

# QUEEN'S MBA CONSULTING PROJECT: DESLAURIER CUSTOM CABINETS

**KIS SHOWCASE: APRIL 12/2011**



# AGENDA

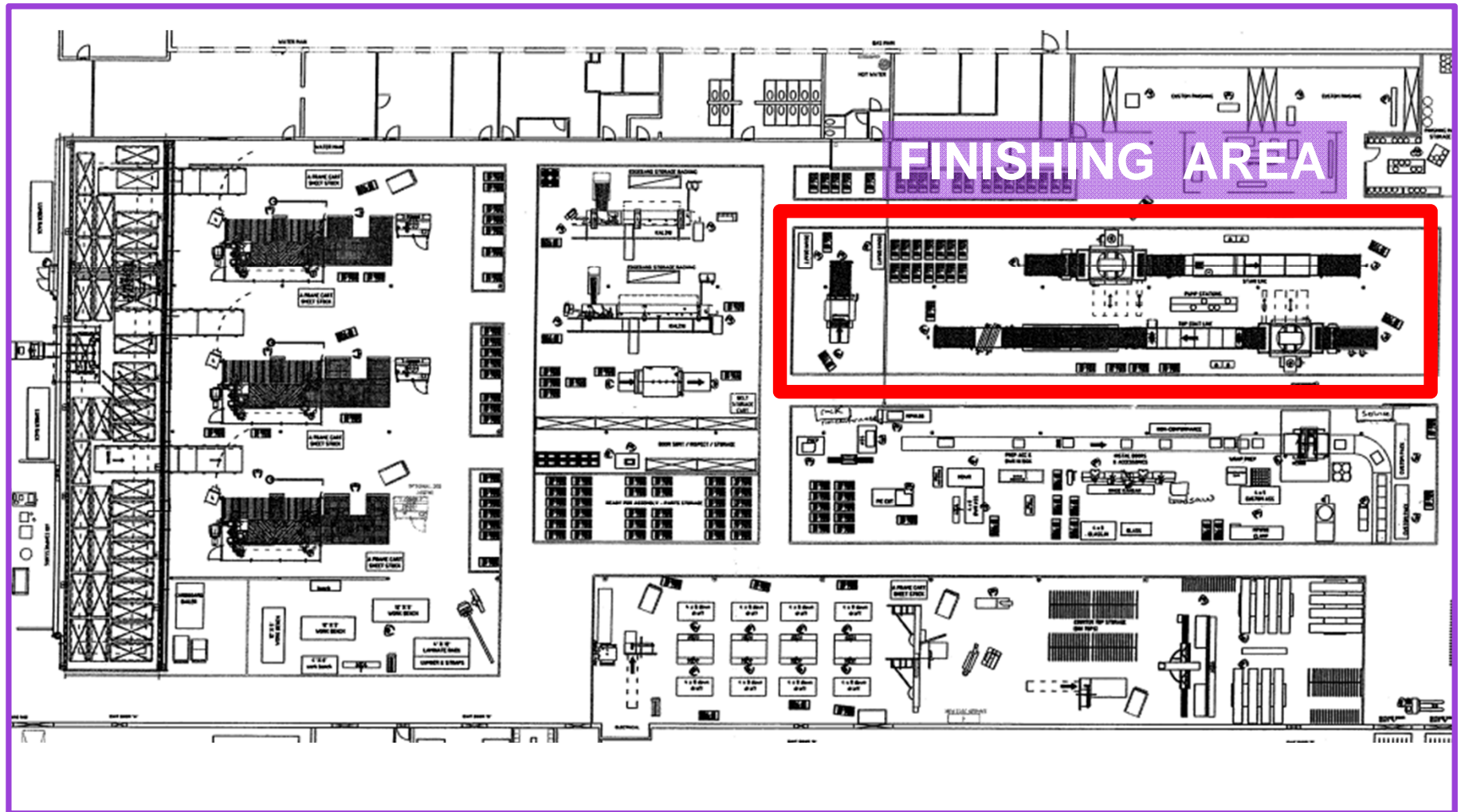
1. Assessment of Deslaurier's current operations
2. Recommendations
3. Key Learnings



# 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
<b>Totals →</b>								68

# RPA Analysis –Finishing Area

## Scheduling System

- **Push system**
- Production schedule chart

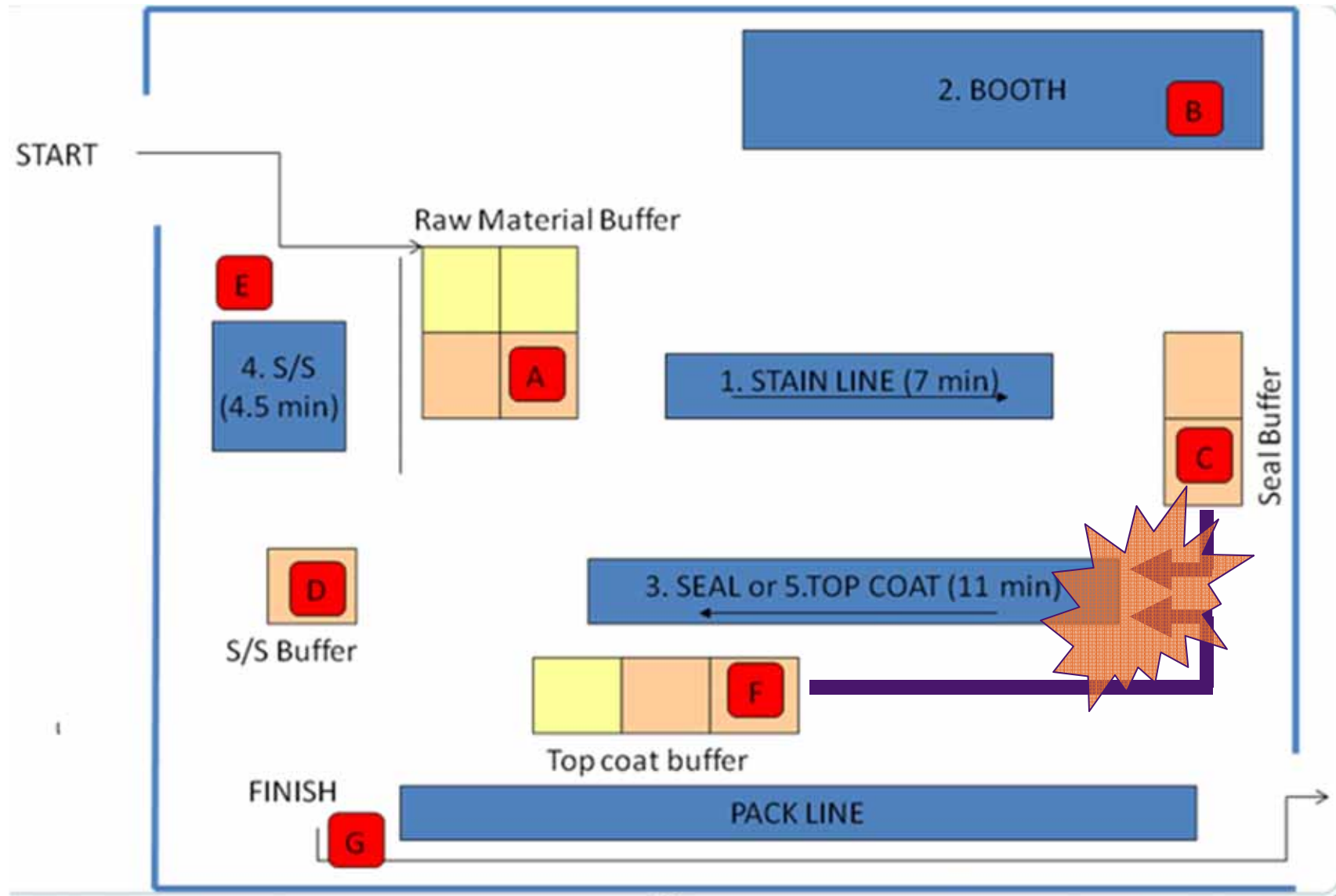
## Visual Management System

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

## Teamwork and Motivation

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

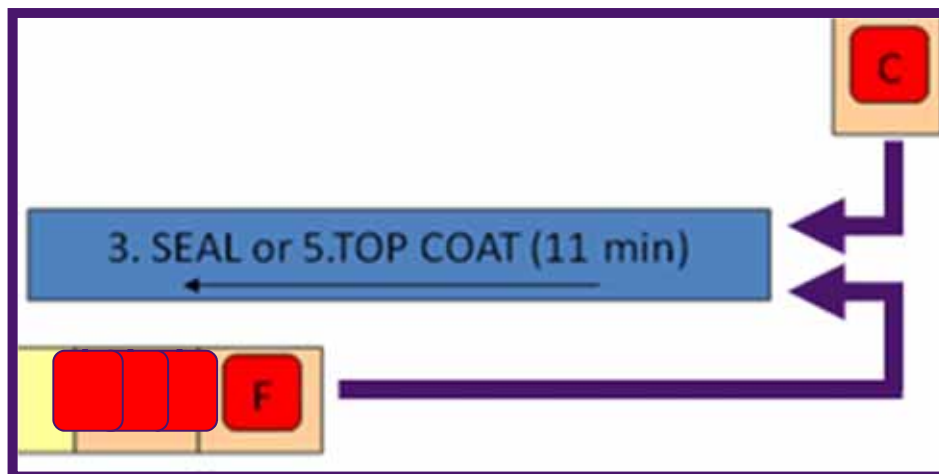
# Process Flow – Finishing Area



# Problem: Visual Management System

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

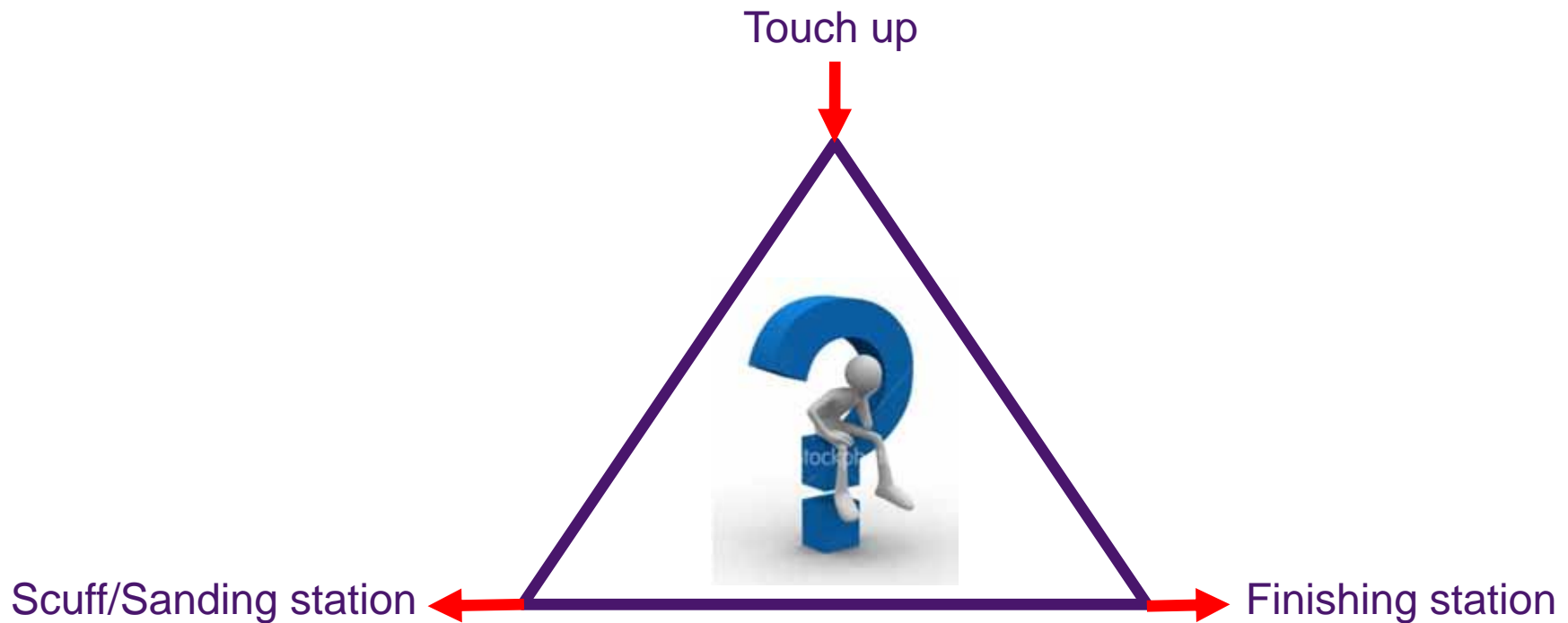
- No pull-based visual system
- CCR (Capacity Constrained Resource)
  - Buffer inventory piles up
  - Imbalance downstream





# 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

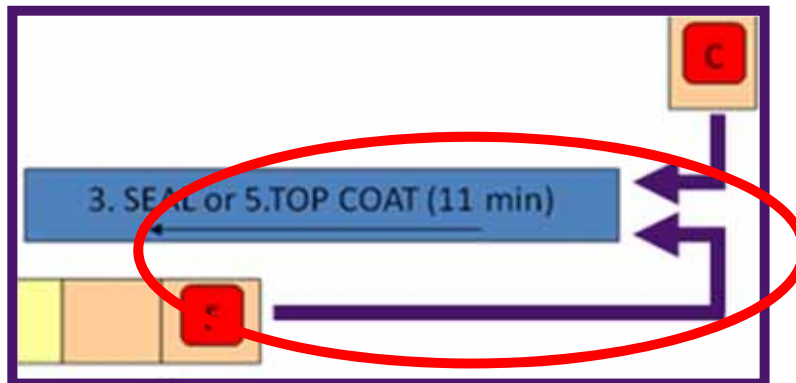
Empower Sealer/topcoat operator to decide.

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

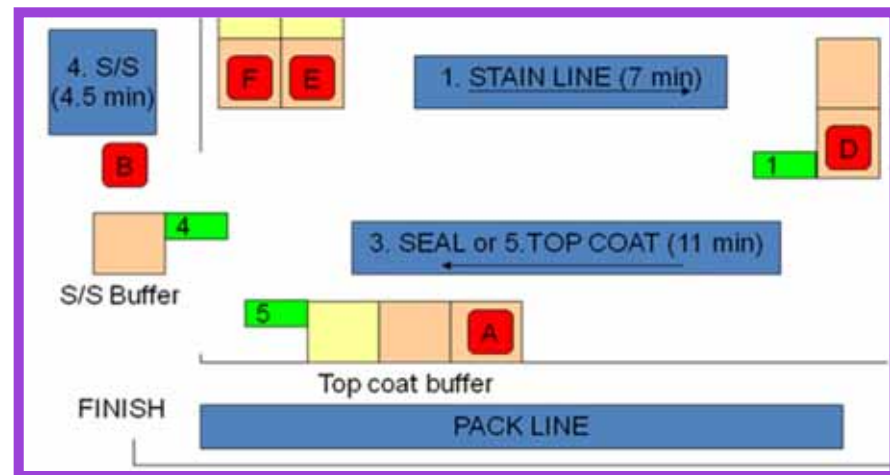
## Implementation:

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

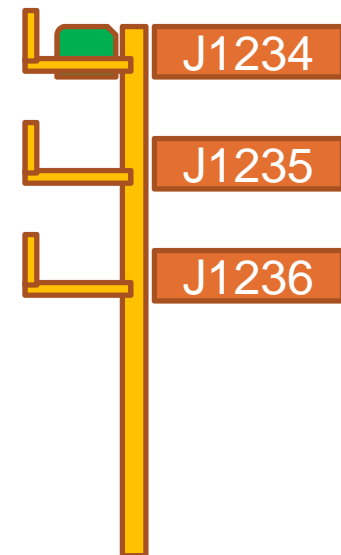


# Option 2: Design a 'Pull' production system

## Implementation (cont'd):

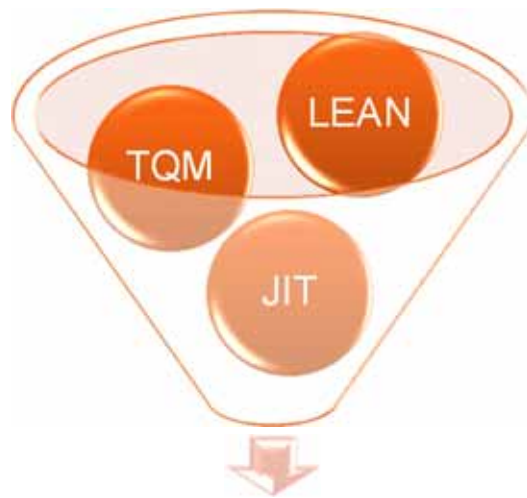
2. Train operators to initiate pull requests
3. Establish a set of operational rules for the Topcoat/seal operator.

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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