

I2.02 Creannovation VIA Production Accelerator

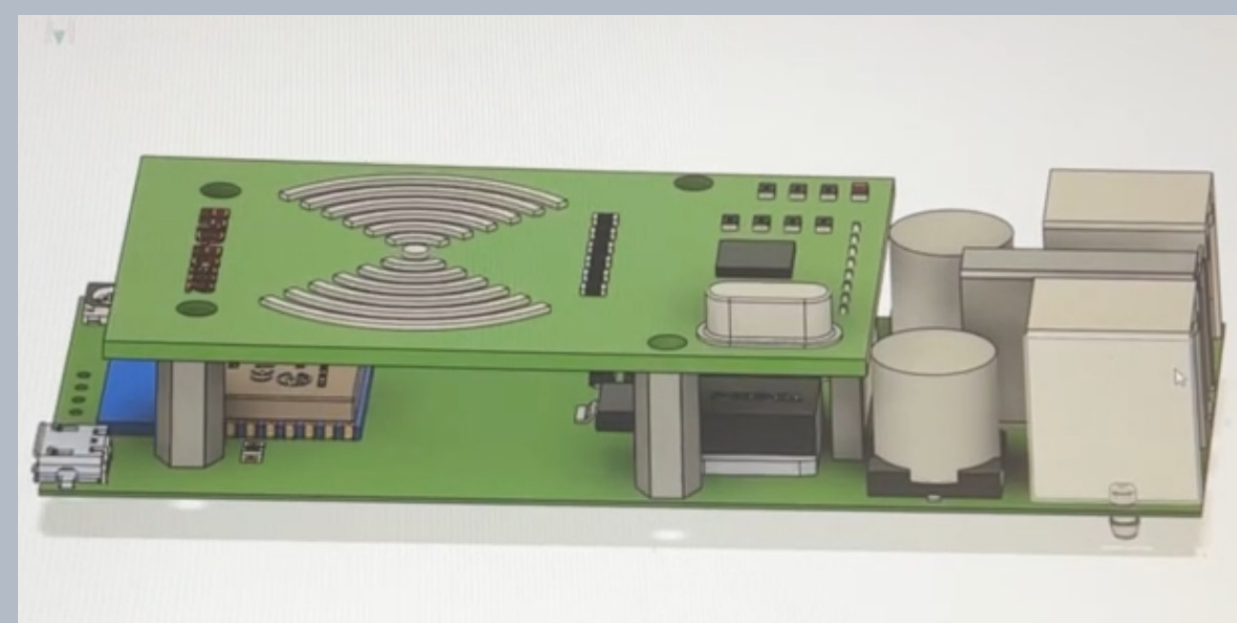
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Problem Statement

Due to a new sensor design, an efficient and durable sensor enclosure design is needed, that meets the complex demands of modern industrial processes.

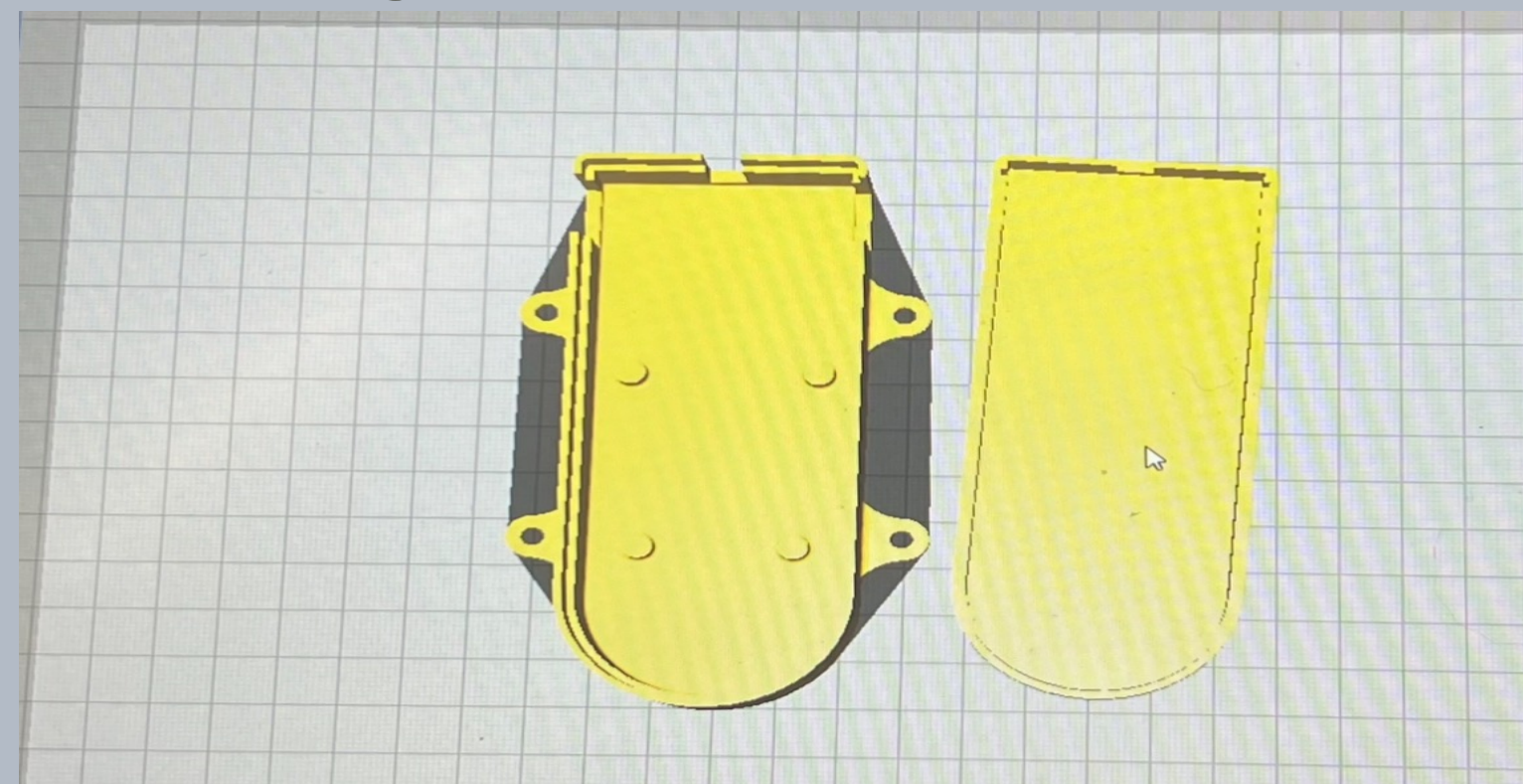
Project Purpose

- The primary purpose is to design and develop an advanced sensor enclosure tailored for tracking Work In Progress (WIP) that serves as a tool in enhancing operational efficiency.
- This purpose is driven by the critical importance of real-time data display and alerting capabilities to the production floor, facilitating decision-making and to respond promptly to production demands and challenges using AI to optimize production.



Project Objectives

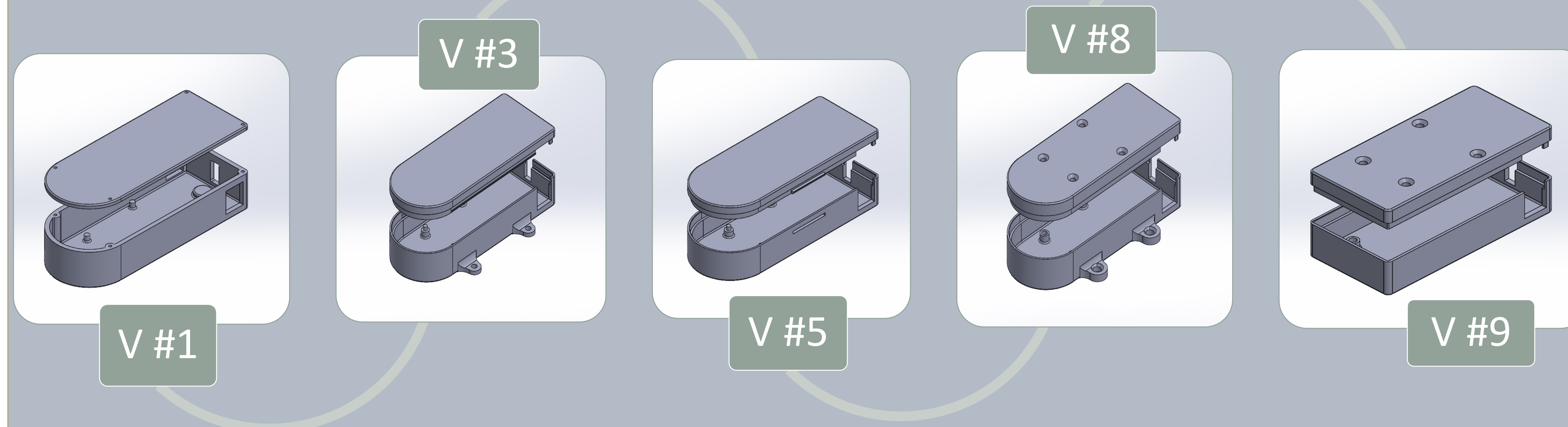
- Create an enclosure for the sensor to be used on Smart Racks.
- Impact resistance to physical impacts such as minor bumps or vibrations.
- Consider manufacturing options such as 3D printing and injection molding.
- Ensure that LED light is visible, clear, and distinguishable.
- Cost Analysis.
- Ensure the chosen machines meet production rate requirements while staying within budget.



Problem Solving/Continuous Improvement Approach



Design Process in SolidWorks



Manufacturing Process

Design Enclosure to match new sensor design

Implement 3D printing for efficient manufacturing.

3D print several prototypes including poka-yoke.

Perform Cost Analysis

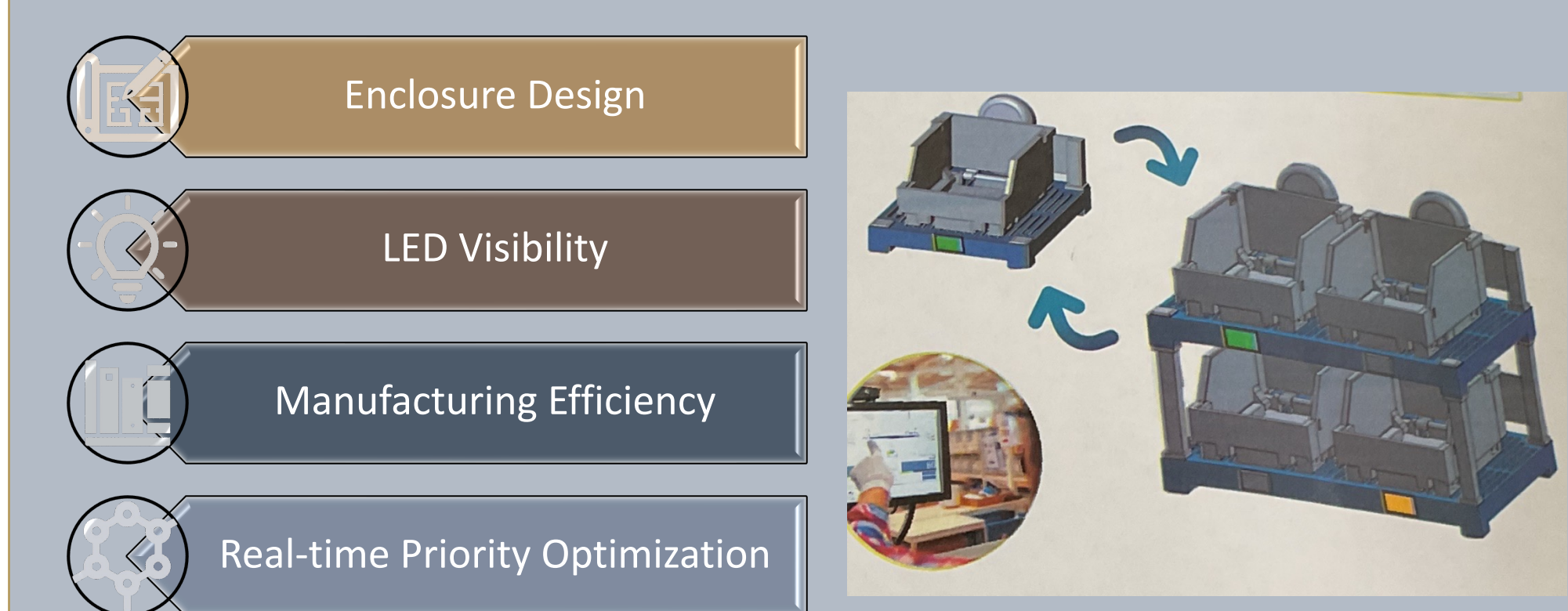
Develop Integration Plan to existing set ups

Ensure Visibility, Insight and Control

Ethics and Professional Responsibility



Results: Process Accelerator



Future Plans

Optimized Utilization of Injection Molding: When production levels exceed 5000 units within an established period, consider further optimizing the utilization of injection molding as the preferred manufacturing process.

Team Members



From left to right:
 TJ Butler,
 Victor Lopez,
 Erin Hausmann,
 Lauren Feliciano.

Sponsor: Crean Inc.
Instructor: Dr. Gerardo Trevino-Garza

Acknowledgements

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