The Game:
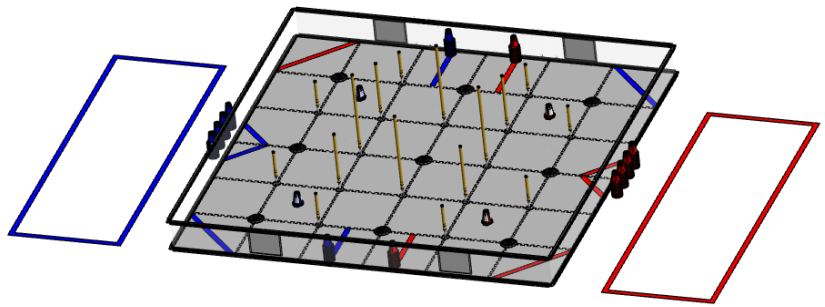
POWERPLAY℠ presented by Raytheon Technologies is played on a 12 ft. x 12 ft. (3.7m x 3.7m) square field with approximately 1 ft. (0.3 m) high walls and a soft foam mat floor. There are two Alliances – "red" and "blue" – made up of two Robots each. Cones are the Alliance-specific scoring elements. There are 60 Cones, 30 red and 30 blue. There are also four Cone-shaped Signals that are used as indicators for the Autonomous Period to direct the Robots to specific scoring areas. At opposite corners of the field are two Alliance-specific Terminals. On the sides of the field are Alliance-specific Substations. In the middle of the field are twenty-five Junctions of various heights.

Robots must traverse around the field to access Cones located against the front or back field wall. Cones may also be placed by the Human Player into the Substation for Robots to access and score on the Junctions. Cones are placed on Ground, Low, Medium, and High Junctions to score different amounts of points based on the height of the Junction.

Prior to the start of the Match, Robots must be touching the wall closest to their alliance station at specified locations and may possess one Pre-Load Cone. Teams may place their own designed Signal Sleeve over the Signal located directly in front of their Robot. Teams may also manufacture an Alliance-colored Beacon and place it in their Substation Storage area for use during the End Game.

Matches have two distinct periods of play: a 30-second Autonomous period followed by a two-minute Driver-Controlled period. The last thirty seconds of the Driver-Controlled period is called the End Game which adds new scoring opportunities for the Robots to achieve.

Autonomous Period:

Robots may place Cones in their corresponding Terminal closest to their Alliance Station or on any of the Junctions. They can park in several locations at the end of the period for different points. They can also use their Signal Sleeve to help them determine in what Signal Zone to park.

Driver-Controlled Period:

Alliances earn points by having their Robots place Cones in Terminals and on Junctions of different heights.

End Game:

Alliances may continue to score Cones on Junctions. They may also use their Beacon to Cap a Junction and convey ownership of that Junction. Ownership is also conveyed by having the topmost Cone on a Junction at the end of the Match. Alliances that complete a Circuit (a connected string of owned Junctions and Terminals) will earn Bonus points. Additional points are scored if a Robot is parked in a Terminal at the end of the Match.

Autonomous Period Scoring:

Navigating:

    Parked In Alliance Substation: .... 2 points

    Parked In closest Alliance Terminal: .... 2 points

Cones:

    Placed In closest Terminal: .... 1 point

    Secured on Ground Junction: .... 2 points

    Secured on Low Junction: .... 3 points

    Secured on Medium Junction: .... 4 points

    Secured on High Junction: .... 5 points

Signal Bonus – Parked Completely In Signal Zone:

    Using Playing Field-supplied Signal: .... 10 points

    Using Team-supplied Signal Sleeve: .... 20 points

Driver-Controlled Period Scoring:

Cones:

    Placed In matching color Terminal: .... 1 point

    Secured on Ground Junction: .... 2 points

    Secured on Low Junction: .... 3 points

    Secured on Medium Junction: .... 4 points

    Secured on High Junction: .... 5 points

End Game Scoring:

Junction Ownership:

    Conveyed by top Scored Cone: .... 3 points

    Conveyed by capped Beacon: .... 10 points

Completed Circuit: .... 20 points

Parked In a Terminal: .... 2 points