\_\_\_