Inventus Power is the leading battery manufacturer in the United States. They have multiple global manufacturing sites which produce three main types of products: battery packs, power supplies, chargers and docking stations. Their products are used in a multitude of industries including products military, medical, and consumer applications.

**Project Scope**

Our team’s project scope focuses on their Conformable Wearable Battery (CWB) 3.6.2 and improving its manufacturing production. The CWB 3.6.2 is a product for the US military and is Inventus’ largest contract valued at $1.2B. Given that this account is their largest by over 10 times the value of their second account, it is imperative that their production system is as efficient as possible. While expanding their manufacturing system to use automation to produce CWBs as quickly as possible, Inventus found that there were inherent built in errors in the process. Due to this they have failed to consistently meet their goal of producing 16 batteries per hour and currently produce around 12. Alongside this truncated throughput, the current ineptitude of the production line has resulted in an increase in operators required to produce the battery packs.

**Project Goals:**

- Increase throughput rate by 33%
- Improve line yield by 15%

Inventus Power experiences yield loss from excess glue overspilling onto the pack, the CWB pack. We designed and 3D printed a mold to cast gaskets to protect the battery pack from glue overflow to replace their current method of taping the battery pack.

**Automation Analysis**

Many deficiencies in the production process are related to the Bright Cell (BC) equipment. During our time study, we observed the BCs stopping for many reasons such as no PCBs loaded in the cart, different batches of battery cells faulting the system, and identified a second delay in each of the BCs. These are also deficiencies within the robots such as only picking up two battery cells at a time.

**Layout Improvements**

- Material staging and cell loading preparation is done on opposite sides of the floor.
- Not all stations were in sequence, disrupting one piece flow and ultimately creating multiple areas of WIP on the production floor.