

## OnStage Technical Interview Score Sheet 2025

Category	Examples of how high marks may be achieved are:	Mark
Programming	<p><b>Ability to explain the program and the interactions between the hardware and software:</b></p> <ul style="list-style-type: none"><li>• Choice of programming language</li><li>• Difficulties with the software</li><li>• Development of appropriate models, datasets and/or libraries to solve programming solutions</li><li>• Efficient and optimized programming with clear documentation and commenting with evidence of version control</li><li>• Development of calibration, testing and debugging functionalities</li><li>• Usage of AI / AR technology</li></ul>	/7
Electro-mechanical Systems	<p><b>Ability to explain why electromechanical design choices were made:</b></p> <ul style="list-style-type: none"><li>• Choice of materials, microcontrollers and actuators</li><li>• Development of custom electronics (including PCBs)</li><li>• Power management, regulation, and battery choices</li><li>• Design choices are made to ensure systems are reliable and durable</li><li>• Sustainable design choices including the choice of materials</li></ul> <p><b>Explain how systems are fit for purpose - examples include:</b></p> <ul style="list-style-type: none"><li>• Complex mobility - omnidirectional/legged robots</li><li>• Stable builds, system kinematics and design of custom components</li><li>• High precision systems including pneumatics</li><li>• Functional arms/hands/faces</li><li>• Robotic arms for manipulation</li><li>• Automatic balance system</li></ul>	/7

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<b>Sensor and Communication Systems</b>	<p><b>Ability to explain the role of sensors and communication in the systems and how the robots interact with the stage environment:</b></p> <ul style="list-style-type: none"> <li>• Robot systems can dynamically respond to unplanned events</li> <li>• Robots can sense their environment and use the information to dynamically respond with an action</li> <li>• Integration of multi sensor systems to develop solutions</li> <li>• Development of communication between sensors</li> <li>• Creation of communication architectures (asymmetric communication)</li> </ul> <p><b>Explain how systems are fit for purpose - examples include:</b></p> <ul style="list-style-type: none"> <li>• Visual/Audio recognition</li> <li>• Developed guidance, navigation, and control systems</li> <li>• Robot-Robot and/or <u>Natural</u> Robot-Human interaction</li> <li>• Stage/Robot localization systems</li> </ul>	/7
<b>Innovation and Feature Development</b>	<p><b>Ability to explain and showcase innovative features or robotic components</b></p> <ul style="list-style-type: none"> <li>• Innovation achieved with clear evidence of testing, research and development. Innovations that can inspire future competitors</li> <li>• Teams are able to explain developments based on past feedback and performance results</li> </ul>	/6
<b>Teamwork and Collegiality</b>	Evidence of team collaboration, problem solving and spirit in the performance and competition.	/3
<b>Deductions</b> (At discretion of judges up to -15)	Judges believe the work was not done by team members Team members are unable to explain their technical involvement with the robot	
<b>Total Score</b>		<b>/30</b>