

Kwadropus Suction Cups

The Kwadropus is a robotic duster for a space station--clean dust from the surfaces inside a microgravity environment. The idea is to operate similar to how an octopus would move around the ocean floor without damaging the space station or the people--soft robotics. The initial robot may be as large as 2ft in diameter and 10 kg--eventually it will be made smaller to dust in confined areas. ***This team is building the Suction Cups (or other method) that would be used on the smooth, flat and curved surfaces of the rack faces inside the space station--designing for two suction cups on each arm. These Suction Cups will need to be able to attach and detach from the surfaces without pushing the robot away from the wall in the microgravity.***

1. Does the team have a good Presentation Board (edited for spelling and grammar) with drawings, descriptions, early prototypes and any research to help them present their ideas?

Mark only one oval.

1 2 3 4

Insu Excellent

2. Does the team have a good Brochure that has pictures of their team and current prototype along with a QR code for more information about their prototype and ideas?

Mark only one oval.

1 2 3 4

Insu Excellent

3. 3. Attaches to flat, smooth surface easily

Mark only one oval.

1 2 3 4

Insu Excellent

4. 4. Detaches from flat, smooth surface easily

Mark only one oval.

1 2 3 4

Insu Excellent

5. 5. Attaches to curved, smooth surface easily

Mark only one oval.

1 2 3 4

Insu Excellent

6. 6. Detaches from curved, smooth surface easily

Mark only one oval.

1 2 3 4

Insu Excellent

7. 7. Is there a good location for a switch or sensor to be located on or near the suction cups that would indicate the suction cup had made good contact with a surface?

Mark only one oval.

1 2 3 4

Insu Excellent

8. 8. Initially this can be controlled by hand but eventually it will need to be electromechanical or pneumatic. Did the team explain or demonstrate how the suction cup could be automated for the robot?

Mark only one oval.

1 2 3 4

Insu Excellent

9. 8. Did everyone on the team share in the discussion?

Mark only one oval.

1 2 3 4

Insu Excellent

10. 12. Comments--Constructive criticism or Compliments

This content is neither created nor endorsed by Google.

Google Forms