

# Genesis Robotics – Delta Robot Demonstration Unit

**Status:** Filled

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## Project Description

### **Purpose:**

Genesis Robotics would like to showcase the capabilities of their direct drive (LiveDrive) motors as applied to the delta robotics industry. Delta robots are becoming increasingly commonplace in industry yet still rely very generally on large, high torque motors. Our team would like to demonstrate the capabilities of Genesis's LiveDrive motors by facilitating the creation of a small-scale delta robot with the ability to draw pictures. Genesis Robotics is seeking an eye-catching solution that could be presented as a demonstration unit to clients or brought to tradeshow. A drawing delta robot was chosen because it demonstrates the ability to follow precise motion profiles with high speed and repeatability, in addition to being engaging for participants at tradeshow.

### **Description:**

- **Mechanical design and construction of the robot chassis, and structure.**
- **Electrical control panel implementation and integration**
- **Software implementation of image processing/conversion and trajectory generation system; optional user interface**

**The basic functionality of the system will be to allow conversion of an image to a vector path which a pen will follow. Optimal characteristics of the system will be for repeatable, high speed drawings as requested by the user.**