

APPROVED BY
Phygitel International FZCO
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CEO
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TECHNICAL RULES
of the International Multisport Tournament
“GAMES OF THE FUTURE”

to be held for a period
from December 14, 2025, to December 23, 2025,
in Abu Dhabi, UAE

(Battle of Robots)

1. Glossary and Abbreviations

Athlete/Player/Participant is an individual participating in the Competition, including those who have submitted an application for the Competition.

Battle of Robots is a type of competition activity that represents a duel between two Robots controlled by the Competition participants.

Captain is one of the athletes of the Team, who communicates with the Competition organizers on behalf of the Team.

Chief Panel of Judges (CPJ) is an authorized body formed by the Organizer in order to ensure compliance with each Competition's Regulatory documents throughout the entire Competition and to coordinate sports officiating from the initial planning phases to the execution of the Competition.

Competition is the International Multisport Competition to be held in Abu Dhabi, UAE, from December 14, 2025, to December 23, 2025, titled "GAMES OF THE FUTURE" (Battle of Robots).

LAN is a format for hosting a competition or its stage of a competition where participants compete in specially equipped FoP in the same or adjacent rooms under the direct control of the referees.

Organizer is Phygital International FZCO, a company duly incorporated and existing under the laws of the United Arab Emirates, having trade license number DMCC-861365, with its registered office at Unit No: 802-006, Platinum Tower, Plot No: JLT-PH1-I2, Jumeirah Lakes Towers, P.O. Box 450297, Dubai, United Arab Emirates.

Phygital Sports is a complex competitive activity based on the integration of functional and digital segments, which are implemented either in stages during the competitive process within the framework of one competitive action, united by a combined result or score.

Regulatory Documents are the Rules and Regulations, the Technical Rules, the WPC Disciplinary Regulations, the Regulations on the Prize Fund of the Competition, the Regulations on the Chief Panel of Judges and Referee Panels, decisions issued by the Chief Panel of Judges and the WPC Disciplinary Committee, as well other documents, approved by the Organizer governing certain areas in organizing and holding the Competition.

Referee is an authorized person responsible for ensuring compliance with the Rules and Regulations, the Technical Rules and another Regulatory Documents.

Robot is an automatic device designed and assembled by a team participating in the Competition, that complies with the Organizer's requirements (including the requirements of the Technical Rules), is controlled by a Competition participant, and intended for participation in the Battle of Robots.

Rules and Regulations are the rules and regulations of the International Multisport Competition to be held in Abu Dhabi, UAE, from December 14, 2025, to December 23, 2025, titled "GAMES OF THE FUTURE".

Single Elimination system is a competition format where a participant is eliminated from the competition after losing a single match.

Team is a group of Athletes, who have been admitted to participate in the Competition and who are competing in accordance with the Rules and Regulations.

Technical Rules are a regulatory document that defines the terms of and procedure for holding the Competition in Drone Racing.

WPC, or World Phygital Community Limited, is a non-profit, non-governmental organization registered in Hong Kong (Business Registration No. 75641205, Chapter 622 of the Laws of Hong Kong). It provides direction and oversight for introducing and promoting Phygital Sport internationally.

WPC Discipline mean Phygital Shooter, Phygital Basketball, Phygital Football, Phygital Dancing.

WPC Disciplinary Committee is the disciplinary authority of WPC, which applies sanctions to individual subjects of Phygital Sports in accordance with the procedure provided for by the WPC Disciplinary Regulations.

WPC Disciplinary Regulations are Disciplinary Rules and Regulations approved by WPC.

All terms listed in the Glossary may appear in the Technical Rules with both uppercase and lowercase letters without any change in their intended meaning.

The terms and definitions provided in the Technical Rules text can be used in both singular and plural form without any change in their intended meaning.

All references to individuals, as outlined in the Technical Rules, are intended to be inclusive of both masculine and feminine genders.

For Technical Rules purposes, the term Competition refers to the entirety of the Games of the Future International Multisport Tournament when applicable.

Other terms and definitions not included in the Glossary are to be interpreted according to the definitions provided in the Regulatory Documents.

2. General Provisions

- 2.1. The Competition is held in discipline "Battle of Robots".
- 2.2. All Competition participants, coaches, team officials, administrative and technical staff of Competition participants, officials, as well as referees and any other persons involved in organizing and staging the Competition, shall know and follow the Regulatory Documents.

3. Competition Organization System

- 3.1. Sixteen (16) teams, each with up to five (5) athletes (and at least 2 (two) athletes), will participate in the competition. For the purpose of organizational support of their participation in the Competition, each team is entitled to engage no more than 2 (two) people, who may include coaches, team officials, representatives of administrative and technical staff. The procedure for admission to the Competition is defined by the Rules and Regulations.

The teams ensure the presence of participants and their representatives as follows: all participants are in the robot's control area.

- 3.2. The teams competing in the Competition face off in single-elimination matches.
 - 3.2.1. Based on the first round results, 8 teams that suffered defeat are eliminated from the competition. The teams eliminated based on the first round results take part in matches for 9-12 places. The teams to win the matches for 9-12 places take 9-12 places, the teams that suffered defeat take 13-16 places.
 - 3.2.2. Based on the 2nd round results, 4 (four) teams that suffered defeat are eliminated from the competition.

- 3.2.3. Based on the semifinal results, 2 (two) teams that suffered defeat are eliminated from the competition. They are competing for the third-place position in the competition.
- 3.2.4. The remaining two teams compete in the Finals.
- 3.2.5. The Organizer decides the pairings and tournament bracket.
- 3.3. Each match involves a single contest between the Match competing teams' robots. The match lasts for 3 (three) minutes.
- 3.3.1. The match is officially finished under the following circumstances:
- A) once the designated match time has expired;
 - B) if one of the participating robots has lost its ability to move (either due to damage or being turned over).
- 3.3.2. The winning team will be determined by the following criteria:
- A) the team that has outscored the opposing team by the end of the match time;
 - B) the team whose robot is still fully functional while the opposing team's robot is either damaged or flipped over, rendering it immobile.
- 3.3.3. Match scoring

Referees evaluate the match participants based on three (three) indicators:

Assessed indicators	Maximum score
Damage	5
Aggression	3
Control	3
Maximum score	11

3.3.3.1. Damage score distribution table

Two factors are used to assess damage:

- **Functionality.** It is the incapacity of robot's parts to perform the functions required. Examples include unusable arms, robot actuator defects resulting in chaotic movement, and flip device malfunction.
- **Efficiency.** Referees assess how efficiently the robot can continue to function when damaged. A robot with six wheels, for example, can continue fighting even in case one of its wheels fails. A robot with a rotating drum when losing one "tooth" can continue to fight. Whereas with a hammer robot, the effectiveness of the arms is reduced to almost zero if the strike part is lost.

		Robot A			
		Minimal	Moderate	Significant	Massive
Robot B	Minimal	**	3-2	4-1	5-0

	Moderate	2-3	**	3-2	4-1
	Significant	1-4	2-3	**	3-2
	Massive	0-5	1-4	2-3	**

Damage level determination:

- minimal: does not reduce the functionality and efficiency of the robot;
- moderate: reduces the effectiveness of the robot's actuator, protection, or armor;
- significant: destroys the functionality of the robot's actuator system, arms, or armor. Reduces the efficiency of two or more systems;
- massive: destroys the functionality of two or more of the robot's systems.

3.3.3.2. Aggression score distribution table

The following factors are used for the overall assessment of robot aggression:

- frequency: the number of attack attempts during the entire match. If the opponent's robot attempts to avoid attacks, it counts as an attempted attack.
- severity: the intensity or strength of each attack;
- courage: whether the robot attacks the opponent at its own risk.

		Robot A		
		Minimal	Moderate	Significant
Robot B	Minimal	**	2-1	3-0
	Moderate	1-2	**	2-1
	Significant	3-0	1-2	**

Aggression level determination:

- minimal: the robot stands still and waits for the opponent to attack it or moves away from the robot to avoid attacks;
- moderate: the robot occasionally demonstrates courage or intent by attacking with its active arms or battering ram.
- significant: a robot often shows courage or intent by using its active arms or battering ram to attack.

3.3.3.3. Control score distribution table

The following factors are used for the overall assessment of robot control:

- how efficiently the robot can choose when and how to attack an opponent;
- how efficiently the robot avoids being hit by the opponent's arms;

- how efficiently the robot avoids the weapons set up in the ring (e.g., a thrower or a hammer with augers);
- how efficiently the pilot compensates for robot breakdowns (e.g., when one actuator is damaged, with enough skill the pilot can compensate for this and continue in a straight line).

More points are awarded to a robot that moves tactically around the ring, selects the right attack points, and builds elaborate controlled attack trajectories.

		Robot A		
		Minimal	Moderate	Significant
Robot B	Minimal	**	2-1	3-0
	Moderate	1-2	**	2-1
	Significant	3-0	1-2	**

Control level determination:

- minimal: the robot is unable to initiate attacks and avoid the opponent's attacks and use the capabilities of the arms in the ring. Robot periodically drives into the boards, gets trapped in the ring;
- moderate: the robot can sometimes use its arms to attack an opponent, as well as dodge attacks. Can avoid traps in the ring;
- significant: the robot moves confidently, constantly attacks the opponent, avoids falling into traps.

- 3.4. The Competition schedule, including the dates, time and venue of the Matches and semifinal pairs shall be determined by the Organizer, whereof the Organizer shall notify the Competition participants in advance.

4. Participants' Rights and Liabilities

4.1. Competition Participants have the right to:

- 1) have their performance evaluated by qualified and impartial referees;
- 2) obtain information regarding the results achieved at the Competition;
- 3) address the Chief Panel of Judges through a team representative or a coach;
- 4) use the downtime between matches for conducting robot repairs and training sessions; and
- 5) address the WPC Disciplinary Committee according to established process outlined in the WPC Disciplinary Regulations and the Regulatory Documents.

4.2. Competition Participants shall:

- 1) know and follow the Regulatory Documents instructions and the Organizers' requirements;

- 2) adhere to generally accepted standards of behavior, demonstrate a respectful attitude toward Competition Officials, spectators, media representatives, and fellow Competition Participants.
- 3) follow the rules of good sportsmanship and fair play;
- 4) attend the Competition venue accompanied by the coach/official representative of the Team;
- 5) unconditionally follow all the orders and instructions of the referees related directly to the Competition procedure;
- 6) ensure strict compliance with the order of entering the field of play;
- 7) comply with the technical requirements for the manufacture of Robots;
- 8) Athletes participating in the Competition as part of teams shall comply with safety, equipment operation and anti-doping regulations;
- 9) wear the team uniform with the agreed-upon team logo, as previously arranged with the Organizer.
- 10) be present during the completion of the starting lineup, following the procedures detailed in the Technical Rules and Regulatory Documents. They shall also sign and provide any required information if needed;
- 11) ensure that participants and team representatives are present only as prescribed by the Regulatory Documents.

4.3. Competition Participants are not allowed to:

- 1) interfere with the work of the referee or his assistants;
- 2) disable or otherwise damage the sports equipment;
- 3) interfere with the competition process, thus disrupting the natural flow of the Match;
- 4) deliberately delay the progress of the Match;
- 5) commit other actions that hinder the normal organization and progress of the Competition, violate the Technical Rules, the Rules and Regulations, other Regulatory Documents;
- 6) collude with each other;
- 7) place bets at bookmakers or engage in interactive betting on competitions, whether independently or through third parties such as relatives, friends, or acquaintances;
- 8) use of any unauthorized items, inventory, or equipment that is not permitted by the Rules and Regulations, Technical Rules, or other Regulatory Documents of the Competition, and poses a potential risk to the safety and well-being of others and/or the participant;
- 9) exert an unlawful influence on the results of the Matches held as part of the Competition. Examples of wrongful influence include, but are not limited to:
 - intentional loss for any reason;
 - playing for the benefit of another Participant to help that Participant;
 - rigged Matches in any form;
 - a collusion to share a cash or other prize;

- 10) engage in any actions that disrupt the normal organization and execution of the Competition, violate Technical Rules, the Rules and Regulations, or other Regulatory Documents.

The list of prohibited actions is not comprehensive; additional prohibitions may be outlined in the provisions of the Technical Regulations and other Regulatory Documents.

5. Refereeing

- 5.1. The composition of the Referee brigade for Competition Matches will be determined in accordance with the Regulations and other Regulatory Documents of the Organizers.
- 5.2. During the Competition matches the referees are positioned around the perimeter of the field of play (FoP) in locations determined by the Organizer.
- 5.3. The Organizer has the authority to enlist the assistance of technical experts in the Competition organization.
 - 5.3.1. Technical experts are authorized to:
 - remain directly in the FoP area;
 - inspect the robots;
 - provide the referees with expert technical opinions on the condition of the robots participating in the match;
 - move around the FoP during the fight to observe the progress of the fight from vantage points not accessible to the referees.
 - 5.3.2. Technical experts are obliged:
 - to respond promptly and comprehensively to questions from the referees;
 - to be objective when assessing the state of the robots;
 - not to interfere with the teams participating in the match or their robots;
 - not to interfere in any way with the fight between the robots.
- 5.4. The referees and/or officials of the Competition are responsible for preparing, completing, and signing protocols and reports that document and formalize the progress and outcomes of the competition process according to the guidelines outlined in the Regulatory Documents.
- 5.5. The referee (Chief Referee of the Sports Discipline or an authorized member of the Discipline's Chief Panel of Judges) prepares the starting lineups in the presence of representatives from the participating teams no later than 1 hour before the competition begins.

6. Disciplinary offenses and consequences

- 6.1. Undisciplined behavior, as well as any other behavior that goes against Technical Rules and other Regulatory Documents, will result in consequences such as a warning, removal, or disqualification, set forth in the Rules and Regulations, the Technical Rules, and Regulatory Documents. The Regulatory Documents may also provide other sports sanctions in the case of violations set out in the Technical Rules and/or related documents.
- 6.2. If a Competition participant commits a violation not expressly provided for in the Rules and Regulations or the Technical Rules, other Regulatory Documents of the Organizer, the Competition Organizer, the Chief Panel of Judges, the Referee Panel, the Brigade of

Referees have the right to impose on such a participant one of the sports sanctions stipulated by the Technical Rules, guided by the analogy of the law, the statutory analogy as well as the principles of good faith, reasonableness and fairness.

- 6.3. If a match start or a match course is delayed by more than 10 minutes, the participant may be forfeited unless other sanctions are specified in the Special Part of the Technical Rules.
- 6.4. Intentional disruption of the Matches, as well as undisciplined behavior with regard to opponents, participants, referees and spectators during the Competition may subject the offender to sport sanctions up to disqualification.
- 6.5. Starting a competition with an incomplete roster may lead to the team receiving a forfeit.

7. Appeals

- 7.1. The appeal against the race result can only be filed by the Team Captain or representative in the event of a violation of the Regulations, as outlined in the Rules and Regulations.

8. Determination of the Winner and Prize-winners

- 8.1. If there is no pending arbitration by the Chief Panel of Judges or the WPC Disciplinary Committee, according to the WPC Disciplinary Regulations and the Regulatory Documents, the winner of the Competition is the team that takes the first place (not having suffered any defeat in the matches according to the Single Elimination system). The team defeated in the Final takes second place.
- 8.2. The teams defeated in the semifinals play a match for third place.
- 8.3. The teams that secure second and third place in the Competition will be recognized as prize winners.
- 8.4. Award procedure for the winner and prize-winners shall be determined by the Organizer.

9. Competition organization requirements

- 9.1. Robots must only be fully powered up in the FoP when instructed by the Competition Officials. Drive systems and low speed weapons may be operated in the pits for testing purposes only and when safety devices are in place. No pneumatic systems or high-speed weapons to be operated in the pits at any time.
- 9.2. Robots must be able to be powered up over a 500mm high barrier when in the FoP, no person will be allowed into the FoP or loading bay to power up/down the robot.
- 9.3. When in the FoP, participant must only power up his robot when instructed by the Competition Officials.
- 9.4. After a fight, the Competition Officials shall power down the robots, no participants are allowed in the FoP until it has been made safe by the Competition Officials.
- 9.5. All robots must be fitted with safety covers over any sharp points, blades etc. These must remain fitted at all times when outside of the FoP.
- 9.6. All robots must be fitted with adequate locking devices that stop the weapon operation. Locking devices must be strong enough to stop any weapon movement without failing. The participant may be asked to demonstrate the safe operation of locking device.
- 9.7. All robots must be sat with their drive system not in contact with the bench, trolley etc. this may take the form of a cradle, trolley design etc. and be secure that the robot cannot become loose when the drive system is operated.

10. Pit Safety

- 10.1. Participants must wear PPE where required such as: gloves, googles and safety shoes.
- 10.2. Basic power tools are allowed at the pit bench.
- 10.3. No 'Hot Works' (such as welding and grinding) is allowed at any time.
- 10.4. All electrical equipment (chargers, tools, extension leads etc.) must be in good condition and free from defects. All safety guards must be present. The Organizer on its sole discretion has the right to confiscate any electrical equipment or tools that seems to be unsafe.
- 10.5. Robot drive systems must only be activated for testing purposes.
- 10.6. No pneumatic systems to be operated outside of the FoP. Systems may be pressurized to test for leaks etc.
- 10.7. All cables to be taped down if running across the floor.
- 10.8. Walkways should be kept clear at all times.

11. Robot Technical Requirements

11.1. Weight

11.1.1. Maximum Weights

Maximum Heavyweight limit is 113.4kg (250Lbs).

11.1.2. Weight limit includes all consumables such as gas, fuel etc.

11.1.3. Walking robots are allowed an additional 25kg. Walking robots must be propelled by legs only. Each leg must have 2 degrees of movement.

11.1.4. Shuffling robots that use a rolling or sliding mechanism are allowed and additional 10kg.

11.1.5. Walking robot types are at the discretion of Organizer. Participants with walking robots shall provide the Organizer with such information in advance.

11.1.6. Clusterbots are permitted.

11.1.7. Safety devices are not counted towards the weight allowance.

11.1.8. Robots incorporating interchangeable weapons, parts, armour etc. must be weighed with their heaviest setup in place.

11.1.9. There is 0% tolerance on weight. The weight registered on the scales at the Competition is final.

11.1.10. Dimensions of the robot in the starting state: length, width and height – can be no more than 1.5 m x 1.5 m x 2 m respectively.

11.2. Propulsion

11.2.1. Robots may be wheeled, tracked, legged (walker) or shuffler.

11.2.2. Hovercraft or similar are allowed.

11.2.3. Propellers, jet engines and rockets are not allowed.

11.3. Radio Control

11.3.1. All radio systems must be commercially available and comply with UAE laws.

11.3.2. No radios must intentionally interfere with other users.

11.3.3. Only 2.4ghz frequency is allowed and must use DSS (Digital Spread Spectrum) technology.

11.3.4. Telemetry systems are allowed.

11.4. Fail-safes

11.4.1. All drive and weapon systems must incorporate a radio fail-safe.

11.4.2. Fail-safes are typically built into the radio receivers, participants must ensure that robots are equipped with fail-safes with the correct fail-safe setting (typically a preset fail-safe point, NOT last position/command). They should also be built into weapon switches and ESC's.

11.4.3. Fail-safes must activate in the result of loss of radio communication with the transmitter or loss of receiver power.

11.4.4. Drive systems must immediately stop in the result of a fail-safe operation.

11.4.5. Weapon systems should either stop where they are or return to a safe position in the result of a fail-safe operation.

11.4.6. Autonomous systems must disengage in the result of a fail-safe operation.

11.4.7. All fail-safe systems will be checked before being allowed to compete.

11.5. Autonomous or Semi-Autonomous Robots and Systems

11.5.1. Participants who use any autonomous systems in their robots shall provide the Organizer with such information in advance.

11.5.2. All autonomous systems must be capable of being armed and disarmed remotely.

11.5.3. Autonomous systems must only be activated once the FoP has been secured and must be disarmed during power up/down of robot.

11.5.4. Autonomous systems must time out after 4 minutes from first activation and not restart.

11.5.5. An additional indicator LED must be present on the outside of the robot to show when the system is armed.

11.6. Power System

11.6.1. All electrical power must be isolated by the form of a removable link or switch.

Multiple removable links/switches are permitted but must be located adjacent to each other. The use of removable links is highly preferred. Switches that can be easily damaged or fail on are not allowed.

11.6.2. Power isolation points should be located away from any drive systems and moving weapon parts.

11.6.3. Power isolation can be positioned under a cover/door but must not require the use of tools to open. Power isolation must be located so that they are clearly visible when the cover/door is open.

11.6.4. Robots that are designed to run inverted that are not equipped with a self-righting device must have either the power isolation points located in a position that is accessible when both ways up, or multiple on each side.

11.6.5. Separate isolation links/switches are required for weapon systems, when there is no other way of isolating the weapon system (e.g. pneumatic systems do not require a weapon switch as the gas can be isolated, however an electric driven weapon would require a separate switch/link).

- 11.6.6. All cables must be of adequate current rating for its intended use.
- 11.6.7. Cabling should be routed away from moving parts and not exposed to any sharp edges that may damage the insulation.
- 11.6.8. All terminals and contacts should be insulated, there should be no exposed live connections.
- 11.6.9. Robots must be fitted with an LED light that indicates when the robot is powered up. The LED should be clearly visible and wired directly into the main power supply and not powered through any other component. Power lights should be none flashing and LED type.
- 11.6.10. Any robots using internal combustion engines must get prior approval before entering.

11.7. Batteries

- 11.7.1. Maximum voltage must not exceed 75v DC or 50v AC. This is the maximum voltage and not the nominal voltage of a battery.
- 11.7.2. Batteries must be located within the body of the robot and protected from external damage. Soft mounting such as foam is advised to protect from shock causing internal damage. Batteries should be mounted securely (cable ties, tape, Velcro etc. is not allowed).

- 11.7.3. The approved battery types are:

- Nickel-cadmium (NiCad)
- Nickel-metal Hydride (NiMh)
- Sealed Lead Acid (Pb)
- LiFePo4 (Lithium Iron Phosphate)
- Lithium Polymer (LiPo).

Wet lead acid batteries, such as car or leisure batteries are not allowed.

- 11.7.4. All batteries must be charged with the correct type and shut off when charge is complete.

- 11.7.5. Lithium Polymer Batteries

- Must be charged with a balance charger
- An advisory low voltage cut-off should be fitted to the robot that either alerts the athlete or shuts the robot down in case of a low voltage alarm
- Batteries must be charged inside a flame proof 'Lipo Sack' or similar when charging
- Batteries should be removed and inspected before charging and before being put back inside the robot
- Batteries must not be left unattended whilst charging
- Any batteries showing any damage or swelling must not be used
- The 'C' rating must be sufficient to supply the current needed from the systems
- It is advised that fuses are fitted, that are rated below the maximum 'C' rating of the batteries.

11.8. Pneumatics

- 11.8.1. Only CO₂, compressed air and nitrogen is permitted.
- 11.8.2. Maximum system pressure is 1000psi (68Bar), maximum cylinder storage pressure of 3000psi.
- 11.8.3. All cylinders must be commercially available and designed for the intended gas. Cylinders must be certified and within their tested lifetime, any cylinders that have expired beyond this must not be used.
- 11.8.4. Bust discs must be fitted to CO₂ cylinders.
- 11.8.5. Cylinders should be removed for filling, CO₂ cylinders must be filled by weight.
- 11.8.6. All cylinders over 50psi must have an isolation valve fitted, for cylinders with automatic valves (such as paintball, Sodastream etc.) must have a remote valve fitted as close to the cylinder as possible. Isolation valves must be accessible from outside of the robot.
- 11.8.7. All parts of the pneumatic system over 50psi must be certified for their use at the operating pressure being used.
- 11.8.8. Any custom components must be rated for at least 120% of the operating pressure and be tested and certified. Any hydraulic components being used will be rated to 50% of their design operating pressure.
- 11.8.9. Pressure relief valves must be fitted at each pressure stage of the system; these must be set no higher than 110% of the lowest rated component.
- 11.8.10. Full Pressure' CO₂ systems (ones that are not regulated to a lower pressure) are required to have a 1000psi relief valve fitted.
- 11.8.11. Pressure gauges and permanent test points are not required, however athletes may be asked to demonstrate the set/operating pressure of a system.
- 11.8.12. A 'Dump' valve must be fitted that vents all of the gas from the system to air. This should be normally open. Dump valve should be located so that it is accessible from outside of the robot.
- 11.8.13. The use of heaters or any form booster is strictly forbidden. Anybody found heating any part of their pneumatic system (especially cylinders) shall be disqualified from the Competition.

11.9. Hydraulics

- 11.9.1. The maximum hydraulic pressure is 10,000psi.
- 11.9.2. A pressure relief valve must be fitted set to 110% of the lowest rated component with a maximum setting of 10,000psi
- 11.9.3. System should be fitted with an integrated test port at the maximum pressure point in the system. Teams should supply the associated gauge/hose to demonstrate the operating pressure.
- 11.9.4. Fluid should be stored in a suitable reservoir that is protected from external damage.
- 11.9.5. The operating pressure should not exceed the design rating of the components.
- 11.9.6. System should be designed so that no pressure can remain in the system once power is removed.
- 11.9.7. All hoses must be routed to minimize the risk of damage.

11.9.8. All hoses and fittings should be manufactured to local standards.

11.9.9. The use of any type of accumulator is banned.

11.10. Spring and Flywheels for Weapon Power

11.10.1. Any springs or flywheels must be capable of being energized and de-energized remotely in the FoP, and must not be energized outside of the FoP.

11.10.2. Energy should be dissipated when robot goes into fail-safe mode.

11.10.3. All springs/flywheels must be contained within the body of the robot and no part exposed.

11.11. Rotating Weapons

11.11.1. Rotational weapons, spinning weapons such as bars, discs, drums etc. are allowed providing the following criteria is met:

- Maximum 'tip' speed of 250mph. This shall be calculated from the weapon diameter, gearing, motor CV and operating voltage. No losses (such as air resistance, voltage drop etc.) are to be considered. Teams must provide the Organizer with their calculations and specifications. Limiting speed via electronic settings (such as ESC controllers or radio trims) is not allowed. Any team intentionally running over the speed limit shall be disqualified.
- Spinning weapons must come to a stop within 60 seconds once power is removed.
- Care should be taken in the design and construction of spinning components, for example: teeth/tips that are simply welded or bolted on are not allowed, components should be mechanically keyed into each other.
- Maximum spinning blade/disc weight is limited to 30kg, robots incorporating a 'full body spinner' design, shell can be 60kg in weight.

11.12. Flame/Fire

11.12.1. Only Butane and Propane (mixed or separate) are allowed.

11.12.2. Flame systems must have their own independent power isolation switch/link.

11.12.3. Flame must not project more than 1 meter beyond the length of the robot.

11.12.4. Maximum of 500 grams of fuel allowed and must be stored in a commercial cylinder (i.e. blow torch cylinders).

11.12.5. Fuel isolation points and dump valves must be fitted.

11.12.6. Flame/fire weapons must be activated by remote control and not left permanently on.

11.13. Weapon Restrictions

11.13.1. The below weapon types are restricted or banned from use. Weapon type classification is at the discretion of the Organizer.

11.13.2. The following weapon types are not allowed:

- Electromagnetic Interference RF Jamming;
- Electrical (Tasers etc.) Liquid Weapons;
- Explosives;
- Smoke, dust etc. that may obstruct the view of the drivers/robots;

- Entanglement;
- Hazardous materials;
- Projectiles;
- Harden Blades that may shatter.

12. Final provisions

- 12.1. The Technical Rules come into effect from the moment they are approved by the Organizer. Revisions and additions to the Technical Rules require approval from the Organizer and will be implemented immediately upon approval, unless otherwise stated by the Organizer's decision. Participants will not receive additional notification of such revisions.
- 12.2. Matters not governed by these Technical Rules shall be resolved in accordance with the Rules and Regulations, the decisions made by the Chief Panel of Judges, the WPC Disciplinary Committee, and other applicable Regulatory Documents of the Competition.
- 12.3. If necessary, in the event of discrepancies between the norms of the Technical Regulations, the Rules and Regulations, and other Regulatory Documents, the interpretation of the norms of the respective documents, as well as the final decision on overcoming the relevant contradictions, will be made by the Organizer (Chief Panel of Judges). This decision will be guided by legal precedent, statutory analogy, as well as the principles of good faith, reasonableness, and fairness.