

# To Europa and Beyond

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Europa is a satellite that has potential for life, as it actually has water. To sponsor further exploration, it is necessary to build a rover that will be able to traverse the terrain of Europa. The problem statement is which type of wheel has the best efficiency on the surface of Europa. The hypothesis is that the traction wheels will have the best efficiency due to their rubber attachments. To solve this, a base was constructed out of VEX Robotics c-channels and built with three different types of wheels (omni wheels, traction, high strength). There will be three types of terrain to best mimic the one of Europa, and time will be recorded over a 5 meter distance. The data will be placed into the formula derived from efficiency. The results were that the traction wheel had the best efficiency. Thus, the hypothesis was correct.

## **Awards Won:**

National Aeronautics and Space Administration: Honorable Mention