



Robotic Mining Competition Questions & Answers (new Q&As in red)

Technical Questions

- Q. Rule 17 states "The walls may not be used for the purposes of mapping autonomous navigation and collision avoidance." If we cannot use the walls for collision avoidance, how would we stop our robot from crashing into the walls? We intend to create a map of the ground and avoid obstacles that are in the way, and were thinking that we should treat the walls like any other obstacle and simply avoid it, but not follow it. Is this acceptable to keep autonomous status?**
- A. In the potential World Finals competition in Hawaii there will be no walls on the volcano competition site and on Mars we will not have walls. Therefore the walls cannot be treated as an obstacle and used for autonomous collision avoidance with the walls. The arena may be mapped to the limits of the walls, but no active sensors are allowed to use the walls for navigation during the competition run. Collision with the wall can be avoided by placing a virtual boundary on the map created.
- Q. Is it allowable for robots to contact the back wall in front of the bin for alignment while maintaining autonomy points?**
- A. A lander on another planetary surface would not have a back wall, so contacting the back wall is not realistic and is not allowed for autonomy. The bin itself may be contacted.
- Q. Rule 15 states that the Collector Bin will be placed at 0.5 meter +/-0.2 m. Is this intended to be +/- 0.02 m, or do we need to build a robot capable of depositing at 0.7 m in height?**
- A. The bin height tolerance with respect to the regolith surface is +/- 20 cm, therefore your robot must be capable of depositing at any height between 0.3m and 0.7m..