

JOB STEPS	Potential Hazards	Risk Control Measures	Responsible Person(s)
Toolbox Talk Building the frame Tubing and Hose Software and Programming Using Thrusters Using Camera and Monitor Control System	Lack of communication Damaging the frame while constructing it Tubing and Hose failure, loose connection, burnt cables Software failure , wrong coding and planning, losing the control of the robot If something gets stuck in thrusters, loose connection Lost signal Circuit failures, losing control,high voltage circuit, loose connection.	CEO can warn everyone if an unsafe condition is observed Mechanical engineer can detect the damage and repair it Mechanical and Electrical engineer should check the electric circuits and cable connections to see if there is any loose connection or high voltage. Software failure can lead to serious damage and it can affect the control of the robot so software engineers should detect the mistake and repair it and change the code immediately In case of something getting stuck in thrusters, the robot may be exposed to high voltage circulation and as a result fuses shut down the electrical system. If loose connection is detected software engineer checks the code and electrical engineer checks the cable connections. In case of losing signal software eng. should check the code and the connections In case of any circuit failure detection, electrical engineer should immediately check the fuses and the circuit to see if there is any burnt cables or loose connection. If high voltage is detected fuses will automatically shut down the robot. If control of the robot is lost, pilot and software engineer should check the robot and make sure it is under control.	Eren Aşkın(CEO, EE) Cengizcan Nakıboğlu(ME and Pilot) Eren Aşkın(CEO,EE)-Cengizcan Nakıboğlu(ME,Pilot) Can Yelten (CFO-Software Engineer) Ceylin Ökmen(Software Engineer) Can Yelten(CFO, Software Eng.) Eren Aşkın (CEO,Electrical Eng.) Can Yelten(CFO,Software Eng.) Ceylin Ökmen( Software Eng.) Eren Aşkın(CEO,EE) Cengizcan Nakıboğlu(Pilot,ME) Can Yelten(CFO, SE) Ceylin Ökmen(SE)
Buoyancy Testing Leakage Testing Propulsion Testing Completing the tasks Connecting with people and the media Sponsorship	If robot hangs in the water or sinks Leakage High voltage,loose connection Damaging the robot Misunderstandings Misunderstandings Financial Problems	Mechanical Engineer should calculate the density of the robot again In case of leakage mechanical and electrical engineer should immediately take the robot out of the water and find the leakage point. Electrical engineer should check the circuits to make sure there is no damage. If there is high voltage the fuses will take it under control immediately. In case of loose connection detection electrical engineer has to make sure it is fixed. While completing the tasks under the water there may be damages on the robot because of the lack of control.In case of a damage pilot should immediately take the robot out of the water. Public relations officer has to make sure all of the ALEV Robotics social media accounts are under control and are updated and people are informed right Public relations officer should communicate with the	Cengizcan Nakıboğlu(Pilot, ME) Eren Aşkın(CEO,EE) Cengizcan Nakıboğlu(Pilot, ME) Eren Aşkın(CEO,Electrical Eng.) Cengizcan Nakıboğlu(Pilot,ME) Tuna Barış Ünal(Public Relations Officer) Tuna Barış Ünal(Public Relations Officer) Eren Aşkın(CEO,Electrical

## ALEV ROBOTICS JSA SHEET

Task	Potential Hazards
<b>While Constructing and Testing the Robot</b>	
serious damages on the ROV	In case of insecurity there can be
Sharp edges that have not been smoothed are marked.. the underwater platform	Could do damage on the ROV and on
No exposed copper or bare wire. because of the electrical circuit	Exposed wires can be dangerous
Anderson plug is securely inserted be serious electrical circuit problems	If it is not inserted then there can
All wiring is securely fastened. dangerous because of the electrical circuit	Unfastened wires can be
Tether is properly secured at surface there can be connection and circuit problems point and at ROV.	In case of a damage on tether
<b>During the Competition</b>	In case of insecurity, electrical