



<b>Event Name:</b>	Melbourne Robotics Tournament "MRT 2023" (Official FIRST Robotics Off-Season Competition)
<b>Assessment Completed By:</b>	Karola von Baggo (FRA Secretary) () Ben Jessett (FRA Chairman) (+61 4053741110)
<b>Event Date:</b>	June 30th - July 2nd 2023
<b>Event Start Time:</b>	07:00 am (30th June) 08:00 am (1st July) 08:00 am (2nd July)
<b>Event Finish Time:</b>	7:00 pm (30th June) 6:00 pm (1st July) 6:30 pm (2nd July)
<b>Event Location:</b>	Blackburn High School, 60 Springfield Rd Blackburn North 3130
<b>What is the Event and Event Purpose:</b>	<ul style="list-style-type: none"><li>• Off-season FIRST Robotics Competition held at Blackburn High School.</li><li>• Attended by competitors (high-school students), mentors, volunteers and staff from around Australia.</li><li>• Teams bring designed robots which are used to complete set challenges.</li><li>• Fixing and tweaking of robots may be required on site.</li><li>• Event may be broadcasted via internet. See preamble (below) for more information.</li></ul>
<b>What are the event conditions:</b>	<ul style="list-style-type: none"><li>• Public event, free entry, multiple access points.</li><li>• Access to PITS &amp; FIELD area ONLY with PPE (safety goggles &amp; closed-toe footwear). PPE not provided by venue or the FRA.</li><li>• All teams, coaches, mentors, students, parents, guests must supply their own personal PPE.</li><li>• Entry will be refused to those who do not comply. For those with prescription eyeglasses, side shields must be worn at all times.</li></ul>
<b>Guests Attending:</b>	<ul style="list-style-type: none"><li>• ~50 Volunteers</li><li>• ~400 High School Students, parents &amp; mentors</li><li>• ~200 Spectators</li><li>• Children under 16</li><li>• General Public</li></ul>
<b>Equipment:</b>	<ul style="list-style-type: none"><li>• Chairs, Tables, Pipe &amp; Drape</li><li>• Laptops</li><li>• Power cords</li><li>• Robots</li><li>• A/V</li><li>• Competition Field</li><li>• Forklift</li><li>• Pallet Jacks</li><li>• Power Tools</li></ul>
<b>Environment:</b>	<ul style="list-style-type: none"><li>• Basketball Arena</li><li>• Hallways</li><li>• Breakout Rooms</li><li>• Bathrooms</li><li>• Loading Dock</li><li>• Light technical workshop spaces (PITS)</li></ul>
<b>Other Persons Present:</b>	<ul style="list-style-type: none"><li>• AV Company: Focus Audio</li><li>• Blackburn High School (BHS) Staff</li><li>• Paramedics / First Aid (Medical Edge)</li></ul>



**Preamble:**

FIRST Robotics is an international organisation that aims to foster STEM appreciation and competency in high-school students via the hosting of regular robotics competitions. It is an international organisation, with its Australian headquarters at Macquarie University. Teams prepare for competitions by designing and building robots to accomplish set tasks. This competition is an Off-Season FIRST Robotics Competition and is expected to attract competitors from interstate.

The location for the competition is at Blackburn High School (60 Springfield Rd Blackburn North). The event will be held during the Victorian school holidays.

Access to the site will be limited to School employees, event participants, volunteers and spectators. Teams will compete with their robots in a specially constructed game Field in the school Gymnasium. Teams will be assigned a 'pit' in the Dunlop building where they can work on their robots, using hand and power tools, before competing with their robots within the Robot Field in the Gymnasium.

Teams will travel to and from the event location as required, no accommodation will be provided.



## Risk Assessment Register

Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
<b>Location/Environment/Weather</b>									
a. Teams must navigate moderate slope to transport robot and gear on trolleys to pits and field	Team may lose control of trolley.	<ul style="list-style-type: none"> <li>NA</li> </ul>	2	2	4	<ul style="list-style-type: none"> <li>Signage warning of slope</li> <li>Direct teams to path with least slope</li> </ul>	2	2	4
b. Some sections of path between pits and field are via covered walkways (i.e., outdoors)	Team may be exposed to extreme weather.	<ul style="list-style-type: none"> <li>Movement between pits and field will be suspended in event of severe weather (i.e., covered walkway not sufficient to protect teams from rain, or extreme wind).</li> </ul>	1	3	4	<ul style="list-style-type: none"> <li>Pit Admin volunteers will prevent teams removing robot from Pit during severe weather event</li> <li>Queuing volunteers will prevent teams from leaving via robot entry</li> <li>An announcement will be made advising spectators and team members not to leave building until severe weather passed</li> </ul>	1	3	r
c. In the event of rain, water from foot traffic and rain wear may accumulate on hard surface floors.	Slip hazard	<ul style="list-style-type: none"> <li>Non-slip mats at entrance to Field and Pit areas.</li> </ul>	2	2	4	<ul style="list-style-type: none"> <li>Carpet will be used to cover wooden gym floor in areas of pedestrian traffic removing hard surface floors from majority of indoor area</li> </ul>	1	1	2
d. Water spill on hard surface (e.g., from drink bottle, rain)	Slip hazard	<ul style="list-style-type: none"> <li>Slippery when wet signs deployed where water observed until it can be mopped up.</li> <li>First Aid available in event of injury</li> </ul>	2	3	5	<ul style="list-style-type: none"> <li>Volunteers will be instructed to report any water on hard surface</li> <li>Signage available at Entrance Desk</li> <li>See c.</li> </ul>	2	1	3
<b>Competition Field (Gym)</b>									
a. Ad hoc carpet laid on pedestrian areas	Trip hazard at carpet joins	NA	2	3	5	<ul style="list-style-type: none"> <li>Joins will be taped with good quality tape</li> <li>Joins will be inspected regularly during competition and repaired where necessary</li> <li>Volunteers will be instructed to report any observed issues with joins</li> </ul>			



Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
						<ul style="list-style-type: none"> <li>Extra joining tape will be available at the Entrance Desk for repairs</li> </ul>			
b. Robot arms extending 1.2 m past field perimeter and contacting an attendee	<ul style="list-style-type: none"> <li>Person struck by robot arm</li> </ul>	<ul style="list-style-type: none"> <li>Risks change every year depending on game requirements.</li> </ul>	2	2	4	<ul style="list-style-type: none"> <li>During matches Field Reset volunteers will rope off spectator facing field perimeter to prevent spectators and participants entering area</li> <li>A match will not start until rope in place</li> <li>Safe area will be marked on floor for referees reference</li> <li>A barrier will be installed in front of Head Referee sufficient to protect them from contact with robot arm</li> <li>Safety glasses required to enter Field area</li> </ul>	3	2	6
c. Spectators interacting with robots being moved to field.	<ul style="list-style-type: none"> <li>Spectators knocked over by teams moving a robot.</li> </ul>	<ul style="list-style-type: none"> <li>Robots to be transported along defined pathways</li> <li>Width of pathways for pedestrian traffic considered in space planning</li> </ul>	2	3	5	<ul style="list-style-type: none"> <li>In addition, extra space has been provided between the Field and Spectator Seating</li> </ul>	2	2	4
d. Spectators interacting with other spectators or spectators in a wheelchair.	<ul style="list-style-type: none"> <li>Person collides with another person or wheelchair</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	2	3	5	<ul style="list-style-type: none"> <li>Extra space has been provided between the Field and Spectator Seating to accommodate spectators in wheelchair to view event and allow for greater volume of foot traffic.</li> </ul>	2	2	4
<b>Pits (Dunlop Building D1-D4)</b>									
a. Interaction with moving or non-moving parts of robot	<ul style="list-style-type: none"> <li>Person struck in eye/s</li> <li>Pinch or crush injury on body</li> <li>Crush injury to foot</li> </ul>	<ul style="list-style-type: none"> <li>All attendees required to wear safety glasses and foot wear that covers toe while in Pit and Field areas</li> <li>First Aid qualified person available in event of minor injury</li> <li>Restrictions on operating robots in Pit area</li> </ul>	3	2	5	No further risk controls/actions required.	3	2	5



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			C	L	R		C	L	R
		<ul style="list-style-type: none"> <li>Ambulance will be called if injury requires emergency treatment</li> </ul>							
b. Use of tools by competitors	<ul style="list-style-type: none"> <li>Injury due to use of tools</li> </ul>	<ul style="list-style-type: none"> <li>Competitors (children) supervised by trained adult volunteers (e.g., mentors)</li> <li>Only trained competitors allowed to work with power tools.</li> <li>Large machinery (lathes, mills, etc) off limits to competitors.</li> <li>FIRST AID qualified persons on site on site.</li> <li>All attendees required to wear safety glasses and foot wear that covers toe while in Pit or working on robot.</li> </ul>				No further risk controls/actions required.	3	2	5
<b>Sick Child Action Plan</b>									
a. Child presents as sick during competition (flu-like symptoms, nausea, etc)	Spreading of illness/virus among attendees (including COVID-19)  Deteriorating health of child	<ul style="list-style-type: none"> <li>FIRST AID qualified persons on site</li> <li>If present with flu like symptoms child is taken to get tested with Guardian's consent.</li> <li>Child is escorted by at least 2 adults or Guardian when off-site.</li> <li>Parents immediately notified.</li> </ul>	3	1	4	No further risk controls/actions required.	3	1	4
General									



Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
a. Trip / Slip by attendee	Injury due to fall	<ul style="list-style-type: none"> <li>Venue checked for trip hazards prior to commencement of event</li> <li>All leads and cables tied to floor and indicated with tape.</li> <li>Adequate lighting ensured in all used spaces.</li> <li>Non-slip mats at entrances.</li> <li>Use of 'Slippery when wet / Wet floor' signs.</li> <li>FIRST AID qualified persons on site</li> </ul>	2	2	4	No further risk controls/actions required.	2	2	4
b. Tables or equipment collapsing	Injury to attendee or damaged equipment	<ul style="list-style-type: none"> <li>Adult volunteers and mentors to check team set-up before use.</li> <li>Adult volunteers and event staff to check set of communal areas before use (competition field, etc).</li> <li>Minimise use of collapsible tables</li> </ul>	1	2	3	No further risk controls/actions required.	1	2	3
a. Electrocution due to faulty lead or equipment.	Injury to attendee or damaged equipment	<ul style="list-style-type: none"> <li>Power leads are tagged and tested.</li> <li>Ensure power leads correctly installed</li> <li>Ensure power leads are secured</li> <li>Volunteers check team set up to ensure not compromising their safety</li> </ul>	1	1	2	No further risk controls/actions required.	1	1	2
c. Heat stroke	Health and safety of attendees	<ul style="list-style-type: none"> <li>FIRST AID qualified persons on site</li> </ul>	1	1	2	No further risk controls/actions required.	1	1	2



Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
		<ul style="list-style-type: none"> <li>Volunteers provided with access to water</li> <li>Water available</li> <li>Event held outside of Summer months.</li> </ul>							
b. Build up of waste (such as masks, gloves and general rubbish)	Health and safety of attendees	<ul style="list-style-type: none"> <li>Rubbish bins located in and around venue.</li> <li>Event staff and volunteers monitor venues for waste.</li> <li>Bins emptied where required of waste.</li> <li>Disposable nitrile gloves, hand sanitiser and alcohol disinfectant available when emptying bins.</li> </ul>	1	1	2				
c. Equipment stolen or damaged	Equipment stolen or damaged	<ul style="list-style-type: none"> <li>Mentors and individual teams responsible for equipment.</li> </ul>	1	1	2	No further risk controls/actions required.	1	1	2
d. Event Attendee suffers medical emergency	Attendees are able to access appropriate medical care in timely matter	<ul style="list-style-type: none"> <li>First Aid qualified person on site</li> <li>Defibrillation device available at Gym (Field)</li> <li>Ambulance to be called if required</li> </ul>	4	1	5	No further risk controls/actions required	4	1	5
e. Emergency points not operating	Attendees cannot exit building in event of emergency	<ul style="list-style-type: none"> <li>All points checked and are operating</li> </ul>	5	1	5	No further risk controls/actions required	5	1	5
<b>1. Missing / Lost Attendees – Event wide</b>									
a. Lost child within venue	Distress of child and Parent	<ul style="list-style-type: none"> <li>Team mentors and attending parents are responsible for team members and registration of all</li> </ul>	1	2	3	No further risk controls/actions required.	1	2	3



Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
		<p>students via the consent and release forms.</p> <ul style="list-style-type: none"> <li>• Event held on school grounds with one pedestrian and one vehicular entrance</li> <li>• Children attending as spectators are expected to attend with their parents in attendance.</li> <li>• Adult mentors to escort teams to and from venues.</li> <li>• Map provided to teams prior to the event.</li> <li>• Centralised PA system to assist with announcements.</li> <li>• Volunteers and staff notified immediately when child is missing to assist with search.</li> <li>• Volunteers identified with event specific apparel (e.g., official FIRST volunteer t-shirt)</li> </ul>							
b. Attendees lost navigating to venue	Absence of Team	<ul style="list-style-type: none"> <li>• Information, instructions, public transport &amp; map provided to guests prior to event</li> <li>• Signage in place on event days</li> <li>• Parking arrangements made &amp; information provided to guests</li> <li>• Volunteers identified with event specific</li> </ul>	1	2	3	No further risk controls/actions required.	1	2	3





Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
		apparel (e.g., official FIRST volunteer t-shirt)							
c. Overcrowding of venue/ Crowd crushing		<ul style="list-style-type: none"> <li>Entrances and exits and pathways comply with OH&amp;S and relevant accessibility standards</li> <li>Careful space planning with traffic flow considered in event plan design</li> <li>Volunteers appointed to assist with crowd control</li> </ul>	2	2	4	No further risk controls/actions required.  Volunteer training session (TBA) 29/06/23	2	2	4
<b>2. Evacuation / Fire / Other – Event wide</b>									
d. Evacuation of attendees due to fire	Mental and physical health of attendees	<ul style="list-style-type: none"> <li>Volunteers and staff trained in emergency procedures.</li> <li>Emergency Evacuation plans accessible and placed on doors.</li> <li>Evacuation exits clearly labelled.</li> <li>Announcement of exits and evacuation procedure to guests.</li> <li>Extinguishers regularly serviced and checked by School.</li> </ul>	4	1	5	No further risk controls/actions required.  Volunteer training session (TBA) 29/06/23	4	1	5
a. Bomb Threat	Mental and physical health of attendees	<ul style="list-style-type: none"> <li>School emergency response plan</li> <li>Volunteers advised of procedures to follow in this event.</li> </ul>	4	1	5	No further risk controls/actions required.  Volunteer training session (TBA) 29/06/23	1	1	2
b. Severe Storm		<ul style="list-style-type: none"> <li>School emergency response plan</li> <li>Volunteers advised of procedures to follow in this event.</li> </ul>	1	2	2	Movement between Field (Gym) and Pits (Dunlop) suspended for duration of storm.  Volunteer training session (TBA) 29/06/23	1	1	2



Hazards	Associated risks	Existing risk controls	Risk rating with existing controls			Planned controls	Residual risk rating with planned controls		
			C	L	R		C	L	R
c. Earthquake		<ul style="list-style-type: none"><li>School emergency response plan</li><li>Volunteers advised of procedures to follow in this event.</li></ul>	1	1	2	No further risk controls/actions required. Volunteer training session (TBA) 29/06/23	1	1	2

<b>Comment:</b>	Venue Manager will continue to keep staff updated with the current risk management and incident management protocols
<b>Follow up Actions</b>	This document will be continually reviewed and amended as necessary in the lead up to the event date (June 30th - July 2nd 2023)



Consequence Criteria:

	Consequence	Explanation
1	Insignificant	None treated injury, zero lost time, no environmental impacts
2	Minor	Injury treatable by first aid, zero lost time, minimal environmental impacts
3	Moderate	Injury only treatable by a doctor, between zero and 10 days lost time, no permanent environmental damage
4	Major	Extensive injuries or multiple injuries, lost time greater than 10 days, long stay hospitalisation, permanent local environmental damage
5	Catastrophic	Fatality, amputation of limbs, electrocution, permanent severe health effects, permanent extensive environmental damage

Likelihood Criteria:

	Likelihood	
1	Rare	Would not expect this incident to occur
2	Unlikely	Incident not likely to occur – no occurrence in the last 5 years
3	Possible	Incident might occur at some time- known occurrence in the last year
4	Likely	Incident expected to occur a few times a year
5	Almost Certain	Incident expected to occur multiple times a year

Risk Matrix

	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Rare (1)	2	3	4	5	6
Unlikely (2)	3	4	5	6	7
Possible (3)	4	5	6	7	8
Likely (4)	5	6	7	8	9
Almost Certain (5)	6	7	8	9	10



Required Response

Score	Response	Reporting	Descriptor
9 & 10	Extreme Risk	Event Director Safety Manager	The proposed task or process activity MUST NOT proceed until the supervisor has reviewed the task or process design and risk controls. They must take steps to firstly eliminate the risk and if this is not possible to introduce measures to control the risk by reducing the level of risk to the lowest level achievable. In the case of an existing hazard that is identified, controls must be put in place immediately.
6, 7 & 8	High Risk	Event Director Safety Manager	Urgent action is required to eliminate or reduce the foreseeable risk arising from the task or process. The supervisor must be made aware of the hazard. However, the supervisor may give special permission for staff to undertake some high risk activities provided that system of work is clearly documented, specific training has been given in the required procedure and an adequate review of the task and risk controls has been undertaken. This includes providing risk controls identified in Legislation, Australian Standards, Codes of Practice etc. A detailed Standard Operating Procedure is required and monitoring of its implementation must occur to check the risk level
4 & 5	Low to Moderate risk	Safety Manager	Action to eliminate or reduce the risk is required within a specified period. The supervisor should approve all moderate risk task or process activities. A Standard Operating Procedure or Safe Work Method statement is required
2 & 3	Insignificant & very low risk - minor issue for monitoring	Safety Attendant	Manage by routine procedures.