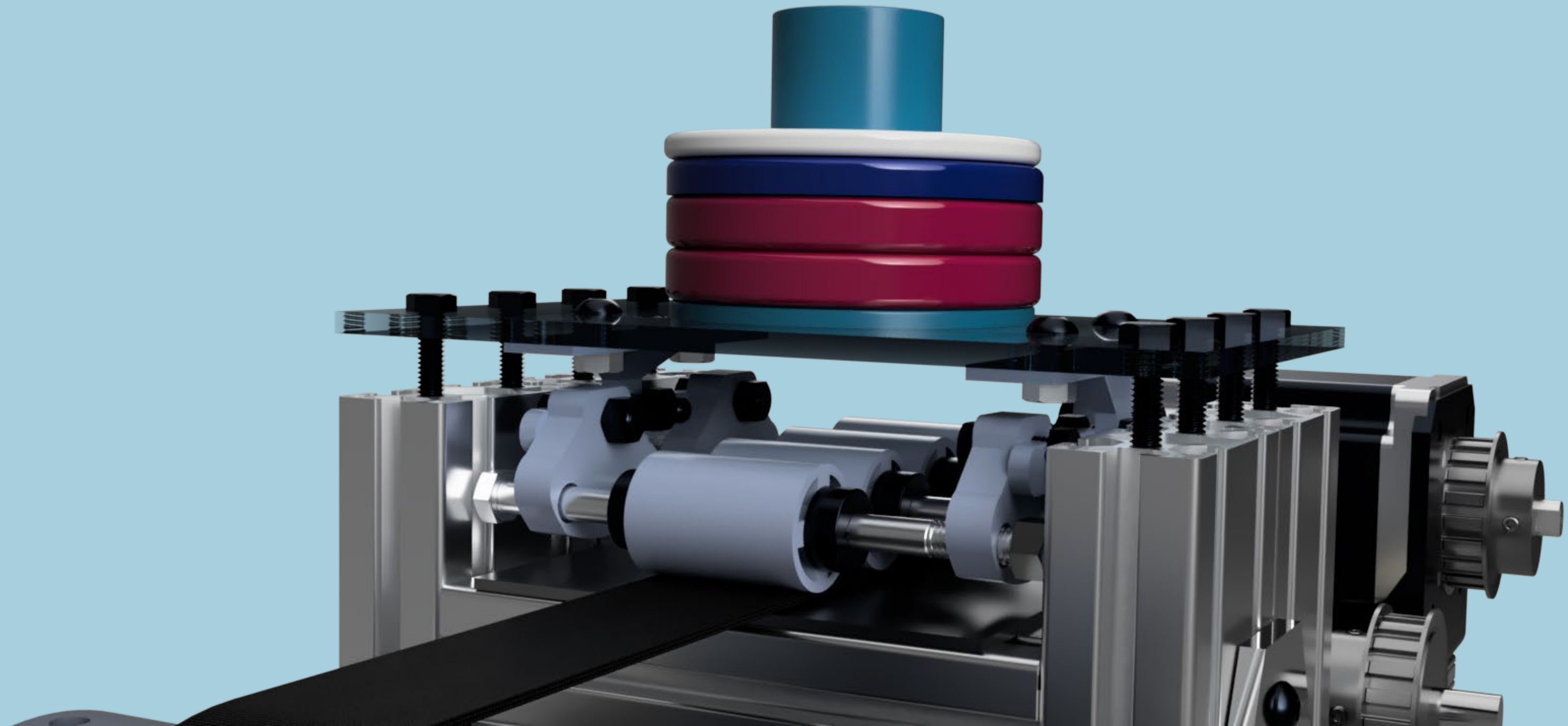
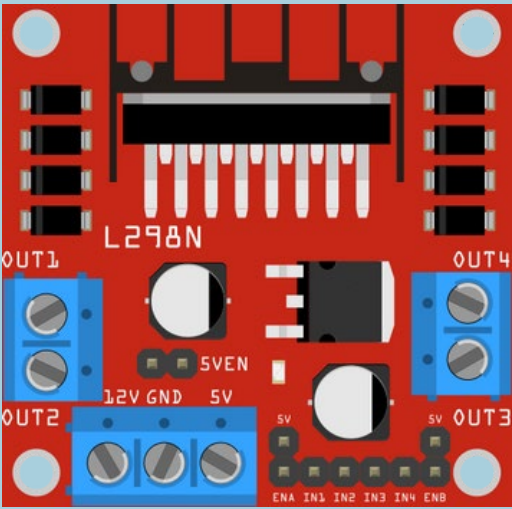
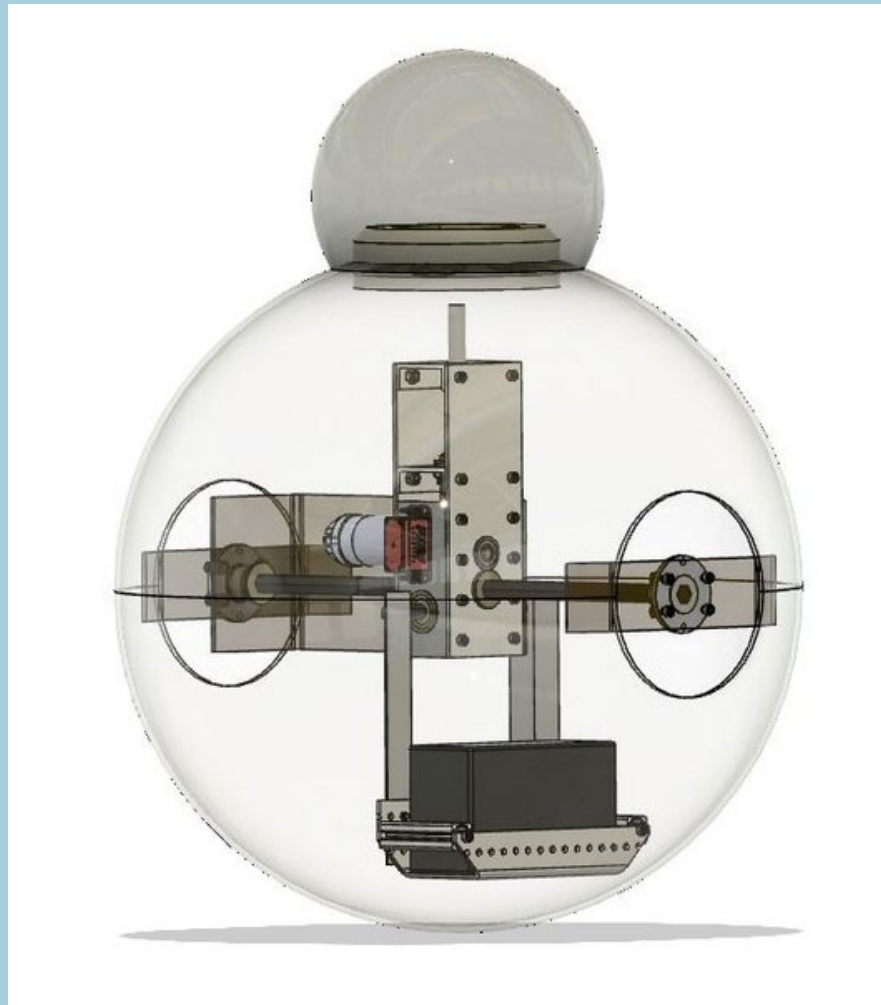
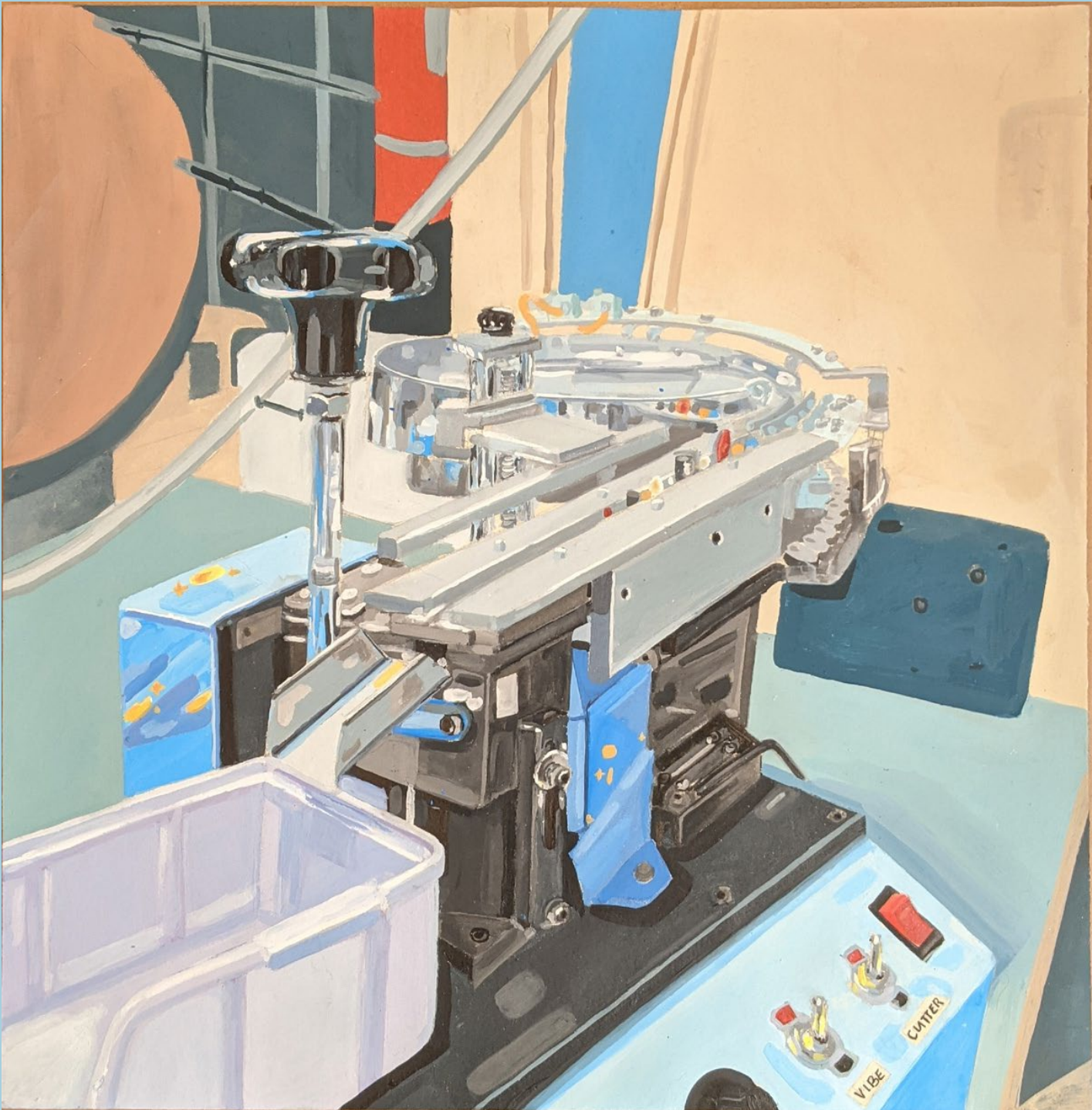
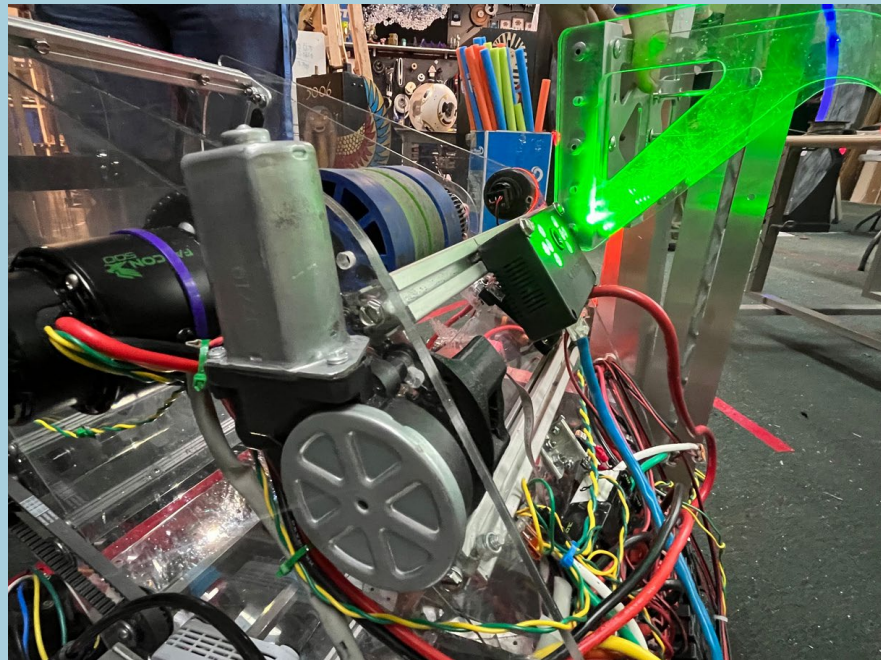


# Celebrating Discovery



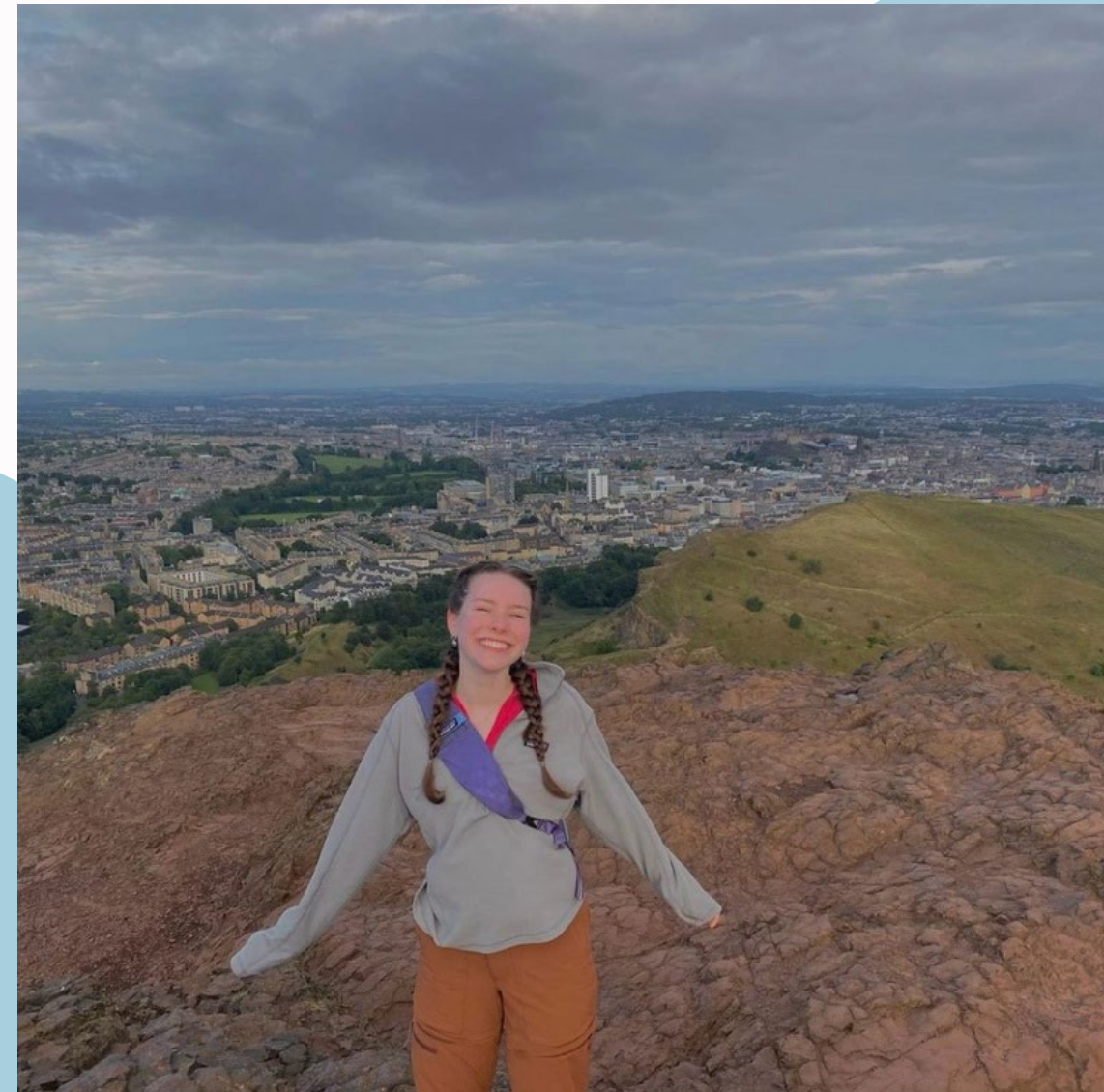
# Past Experience



# Uark Honors & Study Abroad

Education at an R1

Univeristy



# Research Fields



**R**esearch

**E**xperience

**U**ndergrad



# My Research Lab



Dr. Min Zou



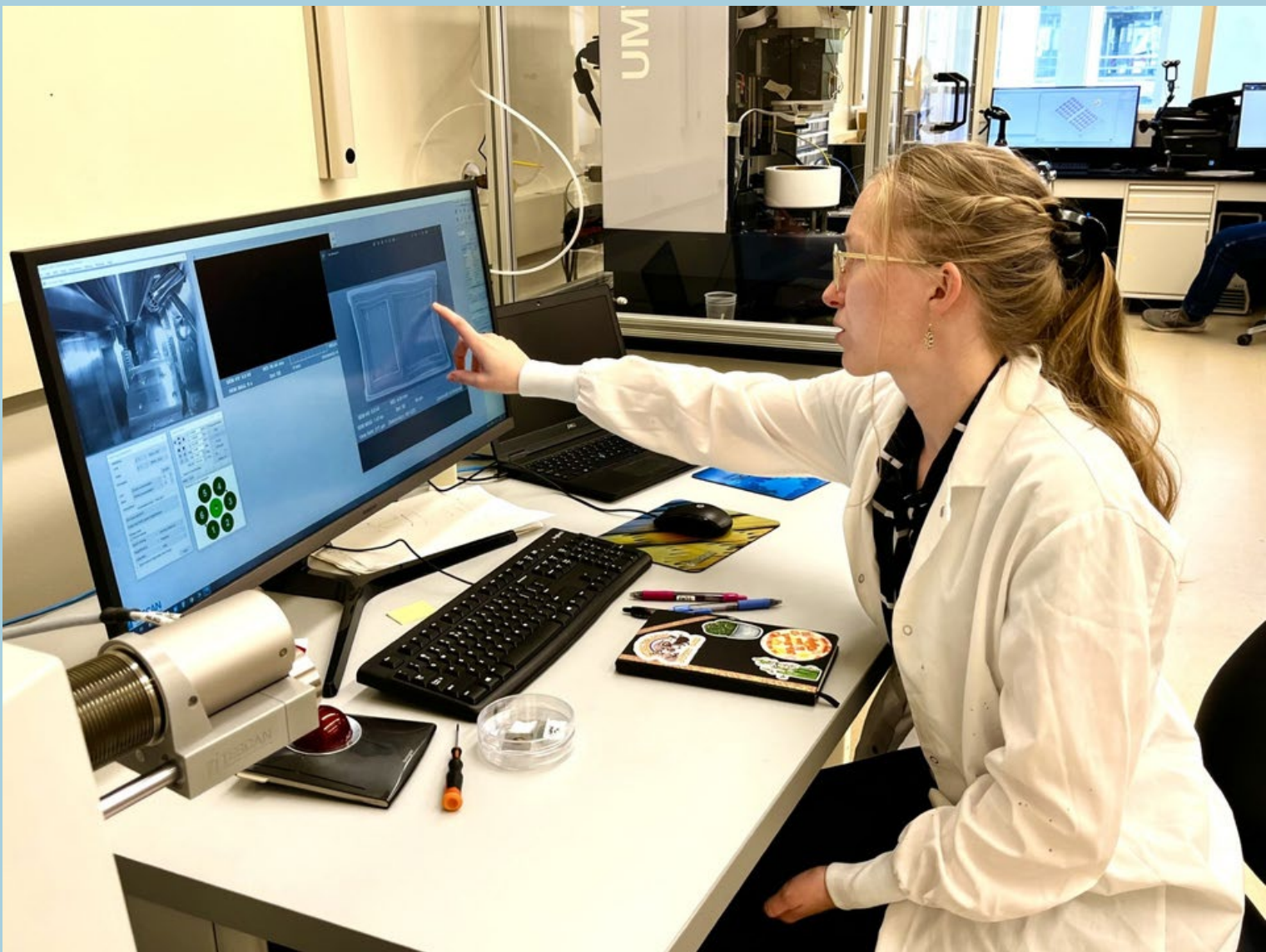
Dr. Mahyar Afsher Mohajer -



Will, Adedoyin, Julia



Nathan Harris



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# Tribology

Nanomechanics

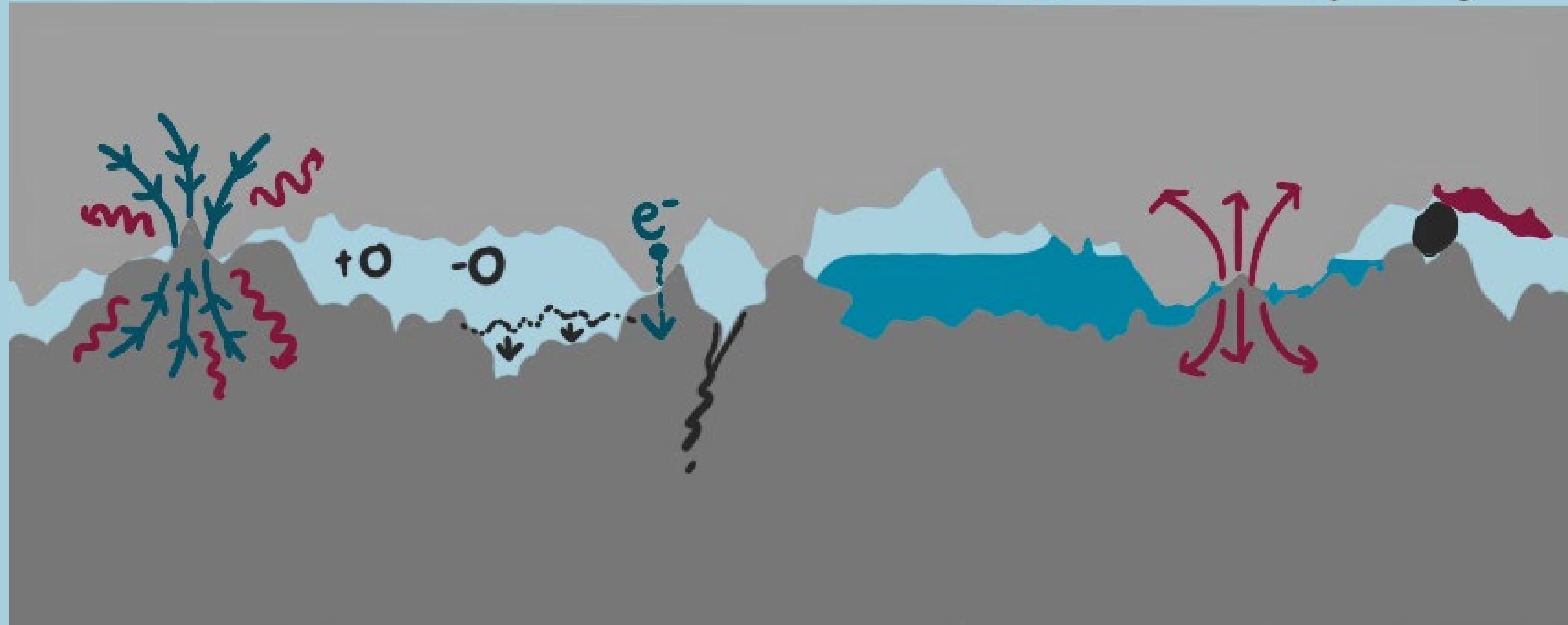
& Nanomaterials

↓ ↓ ↓  
MECHANICAL LOAD

*flame*  
THERMAL

ENVIRONMENT  
*droplets*

ELECTRICAL  
*circuit*



# Research Process

1

Problem/Project

2

Literature Review

3

Pretest and  
Experiment Design

4

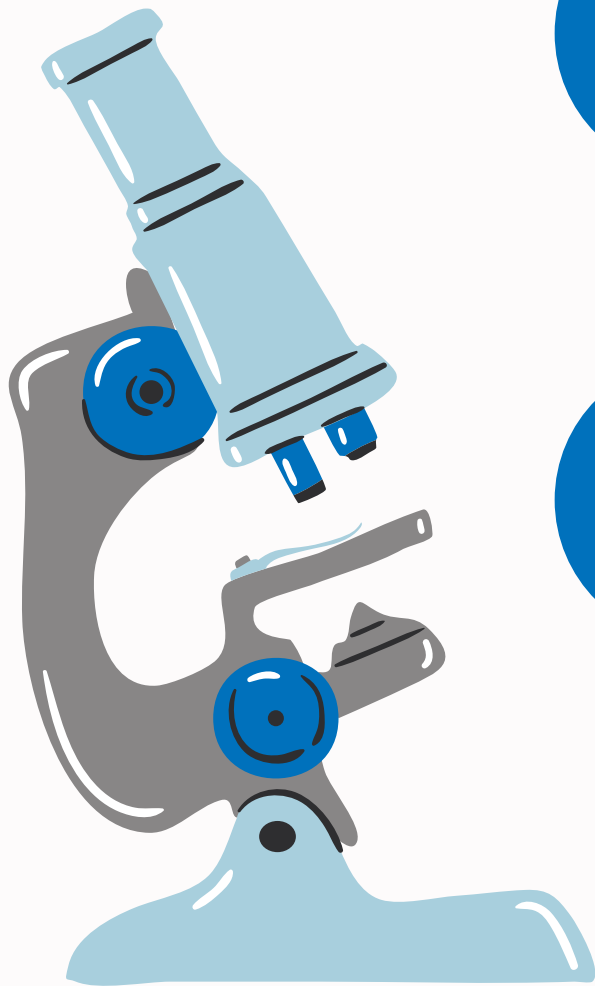
Test (repeatable )

5

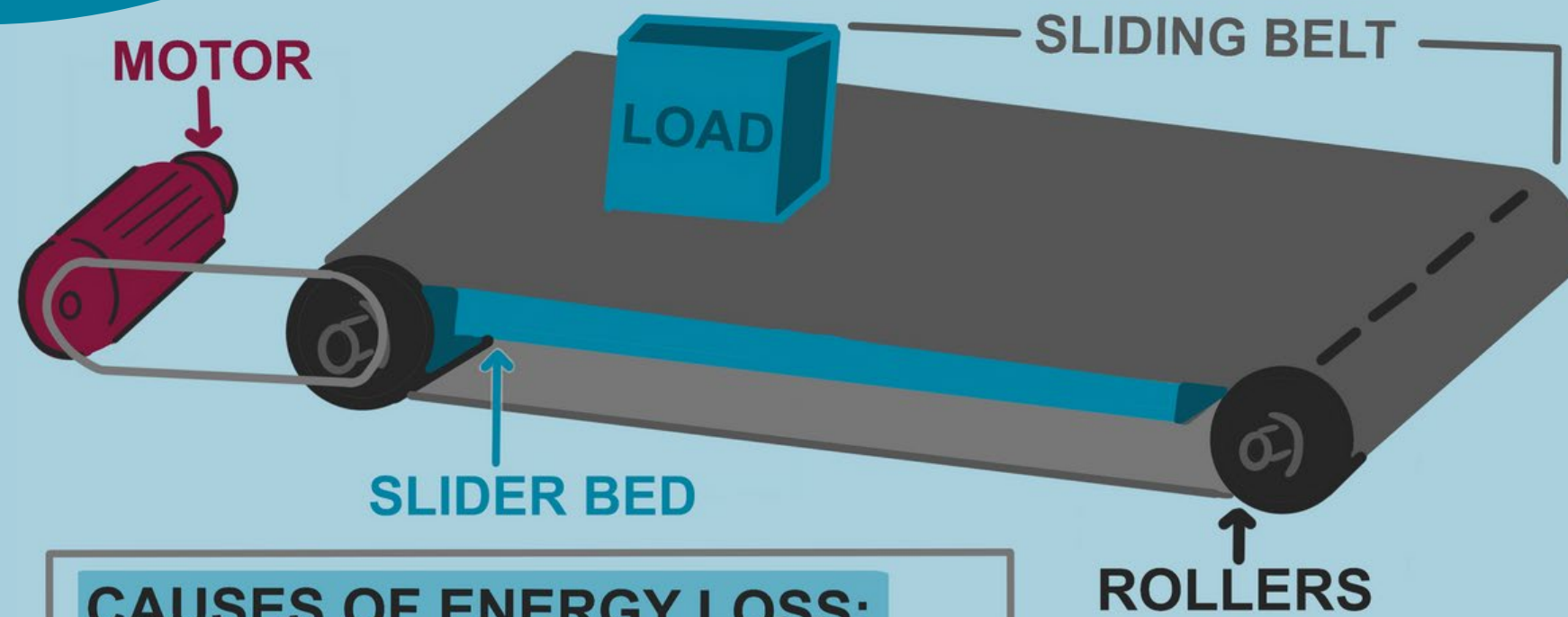
Graph & Analyze

6

Write or Retest



# 1-2



**CAUSES OF ENERGY LOSS:**

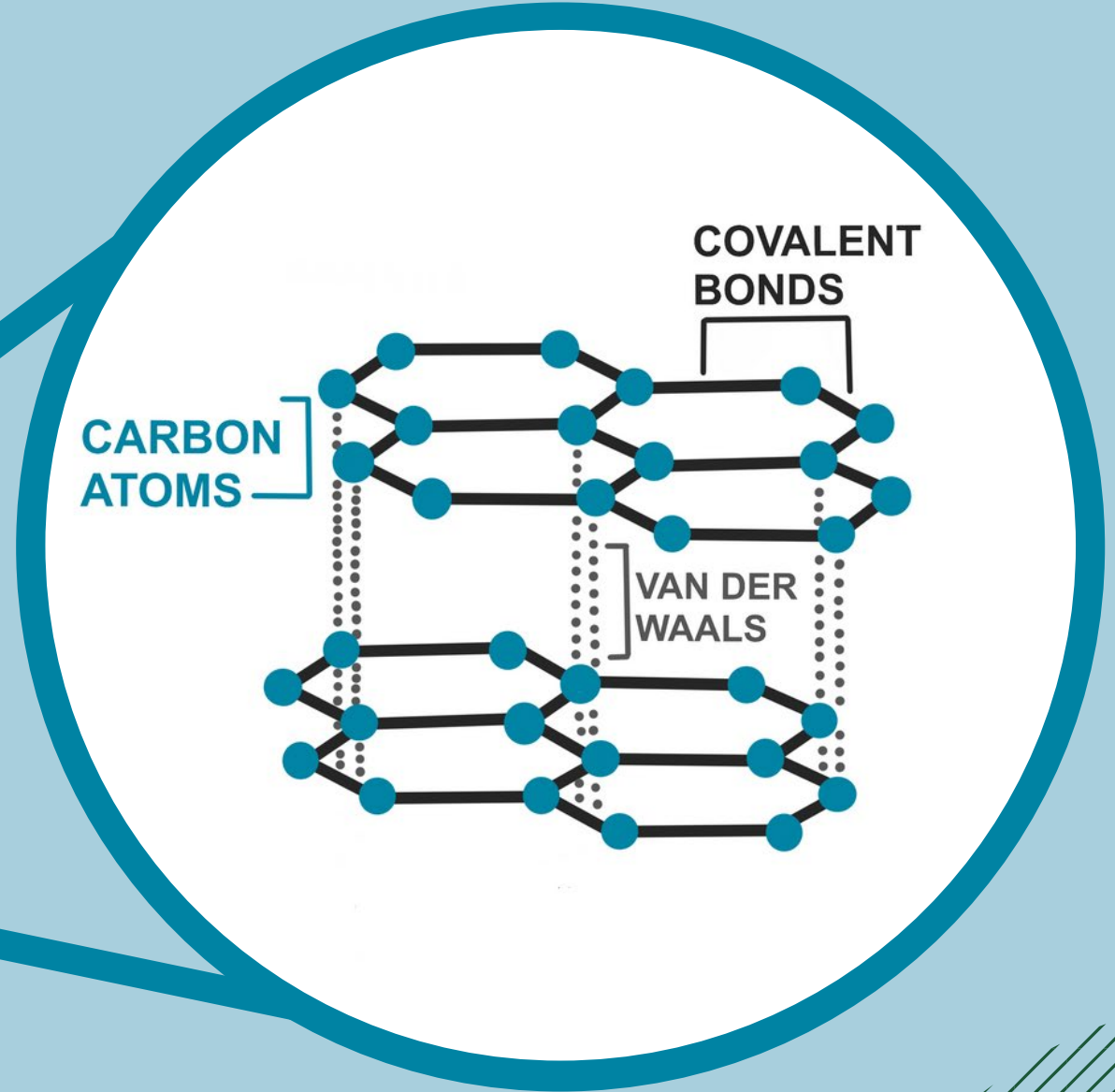
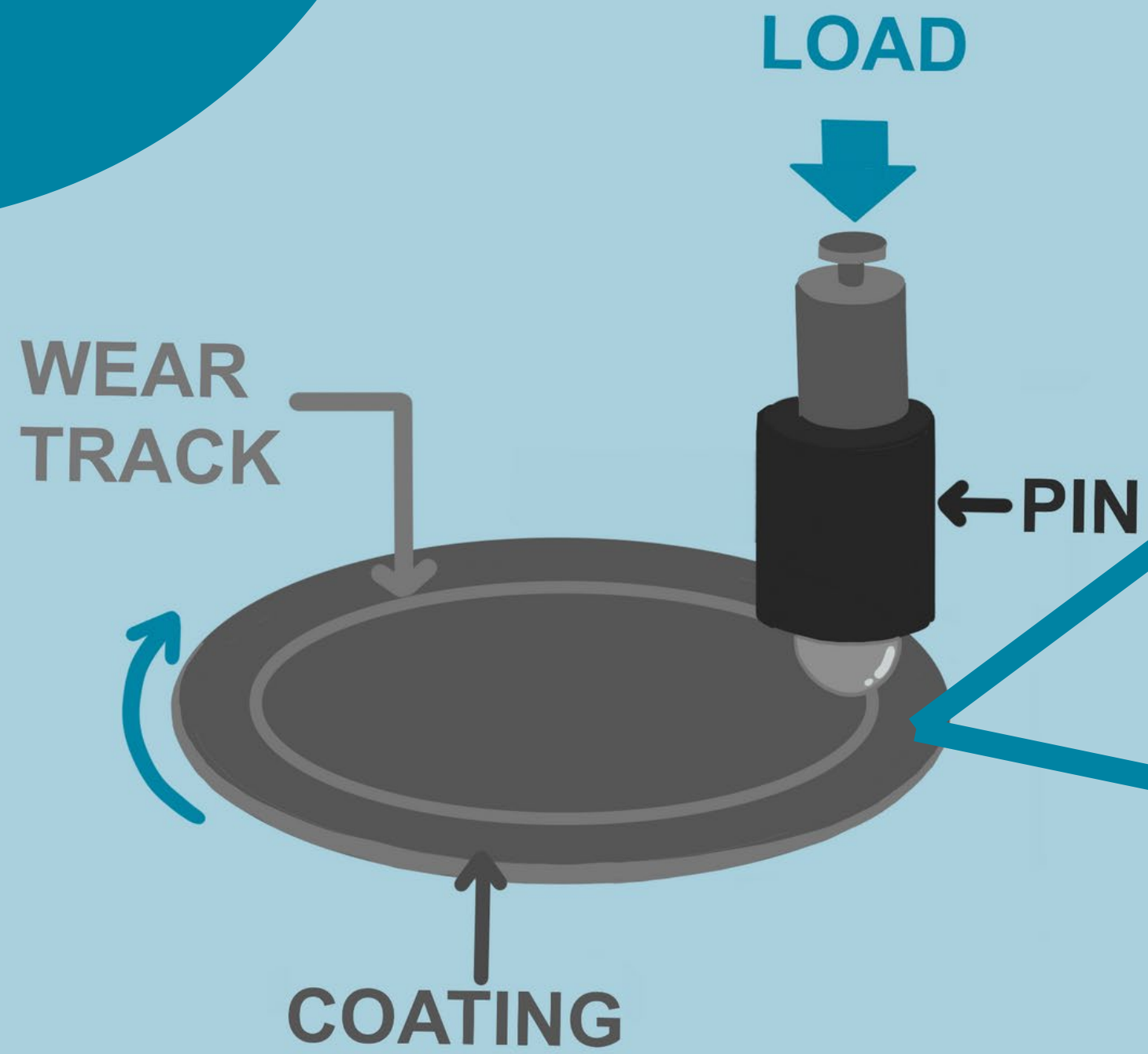
- Up to **60%** by **sliding friction**
- Up to **30%** by **motors and gears**
- Up to **10%** by **belt bending**

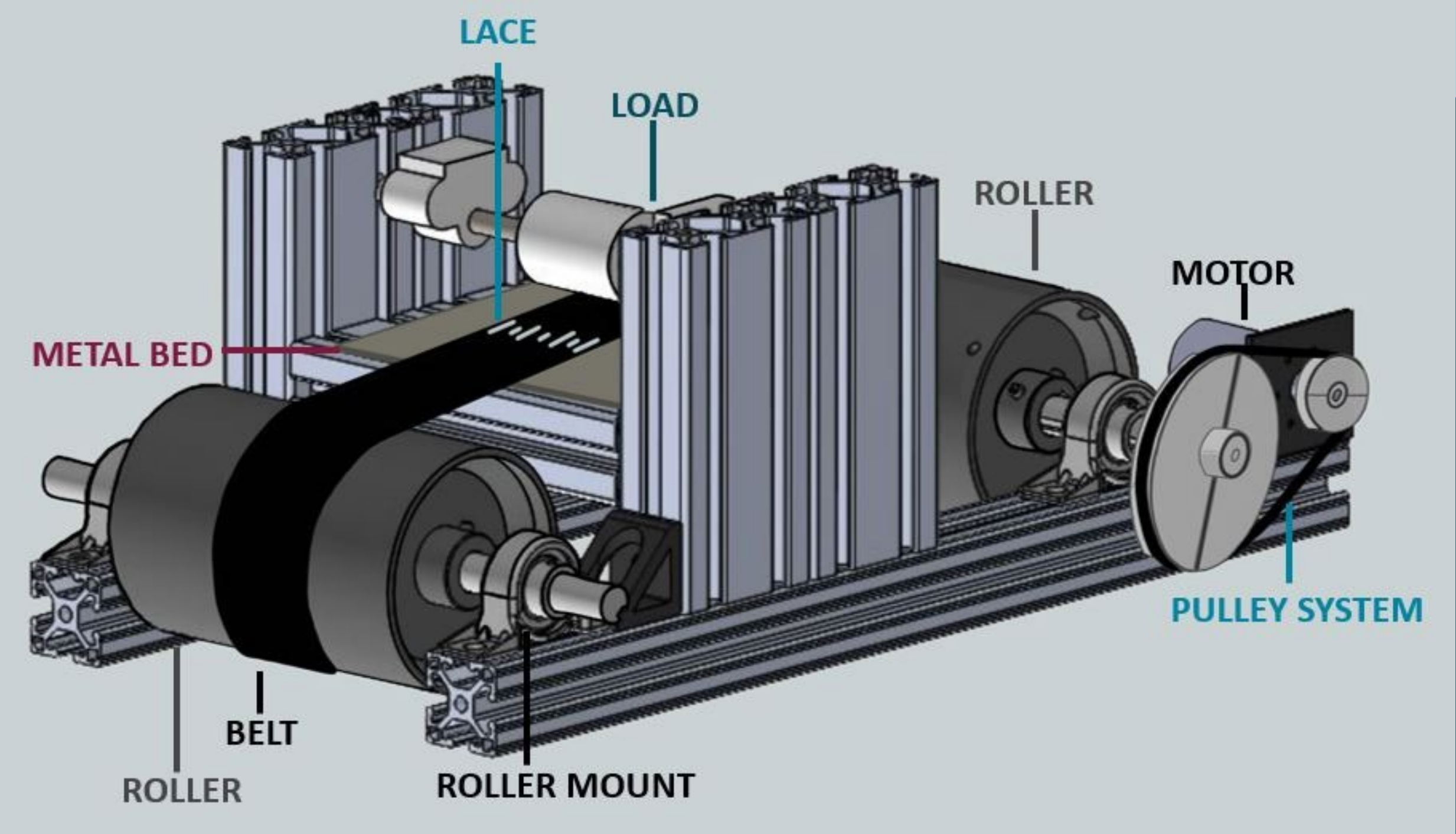
***155 Miles***  
***\$40,000,000***

***Annually***

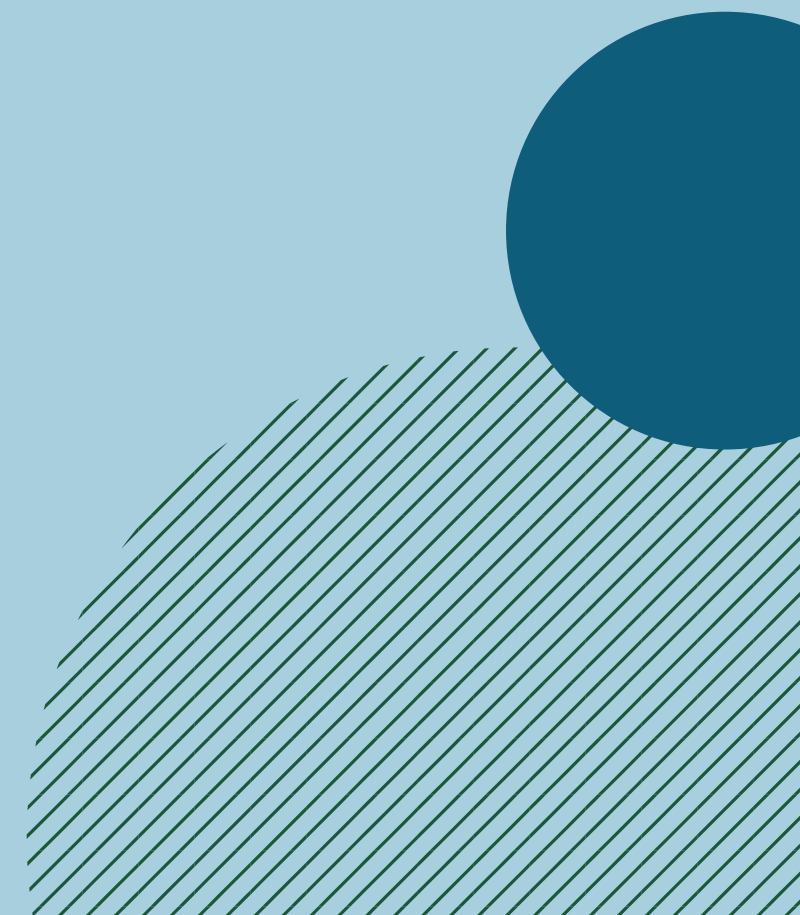
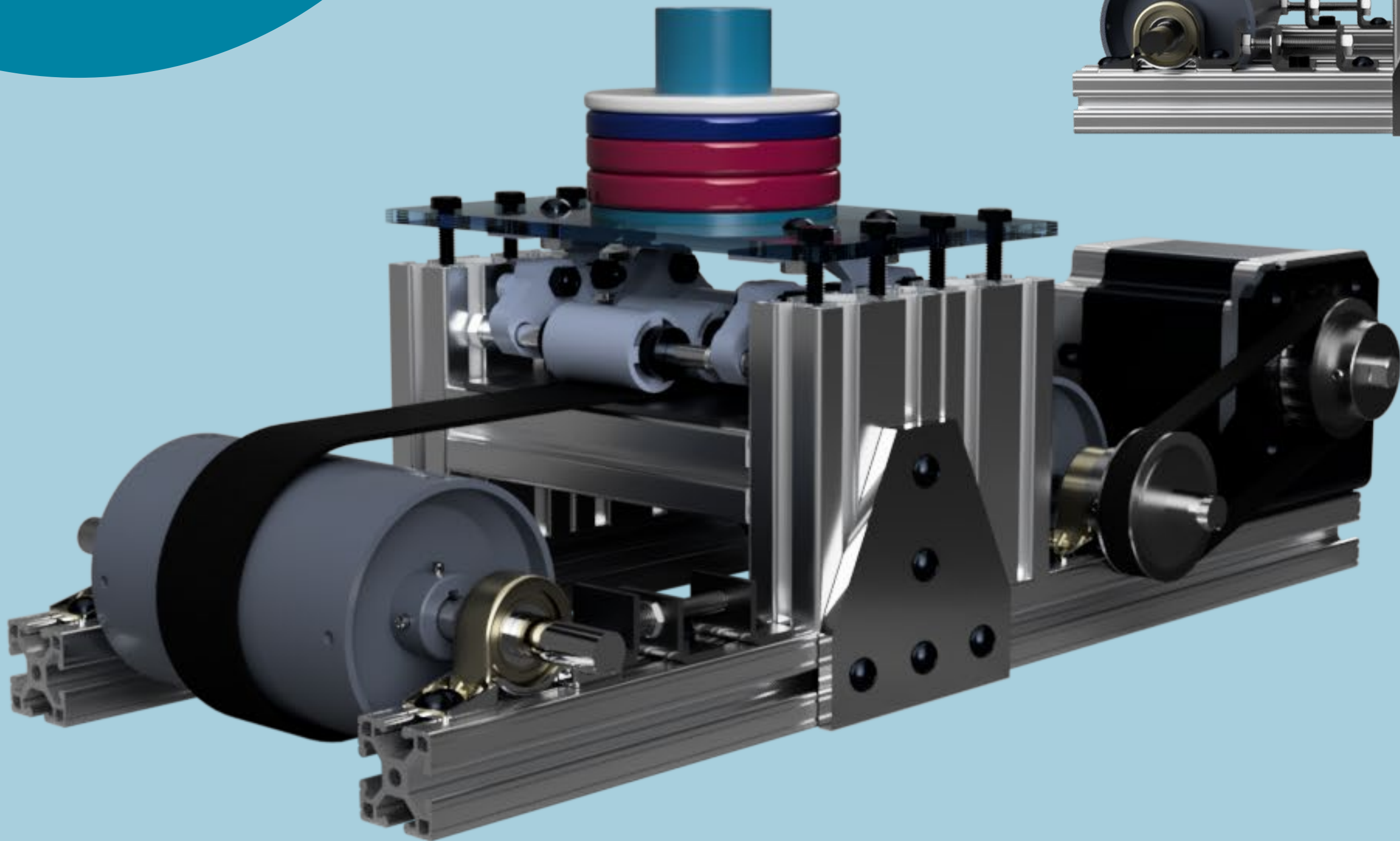
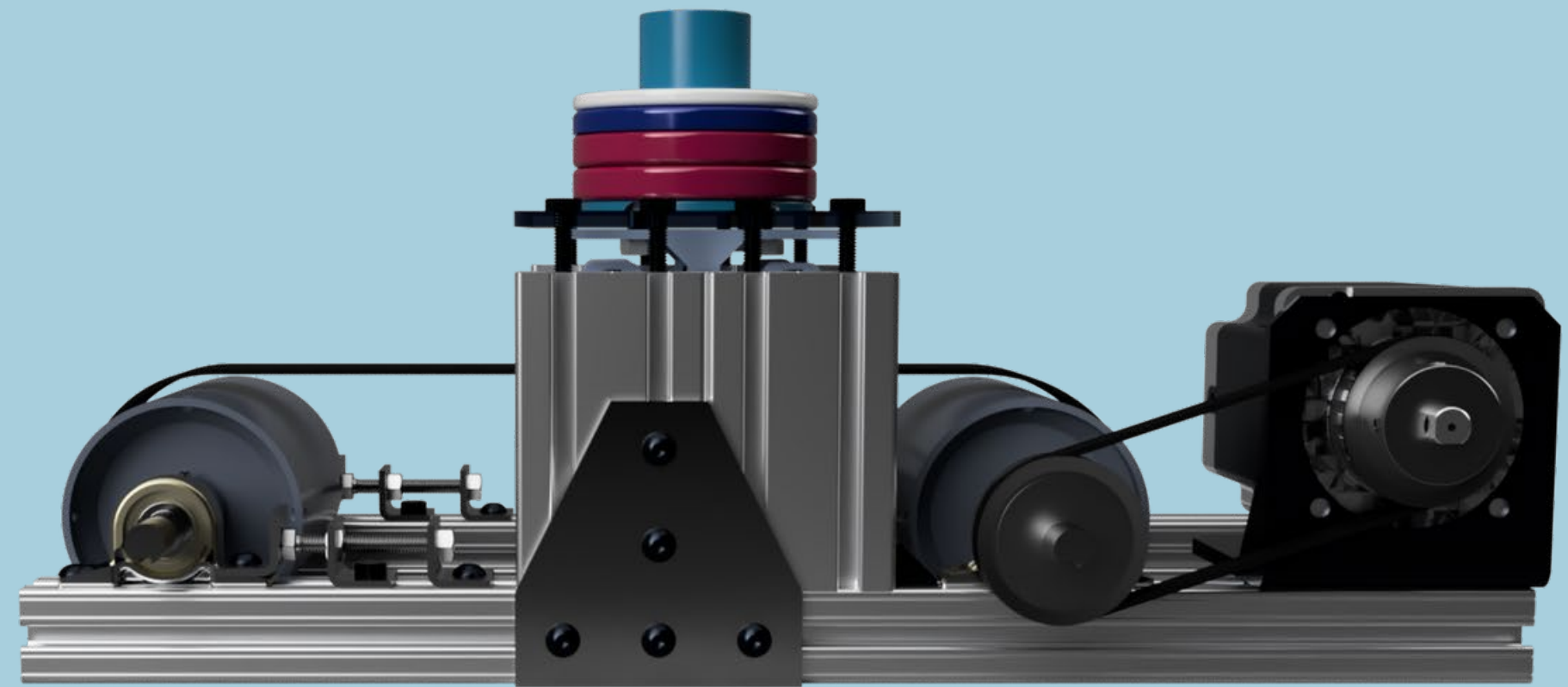


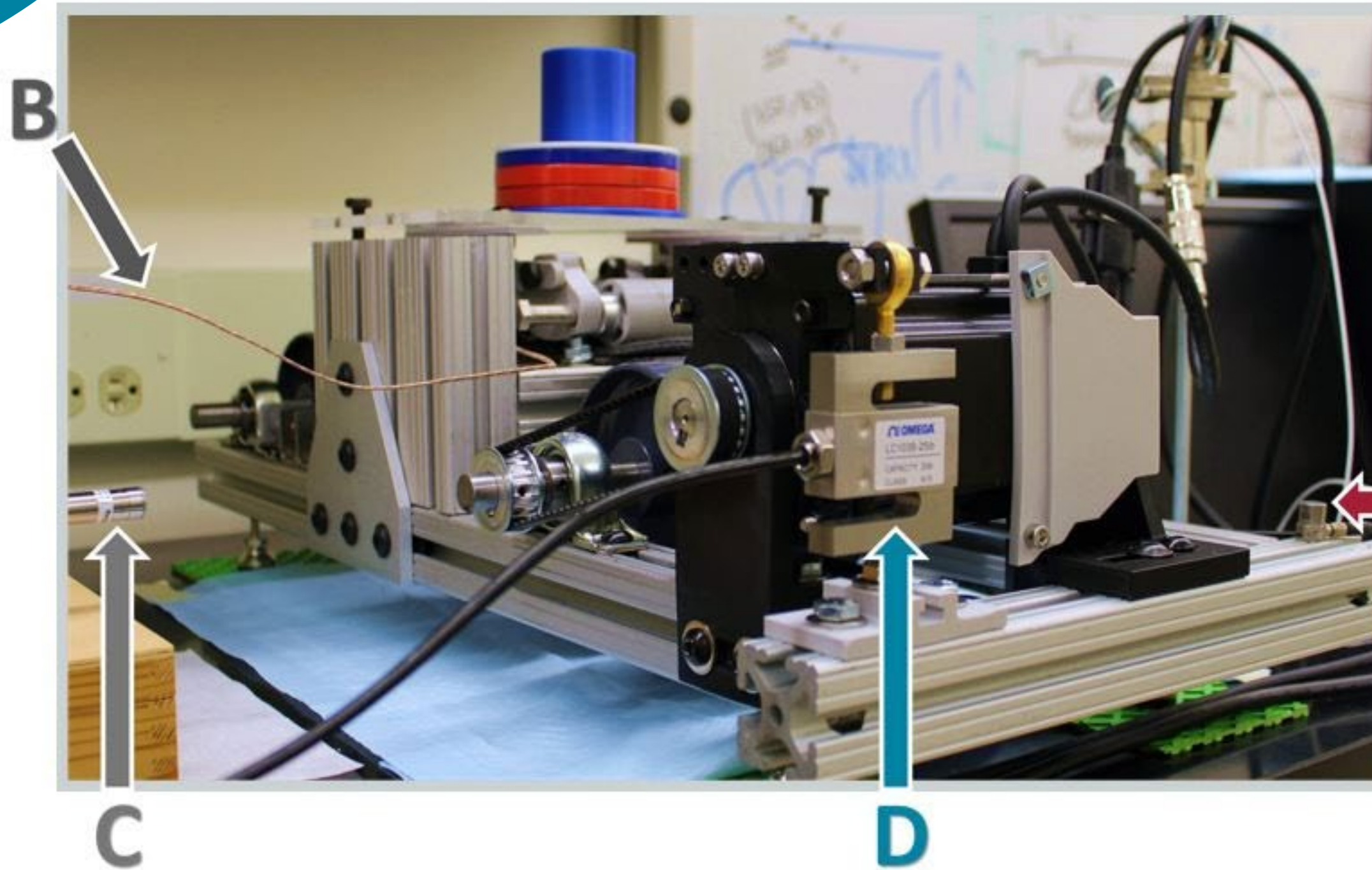
# 2.5





3





**A. Accelerometer**  
**B. Thermocouple**  
**C. Microphone**  
**D. Load Cell**

**A**

# Questions?



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