This project addresses the labor efficiency problems on a crucial assembly line at Ducommun Incorporated. Located in Joplin, MO, Ducommun Incorporated manufactures cable harnesses for the aerospace and defense industry. In Fall 2018, Ducommun Incorporated – Joplin built 15 engineering units on a new cable assembly that ran on a 20% efficiency to bid hours. Due to the rapid ramp rate in orders, labor efficiency needs to be improved to reduce the impact of negative margins. Because the nature and the type of contract, it is essential to the plant's business that we improve the efficiency of the assembly line to meet customer orders. The purpose of this project is to measure the line's current performance, identify the occurring inefficiencies, determine the root causes of the inefficiencies, and recommend countermeasures to improve the process. To do this, the project consisted of four phases: define, measure, analyze, and improvement recommendations. The define phase focused on understanding the problem, the assembly line process, and what is critical in order to satisfy the customer. The measure phase is in process and it is a strategy of data collection needed to identify the rework instances and inefficiency locations. The measure phase also collects data needed to determine the current performance of the line in terms of number of rework instances, location of rework instances, current process time per assembly steps, and defects per unit. The analyze phase will study the occurring defects and inefficiencies and determined the defects and inefficiencies' root causes through the use of statistical tools and the knowledge of experienced workers. Once we enter the improvement phase and we conclude with countermeasures to improve efficiencies, these countermeasures will be implemented by the company with the goal of increasing labor efficiency by 50%. If the countermeasures are successful in meeting this goal, the project's estimated annual savings will be $107,250.