

Project Title: [Rolling Drum](#)

Team Members:

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Area: [Multidisciplinary](#)

Sponsored by: [Custom Engineered Wheels, LLC](#)

Rolling Drum systems are used to test the durability of manufactured wheels and to determine the lifecycles of manufactured wheels. Through the use of rolling drum wheel testers Custom Engineered Wheels, LLC is able to provide better engineered products and solutions for their customers with objective data.

The task of our multidisciplinary team is to develop and build a new dynamic rolling drum that will replace and update the current system used at CEW. The device must be capable of simultaneously testing multiple wheels under various loads up to 400 lbs. The newly designed fixture arms will be used to test wheels above a rolling drum which may or may not have cleats attached. The fixture arm also allows for weights to be placed above the wheels in order to apply various loads. The process is monitored by a technician who records life cycle data of the various wheels. The interface to control the system will also be updated to include the interface which is already used throughout the production facility. Through the update, CEW is seeking to automate and simplify more of the testing process thus reducing technician labor hours while increasing the amount of data collected.