Automated Frame Removal Device

Client: Alberta Beekeepers Commission

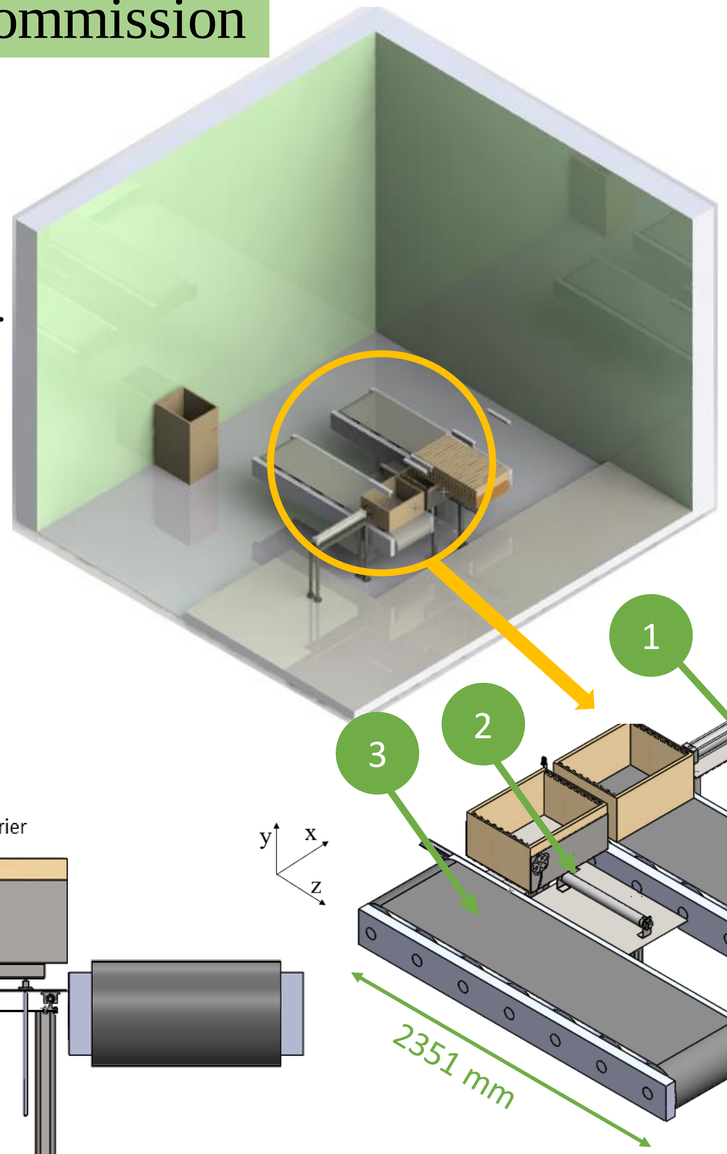
Design Objective

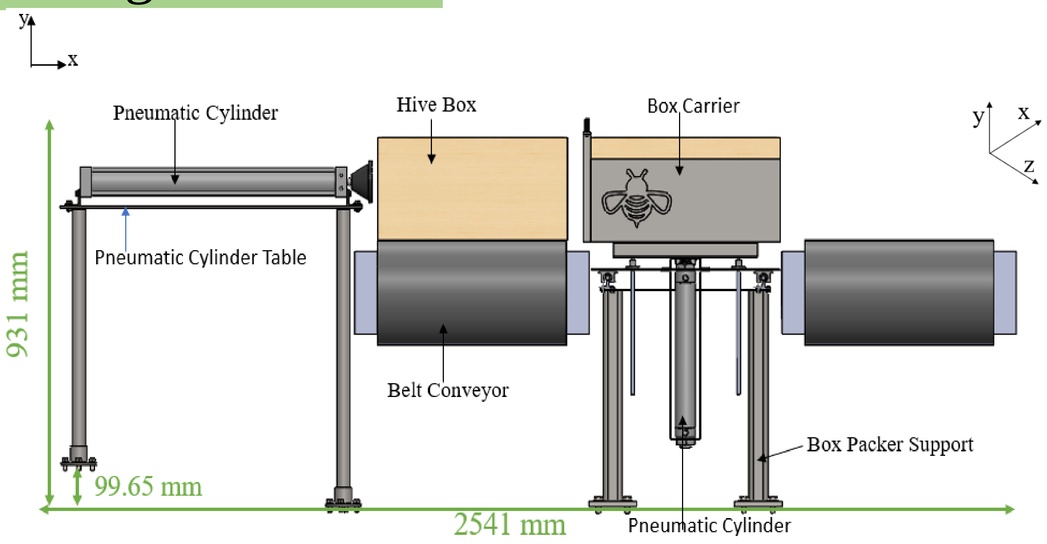
- Design an automated device to remove frames from the honey extraction line and return the frames to the hive box.

Challenges

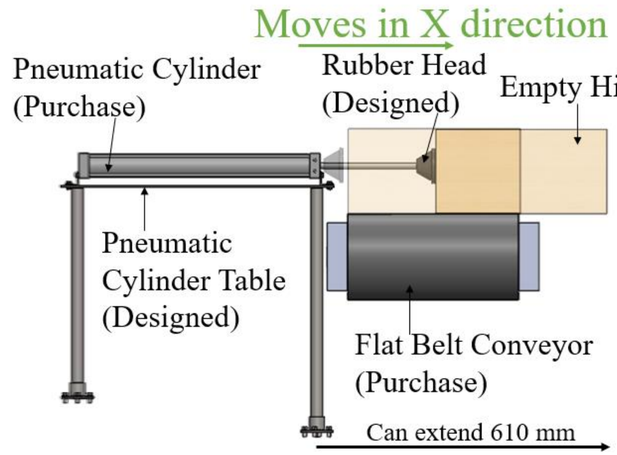
- Getting all the frames in one fluid motion
- Creating a machine that is simple and doesn't take much space

Design Overview



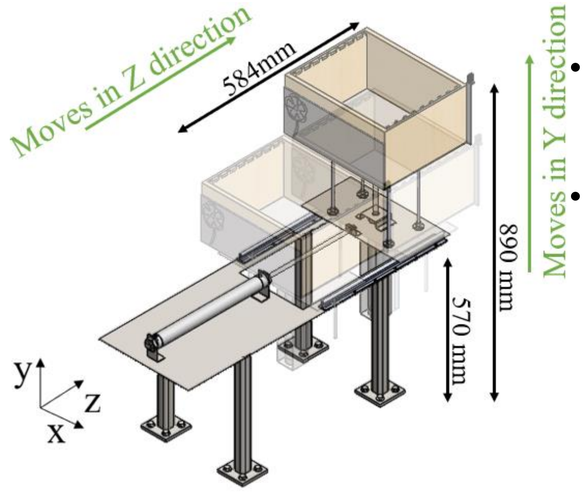


1. Hive box Removal System



- Driven by the pneumatic air cylinder
- Transfer box in x direction
- Push the empty box from flat bet conveyor to box carrier of box packer and packed box from box carrier to another belt conveyor

2. Box Packer



- Driven by the pneumatic air cylinder
- Packs the frames from the slide rails and acts as a transfer station for the hive box

3.Flat Belt Conveyor

- Commercial product from McMASTER-CARR

SHLYM Designs

MecE 460 Capstone Design Project Team

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