IDE SERIES

2026 SINGAPORE

IDE ROBOTICS

(VEX GO Challenge)
Game Manual

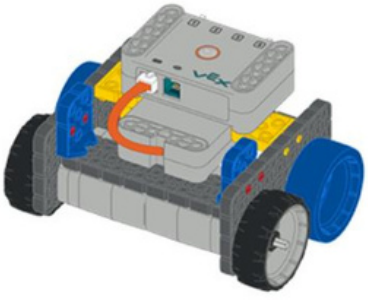
Event Organiser:

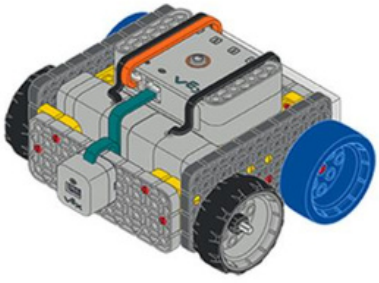
NULLSPACE

vm EDUCATION

Updated VEX GO Game Format

- Teams are required to assemble their robots at the competition venue.
- A designated 3-hour timeframe will be allocated for the completion of the robot assembly for the competition.
- No manuals will be distributed. Team are allowed to bring additional aids for reference.
- Teams are expected to leverage their creativity for robot construction.
- Adult assistance during the building process is strictly prohibited.
- Referees are the sole authorized individuals to provide assistance.
- Teams may use their own build instructions if necessary.
- Playfield may be provided (subject to availability)
- Teams can download codes to their robots beforehand and bring in their codes.
- Teams are permitted to bring their base robot as shown below (Code Base and Competition Base).





- Additional points will be awarded to team's innovation and will impact their qualification to **Judges' awards** such as Think Award, Amaze Award, Build Award, Create Award, Energy Award, Inspire Award and Judges Award.

Introduction

Welcome to IDE Series 2026, where innovation meets competition in the realm of robotics and engineering. This year, we're excited to introduce the City Technology Rebuild Competition, utilizing the VEX Go series. The challenge features two categories: the Team Manual Challenge and the Independent Autonomous Challenge. In the Team Manual Challenge, teams collaborate to overcome obstacles, while the Independent Autonomous Challenge tests individual teams' programming finesse.

Game Objective

In this game, the objective is to maximize your score by completing tasks like delivering medicine, raising power lines and trees, and clearing rocks after a landslide. Operators must strategically perform the tasks and accumulate points. Each match lasts for 90 seconds, during which teams must swiftly manoeuvre and strategize to optimize their scoring potential.

VEX GO Competition

Vex GO competition competition challenge includes: **Team manual** and **Independent autonomous**

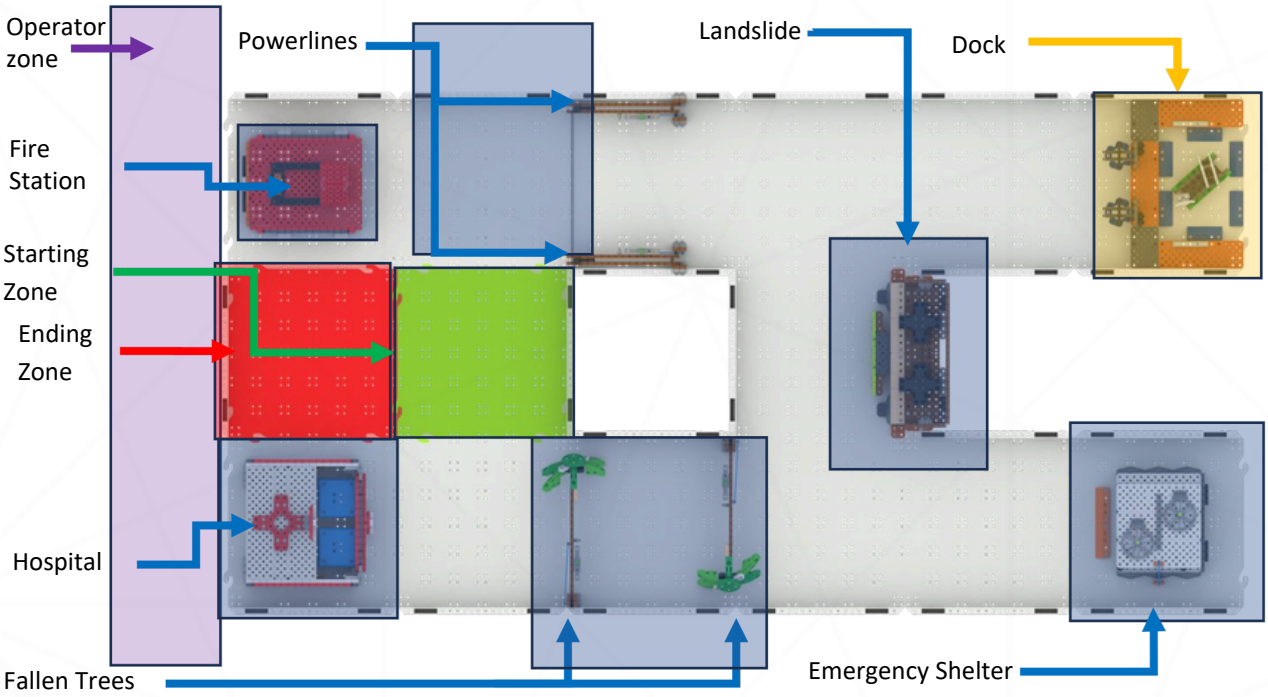
Team Manual (Two teams driving the robot)

- Each round is composed of two teams participating in the competition together.
- Teams must control the robots to cooperate and strive for the highest possible score within Ninety (90) seconds.
- Teams are required to swap their drivers on the 45s timing mark
- Two robots are required in each round.
- The challenge competition includes practice matches, qualification matches, and finals.
- After the qualification matches, the teams are ranked based on their performance. Usually, the teams with higher rankings participate in the finals to determine the champion of the competition.
- The event partners determine the number of teams participating in the finals.

Independent autonomous

- In a single-team match, the team needs to use an autonomous program to score as high as possible within sixty (60) seconds.
- The event partner decides the number of times each team participates in the independent autonomous challenge.
- Teams compete in the independent autonomous challenge according to the principle of "first come, first serve”
- There should only be one robot at a time in the match.

Playing Field



Game Elements

- Rocks

- A total of 2 rocks
- Assembled using Vex GO components

- Supplies

- A total of 2 supplies
- Assembled using Vex GO components

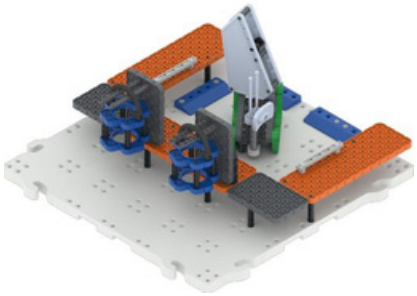
- Medicines

- A total of 2 medicines
- Assembled using Vex GO components

Field Elements

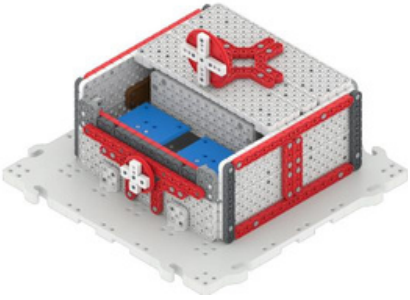
- Dock

- Remove medicine from the dock



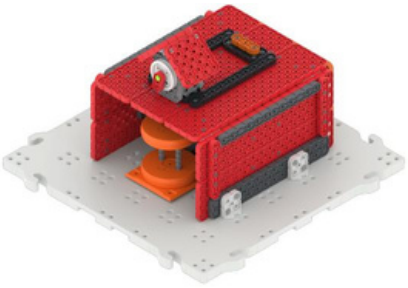
- Hospital

- Deliver Medicine to the hospital
- Located within the goal scoring zone



- Fire Station

- Remove supplies from the Fire Station



- Emergency Shelter

- Raise the roof of the emergency shelter
- Deliver the supplies to the emergency shelter

- Landslide

- Trigger the landslide and clear the debris
- Move the rocks to the end tile

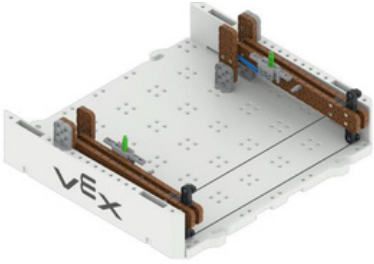
Field Elements

- Fallen Trees

- Lift the fallen trees

- Fallen Power Lines

- Lift the fallen power lines



- Starting zone

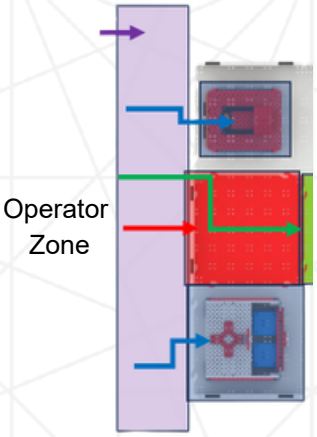
- 1 starting zone (23cm x 26cm)
- The designated areas on the field where the two robots start the competition

- Ending zone (Red)

- 1 ending zone (23cm x 26cm)
- The designated areas on the field where the two robots end the competition

- Operator zone

- The operator zone is where the team members will be standing during their match
- Team members are not allowed to leave the operator zone unless needed (amend to robots)
- Located behind the starting zone

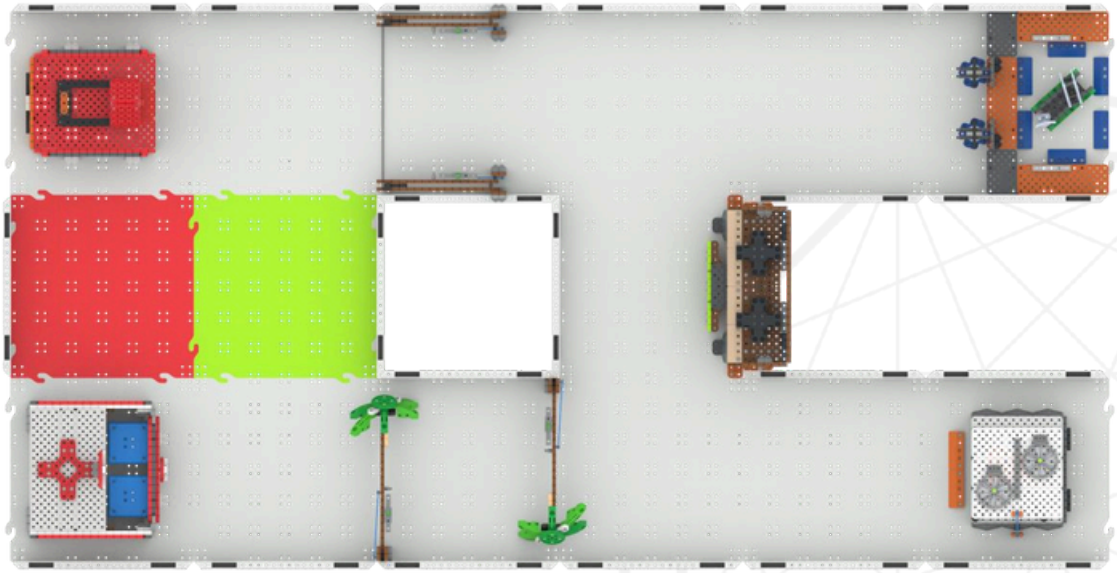


Scoring

If the robot does not trigger the landslide **solely** by making contact with the green tile by either pushing or colliding, it is **NOT** considered a score if the rocks fall.

Field Setup

Top-down view



Scoring Point System

Scoring Method	Points	Task completed?	Maximum Points for this Task
Remove medicine from the Dock	1 per medicine	# of medicine removed: _____	2
Deliver medicine to the Hospital	1 per medicine	# of medicine delivered: _____	2
Place medicine on blue square inside Hospital	1 per medicine	# of medine placed: _____	2
Remove supplies from the Fire Station	1		1
Raise Emergency Shelter roof	1		1
Deliver supplies to the Emergency Shelter	1		1
Raise a fallen tree	1 per tree	# of trees raised: _____	2
Raise the fallen power line	1		1
Trigger the landslide (by pushing or colliding from the front)	1		1
Move a rock to the Red Tile	1 per rock	# of rocks moved: _____	2
End with the robot touching the red Tile	2		2
		Total Score:	17

Ranking

- The score is determined at the end of each match
- The score of each team is the same as the score of the league they are in.
- In a qualifying match, if no member of a team appears in the operator station area at the beginning of the match, the team will be regarded as "not participating" and receive zero(0) points. The treatment of "not participating" is the same as disqualified. The alliance partner will receive all points for this match.
- Each team has the same number of qualifying rounds
- Each team's points in each qualifying match are added together to give the team's total points In every set of four qualification matches, one game's result won't affect the ranking. If a team plays 4 to 7 matches, their lowest score won't be counted. If they play 8 to 11 matches, their two lowest scores won't be counted. And if they play more than 12 matches, their three lowest scores won't be counted.
- Teams are ranked according to the total score
- If the rankings of the two teams are the same,
  - Remove the lowest score from the total score of each team and compare the new total score;
  - If it is still the same, remove the second lowest score (from all scores) and compare the new total score;
  - If it is still the same, rankings will be determined by a random electronic draw.

Rules & Violations

Operation rules

- The referees have the ultimate decision-making authority in both types of challenges.
- The referee's decision is final.
- Referees are not allowed to view any type of replay
- At the end of each match, referees are to inspect and record the score accurately.
- In any dispute regarding scoring, ONLY ONE operator, who is NOT an adult, can raise objections to the referee. Once the field is cleared, the operator cannot dispute the scores again.
- Only 2-3 members wearing the team's logo are allowed to enter the arena for operation.
- There will be no pauses in qualification and final matches.

Safety rules

- At any time, if the robot's operation or the team's behaviour violates safety or causes damage to the field elements, the referee may penalize the violating team with a penalty stop or even disqualification. The robot must be re-inspected before re-entering the field.

Rules & Violations

Game rules

- All teams should demonstrate respectful and professional behaviour
- If any team or members (including adults associated with the team) show disrespect and behave inappropriately towards competition staff, volunteers or other participants their qualification for the current or future matches or even the entire event, may be revoked based on the severity of the offence.
- Judges will also consider the team's behaviour and ethical standards during the awards selection process.
- At the beginning of the match:
  - Robot has to be in contact with the field
  - Does not exceed the starting zone boundaries (23cm x 26cm)
- The referee will determine if the robot is eligible to participate
- One team should only have one or two operators. Operators cannot represent more than one team in any event.
- During a match participating team operators must always stand inside the operator zone, except when interacting with the robot in compliance with:
  - When handling the robot, it must be immediately placed back in the starting position of the round
  - When handling the robot, if the robot holds any elements, elements must be taken out of the field and no longer be used.
  - If there are elements in the starting area where the robot is ready to be placed, these elements must be taken out of the field and no longer used.
- During the game, it is not allowed for one team in an alliance to use their VEX GO Controller to control the robot of another team in the same alliance.
- During the game, it is not allowed for teams that are not participating in the current match (including teams from other matches and teams that have not participated in any match) to use their VEX GO Controller to control the robots in the current match.
- Elements that leave the field will not return to the field

Rules & Violations

Game rules

- The operator must not intentionally contact any field elements or robots. Any intentional contact will result in disqualification.
- Accidental contact will not be penalized unless it directly affects the outcome of the match. Such accidental contact may result in disqualification.
- Points will be calculated immediately after the end of the match and when all objects on the field have stopped moving.
- Points or releases caused by the robot's continued movement after the end of the match will not be considered.
- During any match, the robot is not allowed to intentionally separate parts or leave mechanisms on the field. If intentionally separating parts or leaving mechanisms affects the progress of the match, the head referee may determine that the team is disqualified.
- Robots are not allowed to intentionally grab, hook, or attach to any field elements. Using a mechanical structure to simultaneously interact with multiple surfaces of any field element to secure that element is not allowed. Failure to adhere to the rule will result in warnings and disqualification.

Rules & Violations

Inspection rules

- All teams must undergo inspection of robots before the competition
- Ensure all robots comply with the rules and meet the required specifications guidelines
- Any significant modifications to the robot must be re-inspected
- Referees or inspectors may determine that a robot has violated the rules. In such cases, the disqualified team will be allowed to enter the competition field once the robot passes inspection again.
- The robot can only be built with VEX GO parts and VEX IQ mechanical/structural components
- **NO** using the electrical components and motion components (gears, sprockets, pulleys, wheels, chains, treads, fans) from the any other robot product lines to construct VEX GO robots
- Each team is only allowed to use one (1) robot to participate in the VEX GO Challenge.
- Although teams can modify this robot during the competition, each team can only have one Participating VEX GO robots must consist of:
- Mobile robot chassis, including wheels, tracks, or other mechanisms that allow the robot to move on a flat competition surface. For stationary robots, a chassis without wheels is also considered subsystem 1.
- Subsystem 2 is power and control System, including a compliant battery for VEX GO, a VEX GO controller, and motors for the movement of a 32-person chassis.
- Manipulating competition objects and shuttle mechanisms for navigating obstacles on the field (and corresponding motors).
- Teams are not allowed to compete with one robot while modifying or assembling a second robot
- Teams are not allowed to switch multiple robots back and forth during a single event
- Each robot should display its VEX GO team identification number on both sides of the robot

Rules & Violations

- These team plates must comply with all robot rules.
- The team plate must always be clear and visible. For example, the team plate cannot be placed where the robot's mechanical device can easily block it during the standard match process. It is allowed to use team plates other than the official VEX GO Challenge team plate (White Name Plate)
- The length and width of any unofficial team plate must be consistent with the official team plate, which is (10.2cm x 2.6cm), and the thickness must not exceed 0.7cm of the official team plate
- The team must inform the inspectors and undergo inspection with its maximum configuration if it uses more than one robot configuration at the beginning of the match.
- The team is not allowed to use one robot configuration for inspection and use another unapproved configuration
- No modifications of parts are allowed
- Alterations include (but are not limited to) bending and cutting The following mechanisms and components are not allowed:
    - possible damage to field elements and steel core element
    - may damage other robots
    - may cause unnecessary risks such as entanglement
- Robots can use a maximum of four (4) VEX GO Smart Motors. Even if it is not connected. The power source available for VEX GO competition robots is one (1) VEX GO Robot Battery.
- Additional batteries are not allowed on the robot even if it is not connected.
- The team must ensure that the VEX GO firmware is upgraded.
- Teams can add appropriate non-functional decorations, provided that these decorations do not significantly affect the robot's performance and the outcome of the competition.
- Decorations must adhere to the spirit of the competition. Inspectors will ultimately determine whether these decorations are "non-functional".
- Any decorations must be backed by compliant equipment with the same function. For example, if the robot has a large sticker that preventsscoring objects from falling off the robot, it must be backed by VEX GO equipment that prevents scoring objects from falling off.