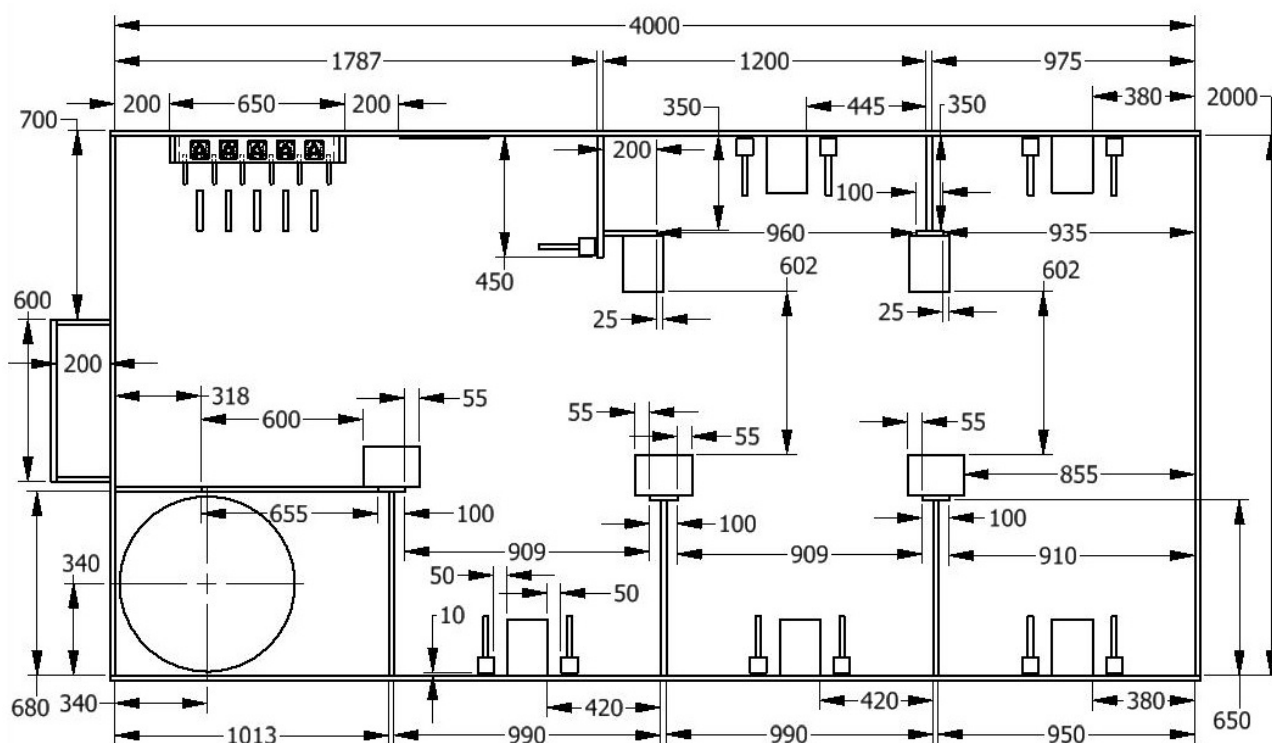
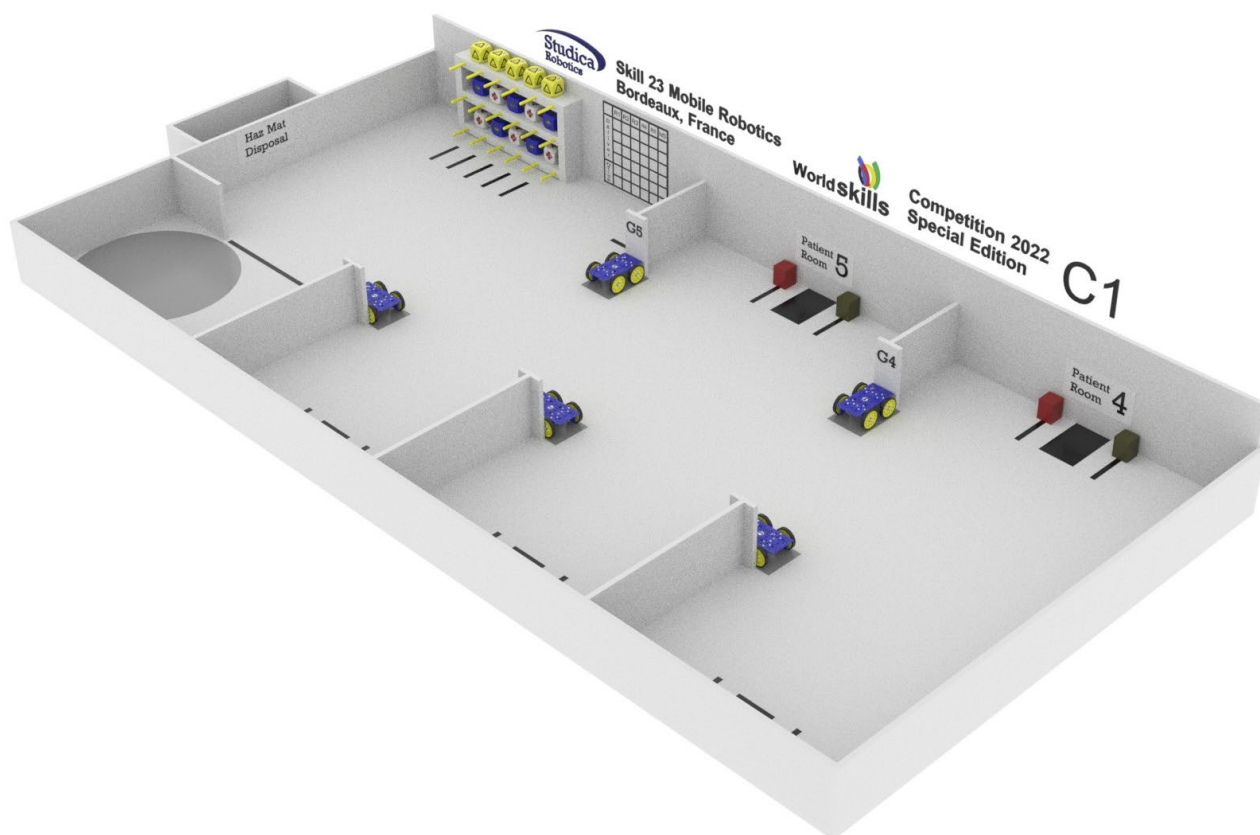


Test Project

Mobile Robotics

Day one – Competitor information



C1 Evaluation is focussed on Robot Assembly, Technician's Journal Submission and Evaluated CORE Performance Experiences in BOTH Autonomous and Teleoperation Control Modes.

Evaluated CORE Performance Experiences will take place on a **By Competitor Request BEFORE 3:00 PM and ON an Assigned Schedule AFTER 3:00 PM.**

Some of the CORE evaluation experiences involve an identifiable 'Single Action' on the part of the robot while other require a 'Simple String of Connected Actions.'

Example: CORE Element 1 states:

Dispensary Cube Management: Delivery of Designated Cubes to Assigned Dispensary Shelf Positions, On the Top Shelf, On the Middle Shelf and On the Bottom Shelf

This involves delivering individual cubes that have been handed to the robot to designated Dispensary Shelves. This involves 3 independent, discrete actions on the part of the robot.

Mark Range is 0 to 3 with a total of 0.3 Marks Available

1. 1 = 1 cube successfully delivered and 0.1 Marks awarded
2. 2 = 2 cubes successfully delivered and 0.2 Marks awarded
3. 3 = 3 cubes successfully delivered and 0.3 Marks awarded

Example: CORE Element 4 states:

Read the Work Order Board Part Two: Take possession of the Designated Medicine Cube, Move to the Designated Patient Room, Deliver the Medicine Cube onto the Green Medicine Cube Stand and Release the Medicine Cube

Confirming the robot can '**READ the WOB**' is the primary focus of this CORE Element. The sequence of connected actions identified in the text reflect the actions a robot will take **IF it has read the WOB correctly.** This requires the Competitors to program a single sequence of robot actions that can be observed and provide confirmation the 'Reading the WOB' was successful or NOT successful.

1. Did the robot identify the correct cube relative to the WOB display. We get our answer when the robot contacts the cube on the dispensary shelves.
2. IF the robot contacts the right cube but drops it when moving away from the shelves Competitors CANNOT INTERVENE and hand the cube to the robot. However, the robot should be allowed to continue on so that we can observe whether the robot goes to the correct Patient Room.

Marking of CORE Element 4 Example:

Marking Range is 0 to 4 and the Maximum Available Mark is 0.6

1. If the Robot moves to the Dispensary Shelves and makes contact with the Correct Medicine Cube identified by the WOB this represents a performance rated as a 1.
2. If the Robot successfully takes possession of the Medicine Cube identified by the WOB this represents a performance rated as a 2.
3. If the Robot moves to the Entrance of the Patient Room Identified by the WOB and is In Possession of the Correct Cube this represents a performance rated as a 3.
4. If the Robot moves into the Correct Patient Room and Delivers the Correct Cube onto the Correct Cube Stand this represents a performance **rated as a 4.**

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3. If the Robot moves to the **Entrance of the Patient Room Identified by the WOB** and **is In Possession of the Correct Cube** this represents a performance **rated as a 3**.
4. If the Robot moves into the Correct Patient Room and Delivers the Correct Cube onto the Correct Cube Stand this represents a performance **rated as a 4**.

CORE PERF ELM #	C1 CORE AUTONOMOUS EVALUATION EXPERIENCES DESCRIPTIONS	RANG E	MAX MARKS
Auton Core Perf Elm 1	Dispensary Cube Management: Delivery of Designated Cubes to Assigned Dispensary Shelf Positions, On the Top Shelf, On the Middle Shelf and On the Bottom Shelf	0 to 3	0.6
Auton Core Perf Elm 2	Dispensary Cube Management: Retrieval of Designated Cubes from Assigned Dispensary Shelf Positions, On the Top Shelf, On the Middle Shelf and On the Bottom Shelf	0 to 3	0.6
Auton Core Perf Elm 3	Read the Work Order Board Part One: Move from Home to a Position in front of the Work Order Board, Pause and Read the Work Order Board, Move to the Dispensary Shelves, and Make Contact with the Designated Medicine Cube on the Dispensary Shelf	0 to 3	0.6
Auton Core Perf Elm 4	Read the Work Order Board Part Two: Take possession of the Designated Medicine Cube, Move to the Designated Patient Room, Deliver the Medicine Cube onto the Green Medicine Cube Stand and Release the Medicine Cube	0 to 4	0.6
Auton Core Perf Elm 5	Contaminated HazMat Cube Management: Take Possession of a HazMat Cube from a Designated Patient Room and Deliver it into the HazMat Bin	0 to 2	0.3
Auton Core Perf Elm 6	Sanitation Process: Position the Robot in front of the HazMat Bin, Travel onto the Home/Sanitation Station and rotate through 540 degrees in Autonomous Control Mode	0 to 2	0.3
Auton Core Perf Elm 7	Passageway Gurney Management: Position the Robot in the Center passageway, Take possession of a Designated Passageway Gurney, Move it OFF its' Passageway Gurney Pad and ONTO the Gurney Pad in the adjacent Patient Room and Release the Gurney	0 to 4	0.8
Auton Core Perf Elm 8	Patient Room Gurney Management; position the Robot in the Center passageway Outside the Designated Patient room, Take possession of a Designated in a Patient Room Gurney and Move it OFF its' Patient Room Gurney Pad and ONTO its' Assigned Gurney Pad in the adjacent Passageway and Release the Gurney	0 to 4	0.8
Auton Core Perf Elm 9	Gurney Search: Start at the Head of the Center Passageway and Search for a Gurney in a Patient Room. When the Gurney is found enter the room and MAKE CONTACT with the Gurney	0 OR 1	0.6
Auton Core Perf Elm 10	HazMat Cube Search: Start at the Head of the Center Passageway and Search for a HazMat Cube in a Patient Room. When the HazMat Cube is found enter the room and MAKE CONTACT with the HazMat Cube.	0 OR 1	0.6
		Total	5.8

CORE PERF ELM #	C1 CORE TELE-OPERATION EVALUATION EXPERIENCES DESCRIPTIONS	RANG E	MAX MARK
Teleop Core Perf Elm 1	Dispensary Cube Management: Delivery of Designated Cubes to Assigned Dispensary Shelf Positions, On the Top Shelf, On the Middle Shelf and On the Bottom Shelf	0 to 3	0.6
Teleop Core Perf Elm 2	Dispensary Cube Management: Retrieval of Designated Cubes from Assigned Dispensary Shelf Positions, On the Top Shelf, On the Middle Shelf and On the Bottom Shelf	0 to 3	0.6
Teleop Core Perf Elm 3	Read the Work Order Board Part One: Move from Home to a Position in front of the Work Order Board, Pause and Read the Work Order Board, Move to the Dispensary Shelves, and Make Contact with the Designated Medicine Cube on the Dispensary Shelf	0 to 3	0.3
Teleop Core Perf Elm 4	Read the Work Order Board Part Two: Take possession of the Designated Medicine Cube, Move to the Designated Patient Room, Deliver the Medicine Cube onto the Green Medicine Cube Stand and Release the Medicine Cube	0 to 4	0.3
Teleop Core Perf Elm 5	Contaminated HazMat Cube Management: Take Possession of a HazMat Cube from a Designated Patient Room and Deliver it into the HazMat Bin	0 to 2	0.3
Teleop Core Perf Elm 6	Sanitation Process: Position the Robot in front of the HazMat Bin, Travel onto the Home/Sanitation Station and rotate through 540 degrees in Autonomous Control Mode	0 to 2	0.3
Teleop Core Perf Elm 7	Passageway Gurney Management: Position the Robot in the Center passageway, Take possession of a Designated Passageway Gurney, Move it OFF its' Passageway Gurney Pad and ONTO the Gurney Pad in the adjacent Patient Room and Release the Gurney	0 to 4	0.6
Teleop Core Perf Elm 8	Patient Room Gurney Management; position the Robot in the Center passageway Outside the Designated Patient room, Take possession of a Designated in a Patient Room Gurney and Move it OFF its' Patient Room Gurney Pad and ONTO its' Assigned Gurney Pad in the adjacent Passageway and Release the Gurney	0 to 4	0.6
Teleop Core Perf Elm 9	Gurney Search: Start at the Head of the Center Passageway and Search for a Gurney in a Patient Room. When the Gurney is found enter the room and MAKE CONTACT with the Gurney	0 OR 1	0.3
Teleop Core Perf Elm 10	HazMat Cube Search: Start at the Head of the Center Passageway and Search for a HazMat Cube in a Patient Room. When the HazMat Cube is found enter the room and MAKE CONTACT with the HazMat Cube.	0 OR 1	0.3
		Total	4.2