BOMBARDIER

Team 1

EXECUTIVE SUMMARY

Bombardier Inc. is a multinational manufacturer of business aircraft and rail transportation equipment. The facility located near Downsview Airport in Toronto hosts the aerostructures and final assembly lines for the Global 5000/5500 & Global 6000/6500 aircrafts. The Global 7500 aircraft are also produced in the same location but are out of scope for this project. The team was tasked to work in Bay 2 – the aerostructures line for the Global 5000/5500 & Global 6000/6500. Bay 2 is divided into three workstations and currently operates at a five-day cycle. The team conducted workflow analysis & interviews in the initial phase of the project. This established the objective of this project into work center optimization through improvements in the following key areas:

1. ***Implementation of 5S principles*** throughout Bay 2 while collaborating with Team 2 working in Bay 4.
2. ***Generating a revised floor layout*** while accounting for the interdependencies between the logistics, workers and managers.
3. ***Providing an improved method for tooling*** through consolidation, tracking and access control.

The study of the current floor plan found a lack of standardization across all workstations. Numerous workbenches are scattered around the shop floor while only a few are being utilized. Furthermore, a lack of specified locations for parts, workbenches, and racks means a majority of the floor is occupied with items that are not necessary on a daily basis. This problem is particularly evident in workstation 715, the busiest of the three in Bay 2, and ironically has the least free space for shop floor employees to work in. The proposed layout solution addresses these problems through the following methods:

1. **Systematically separating areas** where logistics and shop floor workers will be working.
2. **Marked locations on the ground** to indicate reference locations of each movable item.
3. **Relocating items that are unused daily** to allow for space in each workstation.

Similarly, the core issue with tools is the numerous scattered tool boxes across the bay and the lack of a systematic method for workers to obtain tools as needed. A few examples of such tools are crimpers, drills, and riveting tools. Furthermore, access to toolboxes is open to all workers, including other bays which worsens the problem. The team's research showed that a worker could waste between a cumulative 10 minutes to more than 2 hours looking for tools across different bays daily. This information was used to quantify the average lost time per worker per day and informed the team on possible recommendations.

The proposed solution consolidates the tools to a single area while restricting access through RFID readers that grants access only to workers of the respective bay. This also provides the last known location of each tool that is taken out of a toolbox. This drastically narrows down the search area, thereby reducing the average time wasted on finding tools. Lastly potential suppliers have been identified and a change management strategy is provided to seamlessly integrate the solution with the current operations.