

QUEEN'S MBA CONSULTING PROJECT: DESLAURIER CUSTOM CABINETS

KIS SHOWCASE: APRIL 12/2011



AGENDA

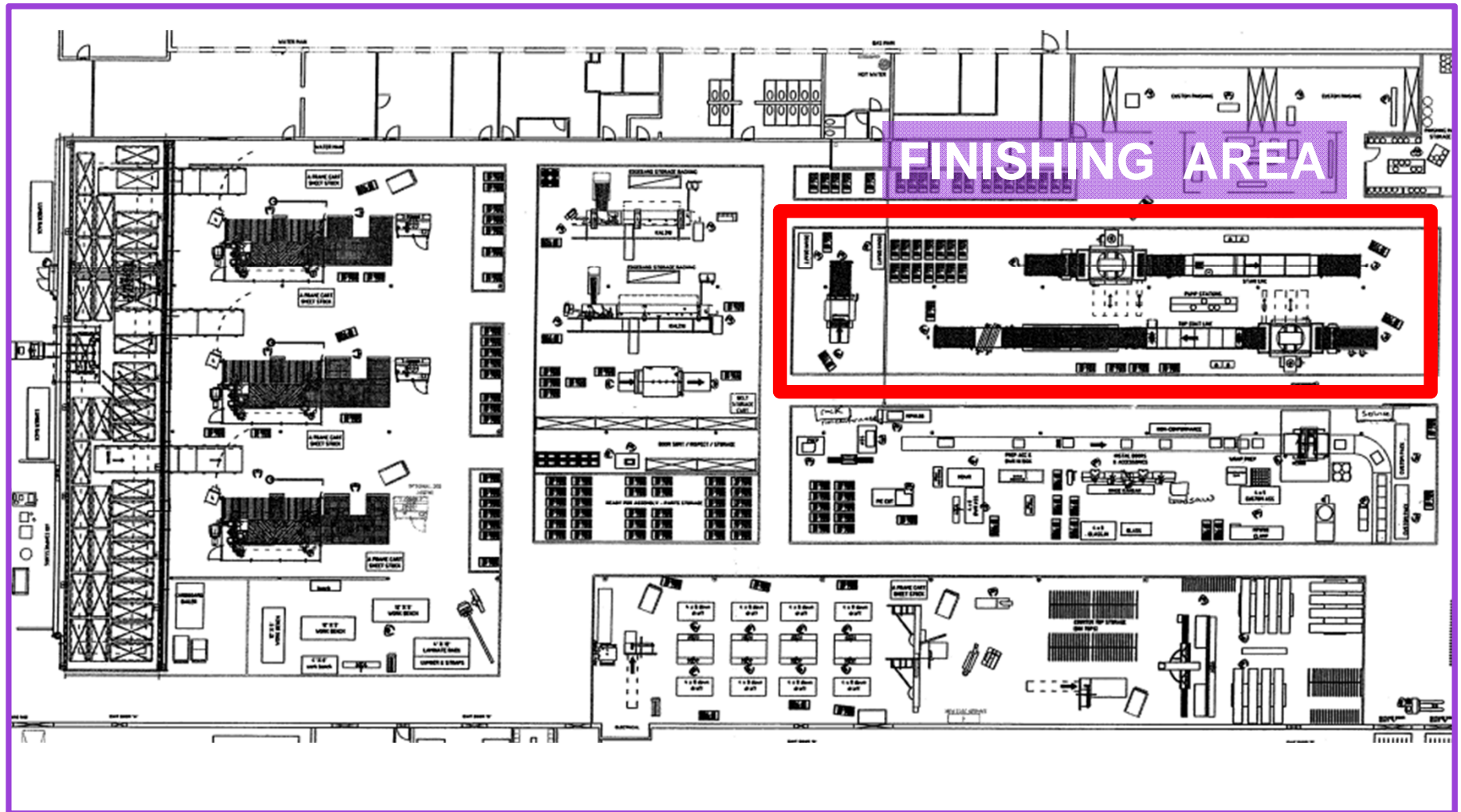
1. Assessment of Deslaurier's current operations
2. Recommendations
3. Key Learnings



Project Overview

- QMBA team (7 students)
- Operations Course/ Monieson Centre – Field Trip Project
 - Assessment of DesLaurier's manufacturing plant (Renfrew)
 - Applying course concepts to improve plant operations
- Deliverable: Provide recommendations to improve operations in the finishing area.

Plant Layout



Assessment of Operations

- RPA (Rapid Plant Assessment) of the Finishing area
 - Assess operations by asking pre-defined questions.
 - Total plant score: 68 (Above average)

Focus:
Finishing
Area

| Rated by: Team 421 | | Rapid Plant Assessment | | | | | | Plant: Deslaurier |
|-----------------------------|---|------------------------|---------------|---------|---------------|-----------|---------------|-------------------|
| Tour Date: December 1, 2010 | | Table 1--Rating Sheet | | | | | | |
| Ratings → | | Poor | Below Average | Average | Above Average | Excellent | Best in Class | |
| No | Measure ↓ Score → | 1 | 3 | 5 | 7 | 9 | 11 | Scores |
| 1 | Customer Satisfaction | | | X | | | | 6 |
| 2 | Safety, environment, cleanliness & order | | | | | X | | 9 |
| 3 | Visual Management System | | | X | | | | 6 |
| 4 | Scheduling system | | | X | | | | 6 |
| 5 | Use of Space, Movement of materials and Product Line Flow | | | | X | | | 7 |
| 6 | Inventory & WIP Levels | | X | | | | | 4 |
| 7 | Teamwork & Motivation | | | | X | | | 7 |
| 8 | Condition and maintenance of Equipment & tools | | | | | X | | 8 |
| 9 | Ability to Manage Complexity & Variability | | | | X | | | 7 |
| 10 | Supply Chain Integration | | | X | | | | 5 |
| 11 | Commitment to Quality | | X | | | | | 3 |
| Totals → | | | | | | | | 68 |

RPA Analysis –Finishing Area

Scheduling System

- **Push system**
- Production schedule chart

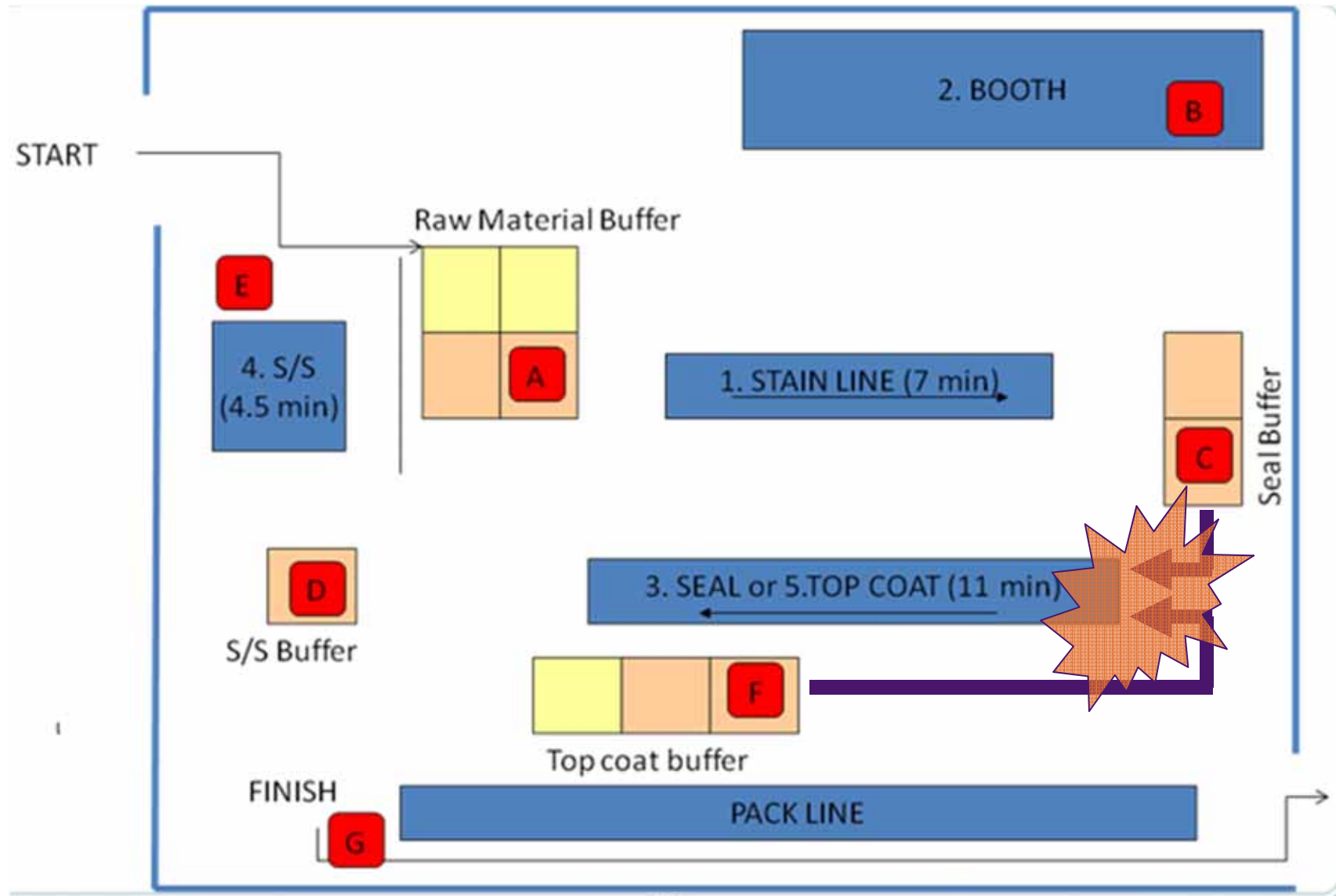
Visual Management System

- **No visual indicators**
(unlike other parts of the plant)

Teamwork and Motivation

- Input from front line workers.
- **Leadership and decision making skills**

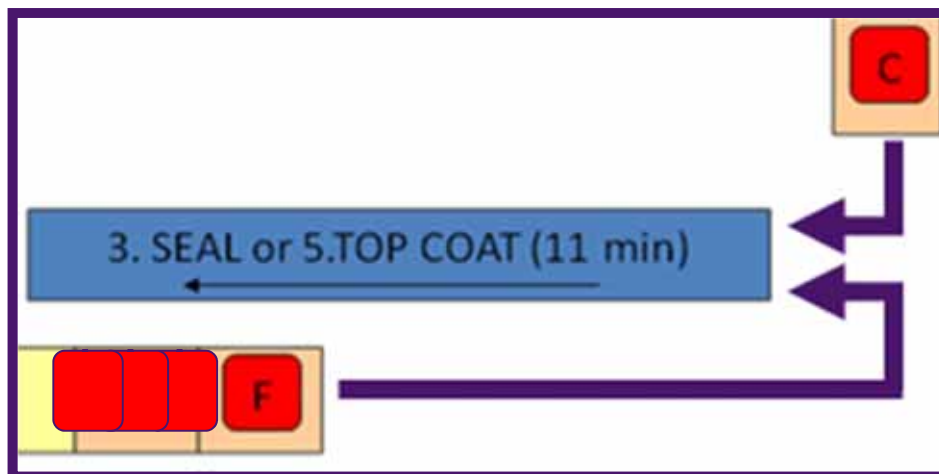
Process Flow – Finishing Area



Problem: Visual Management System

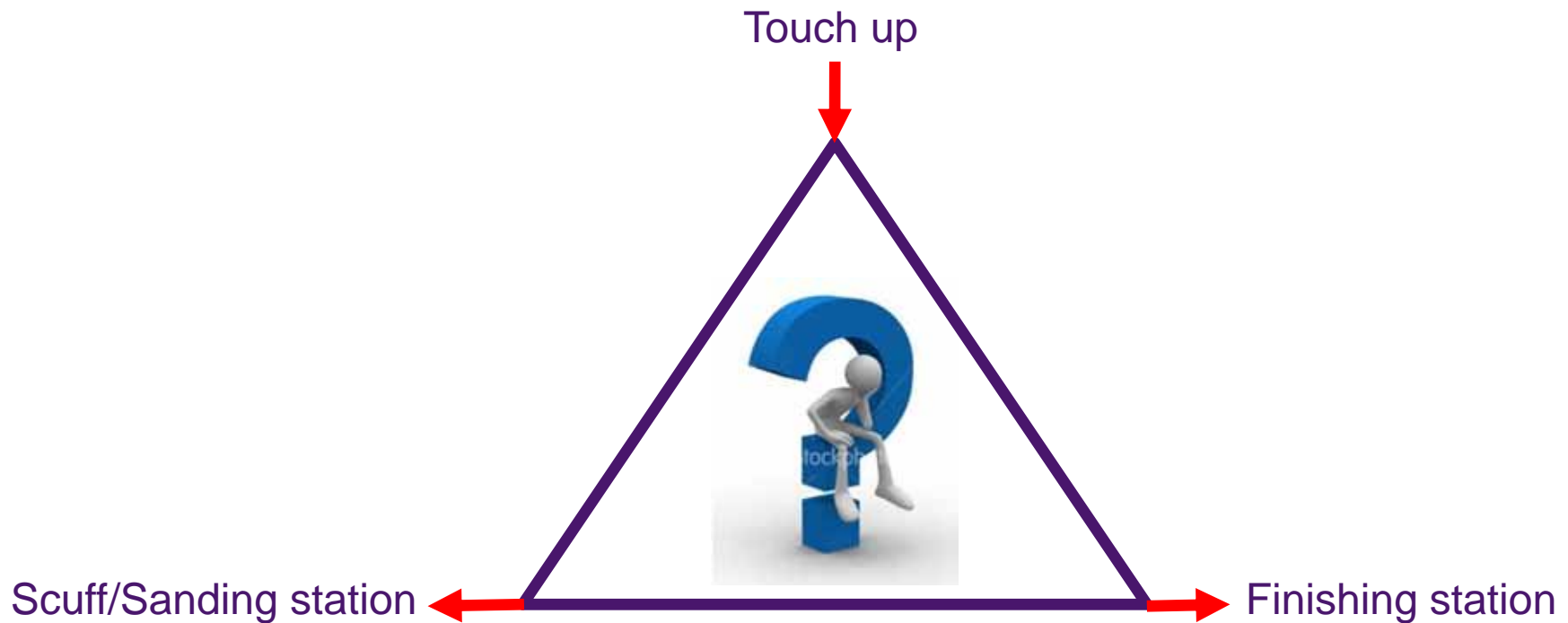
Jobs entering finishing area not synchronized with Seal/Topcoat machine:

- No pull-based visual system
- CCR (Capacity Constrained Resource)
 - Buffer inventory piles up
 - Imbalance downstream



Problem: Scheduling / Leadership Systems

- Loading operator forced to decide which batch to process
 - Systematic processes may break down
 - Triple threat



Assessment | Recommendations | Learnings

Options to Improve Efficiency in the Finishing area

Option 2

- Increase the number of operators at the seal/topcoat machine.

Design a 'pull' production system in the finishing area

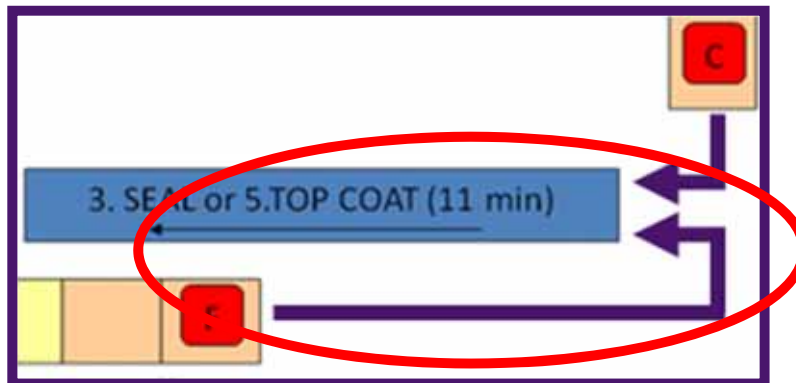
Empower Sealer/topcoat operator to decide.

Split up Sealer/topcoat into two distinct processes.

Option 2: Design a 'Pull' production system

Challenge:

- Feedback loop: Seal/topcoat station is a non-linear process.
- Pull based systems not designed to receive simultaneous requests:
 - Kanban – Pull based visual scheduling (LEAN/JIT)
 - Drum-buffer rope – maintaining buffer by stations (TQM)



Option 2: Design a 'Pull' production system

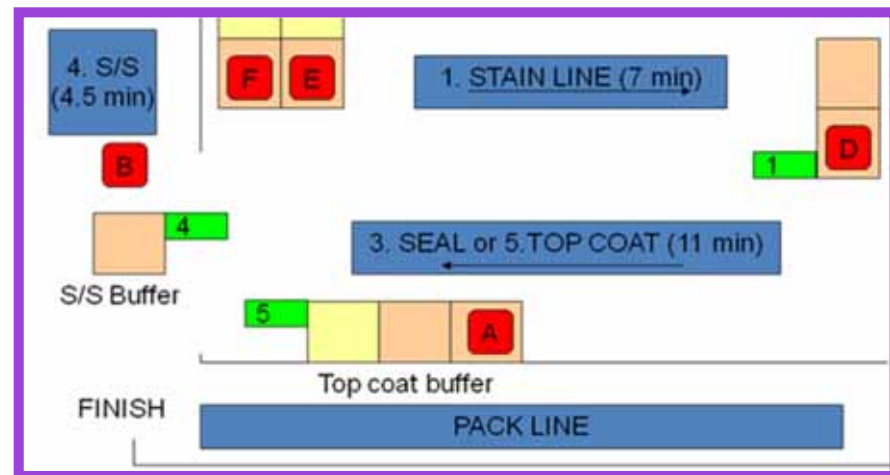
Implementation:

1. Incorporate three Kanbans in the finishing area

Kanban #1 ■ Seal/topcoat operator sends pull request upstream

Kanban #4 ■ Seal request from Sanding station

Kanban #5 ■ Topcoat request from finishing area

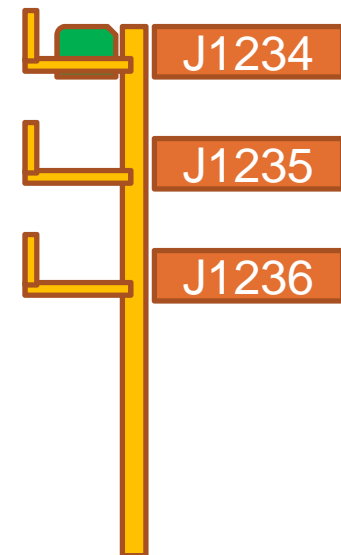


Option 2: Design a 'Pull' production system

Implementation (cont'd):

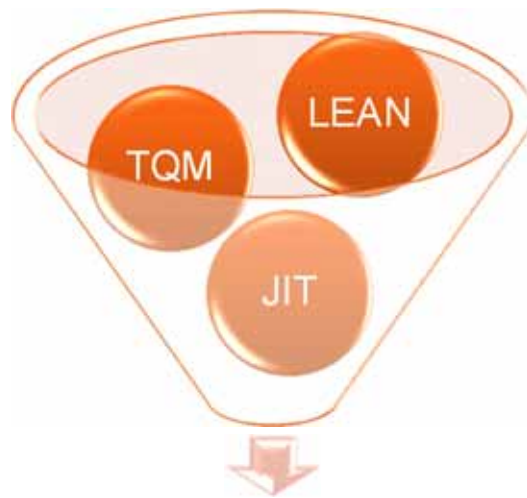
2. Train operators to initiate pull requests
3. Establish a set of operational rules for the Topcoat/seal operator.

| Kanban – Top Coat | Kanban – Scuff/Sander | Action by TC/Seal |
|-------------------|-----------------------|-------------------|
| On | On | TopCoat |
| On | Off | TopCoat |
| Off | On | Seal |
| Off | Off | Nothing |



Key Learnings and take aways...

- Every business is unique
- Square Peg in a round hole – Six Sigma, LEAN
- INNOVATION IS KEY
 - Incorporating principles from more than one practice



GOAL = INCREASE OVERALL EFFICIENCY IN THE FINISHING AREA



**THANK YOU - DESLAURIER AND THE
MONIESON CENTRE**

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