Overview
TMP presented a problem to the team with their freezer sliding doors. The bottom gaskets wear out too much too quickly due to rubbing contact with the ground. Moreover, their current doors require too much effort to open manually and would like it to be more user friendly for people in all age groups.

Objectives
The objective of this project is to design a sliding freezer door that can be used both manually and electrically and can be applicable to small or medium sized doors.

Approach
- Customer needs and project requirements were gathered after having an onsite visit with the sponsor.
- Six design concepts were generated. Concept screening and concept scoring methods were used for concept selection.
- Relevant patents of existing products and ideas were reviewed and analysed.
- CAD Models were created on SolidWorks for all major parts of the sliding door.
- A pre-alpha prototype was fabricated using cardboard. Next, a pre-alpha prototype was built out of wood. The alpha prototype was fabricated using different kinds of metal. Finally, the final prototype is the alpha prototype with a few modifications.
- Testing was performed on the height the door rises of the ground when it is open. Also, the force required to open the door was tested.
- Results were validated by taking more than one measurement and a fish scale was used to measure the force required to open the door.
- The height the door lifted off the ground was recorded to be 0.5 inches and the force required to open and close the door was documented to be approximately 1 pound for the prototype.

Outcomes
- The sponsor will save hundreds of dollars on gasket maintenance as a result of this project.
- The force required to open and close the door is very low compared to their current which will increase their sales drastically.
- The design uses a unique design that incorporates the use of riser cams which help lift the door of the ground and decrease the amount of force required to open and shut the door.