

INTRODUCTION



IMP Aerospace is a subsidiary of IMP Group based in Goff's, Nova Scotia. They are one of the largest aircraft engineering and maintenance operations in Canada, and they specialize in aircraft maintenance and modifications for military, government, and commercial operations.

Acronyms **TCP:** Tool Crib Personnel **PP:** Production Personnel **GSE:** Ground Support Equipment **RFID:** Radio Frequency Identification **FOD:** Foreign Object Debris

OBJECTIVE

Improve tool and equipment management by increasing automation, improving data collection, and utilizing resources more efficiently.

CONCLUSIONS

Deliverables

- Pilot project for scanning out all tools and removing redundant sign out processes
- Implementation plan to achieve expected state in tool crib (continuation of 5S, proposed layout, and self-serve tool crib training)
- Microsoft Power BI Dashboard for better tool and equipment data management
- Microsoft Power App for standardizing the request process between hangars
- Implementation plan for recommended RFID tracking solution (vendor, setup, timeline)

The deliverables will result in a significant improvement in the accuracy and consistency of data collection, making tool and equipment usage and locations easily accessible.

Furthermore, by standardizing processes, a self-serve tool crib will be achievable for IMP.

Self-Serve Tool Crib: \$75,260 savings/year

RFID GSE Tracking: \$33,450 savings/year ROI of ~6 years

- TCP sign in/out tools to PP; inefficient use of resources Inconsistent processes followed; time consuming and redundant Only calibrated items are scanned in/out; leads to lack of data Reliant on TCP's years of experience; risk of retirement Disorganized due to lack of space; quality standards not met

Self-Serve Tool Crib

Expected State

MS Power

- Dashboard to al users to easily a data, as oppose existing system
- Increases tool c and decreases FOD

Capabilities:

- Interactive layou display tool locat
- Shows employe
- Provides filterable and insightful summary data

MS Power App New Consumable Request Application to standardize Item Name * Requesting Hangar Item Number methods for submitting Find items and managing requests * Quantity Attachments Notes Manges consumables, There is nothing attached. tools, and part requests 🛯 Attach file between 3 different hangars (1, 6, and 9) Back Submit Request Cancel Part Name: Rubber gloves Capabilities: Quantity: 40 Submit, review, action, and view status of requests Part Name: Coveralls Automatic email notifications using MS Power Automate Quantity: Power Apps **Power Automate**



Tool and Equipment Management at IMP Aerospace

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1. TOOL CRIB SOLUTION

Problem Description

- Conducted
- pain points Conducted increased determine

PP enter tool crib to retrieve tools All tools scanned out of tool crib Not reliant on the TCP to operate Security cameras and ID badge readers for accountability

To Achieve Expected State

- a. 5S action plan in Hangar 1 tool crib i. Red-tagging event to create space ii. New layout to meet quality standards
- b. Standardize processes to remove redundant tasks
- c. Scanner script modifications for increased efficiency with sign in/outs

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Olivia Murray

Design Process

d a work sample and survey to determine roles of TCP,
s, and to collect data on queue/service times
d a pilot project to test scanning out <u>all</u> tools for
data collection and to audit the data entries which will
if redundant processes could be removed



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2. GSE SOLUTION

Problem Description

 GSE is shared between 4 hangars, spanning ~1km (see map below); time consuming to locate GSE movement is not tracked; lack of visibility GSE is expensive and critical to production; seizes resources to locate and causes schedule delays

