WOODWARD

Resource Allocation Playbook

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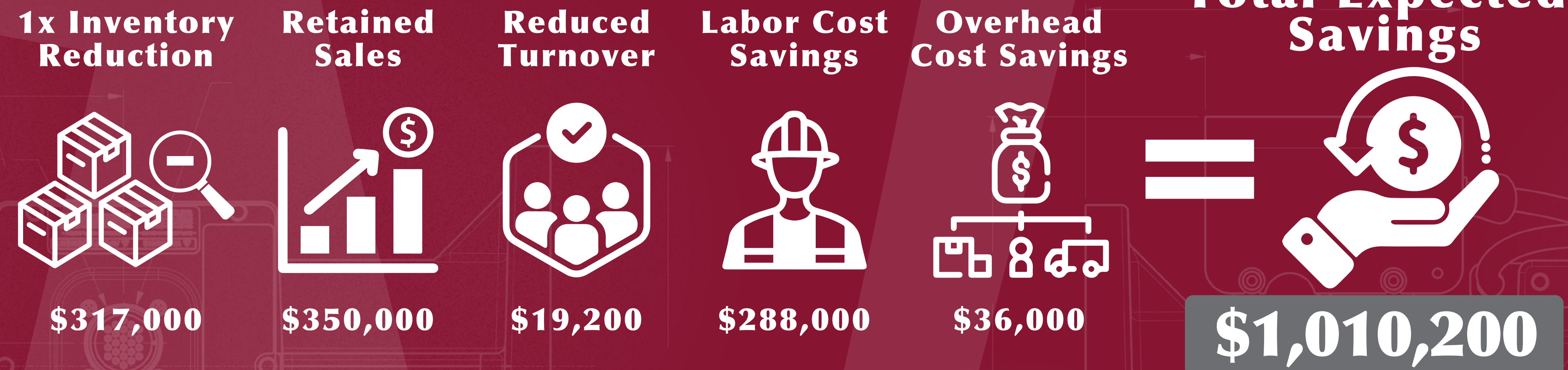**Advisor**
Tom Winters

Company Description

A **design and manufacturing** company that delivers energy control solutions to power a clean future.

Aerospace · Power · Military · Transportation · Industrial

Impact

1x Inventory Reduction	Retained Sales	Reduced Turnover	Labor Cost Savings	Overhead Cost Savings	Total Expected Savings
$317,000	$350,000	$19,200	$288,000	$36,000	$1,010,200

Results

Reduced Lead Time Standard Deviation

Lead time standard deviation reduction		
	Baseline (days)	Current (days)
PISC	1.16	0.31
GEN2/3	0.81	0.13
LITB	1.87	2.70*

*Limited Data Available

Established Maximum Capacities

Maximum Capacity 8-Hrs				Maximum Capacity 10-Hrs			
# Emp	PISC	GEN2/3	LITB	# Emp	PISC	GEN2/3	LITB
0	0	0	0	0	0	0	0
1	9.63	8	4.85	1	12.04	10	5.61
2	18.75	17.6	8.99	2	23.43	22	11.25
3	27.40	28	12.07	3	34.34	35	15.09
4		20.8	13.42	4		26	16.78

Maximum Throughput for Each Cell

Project Description

Lack of Standardized Process → Long Lead Time · Idle Time · Poor Utilization of Resources

Three Interdependent Manufacturing Cells

PISC	GEN2/3	LITB
Driver	Actuator	Valve & Actuator

Solution

Playbook

A responsive tool that outputs employee cell rotations and SWIP levels based on staffing available and daily production requirements.
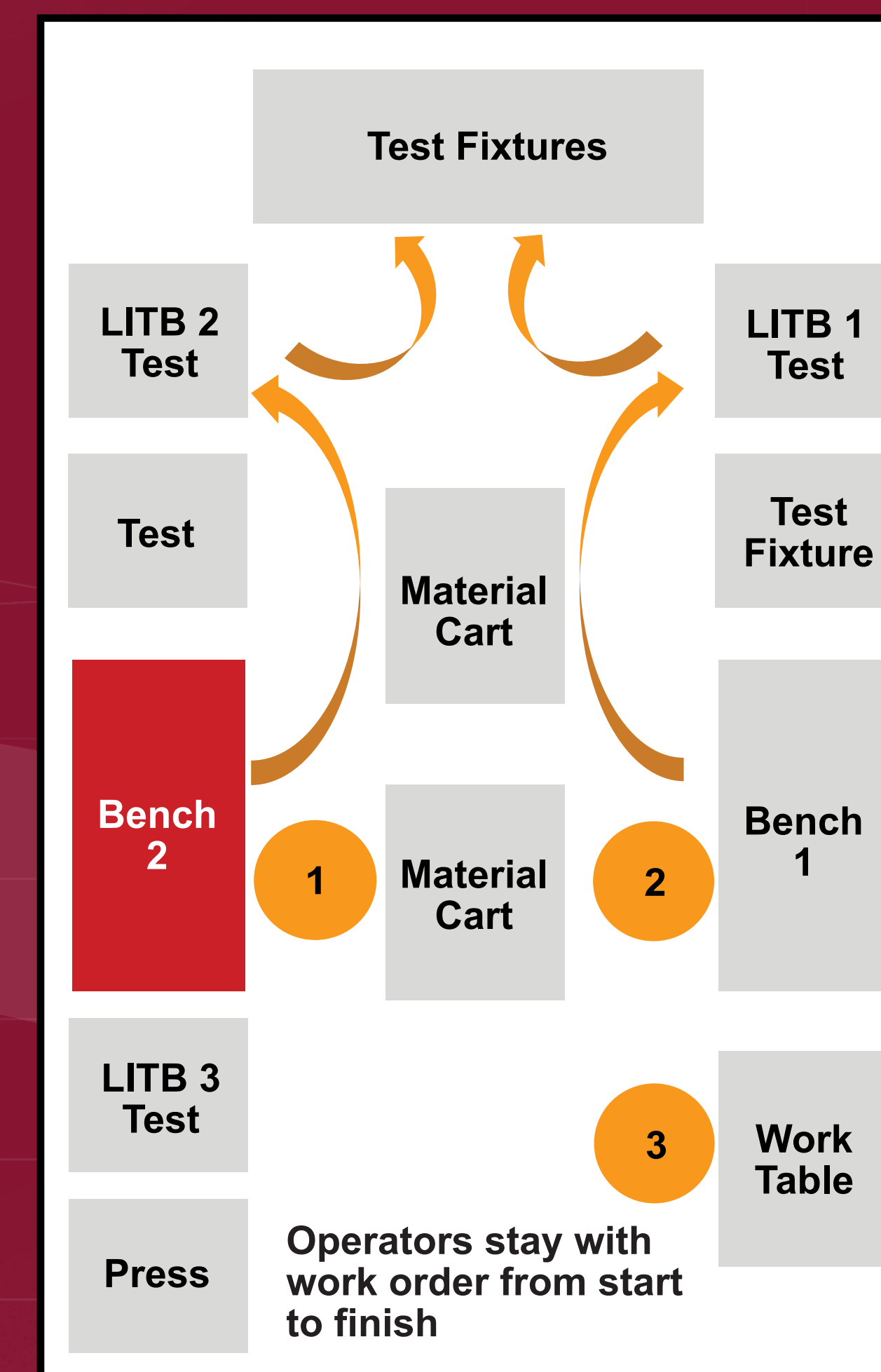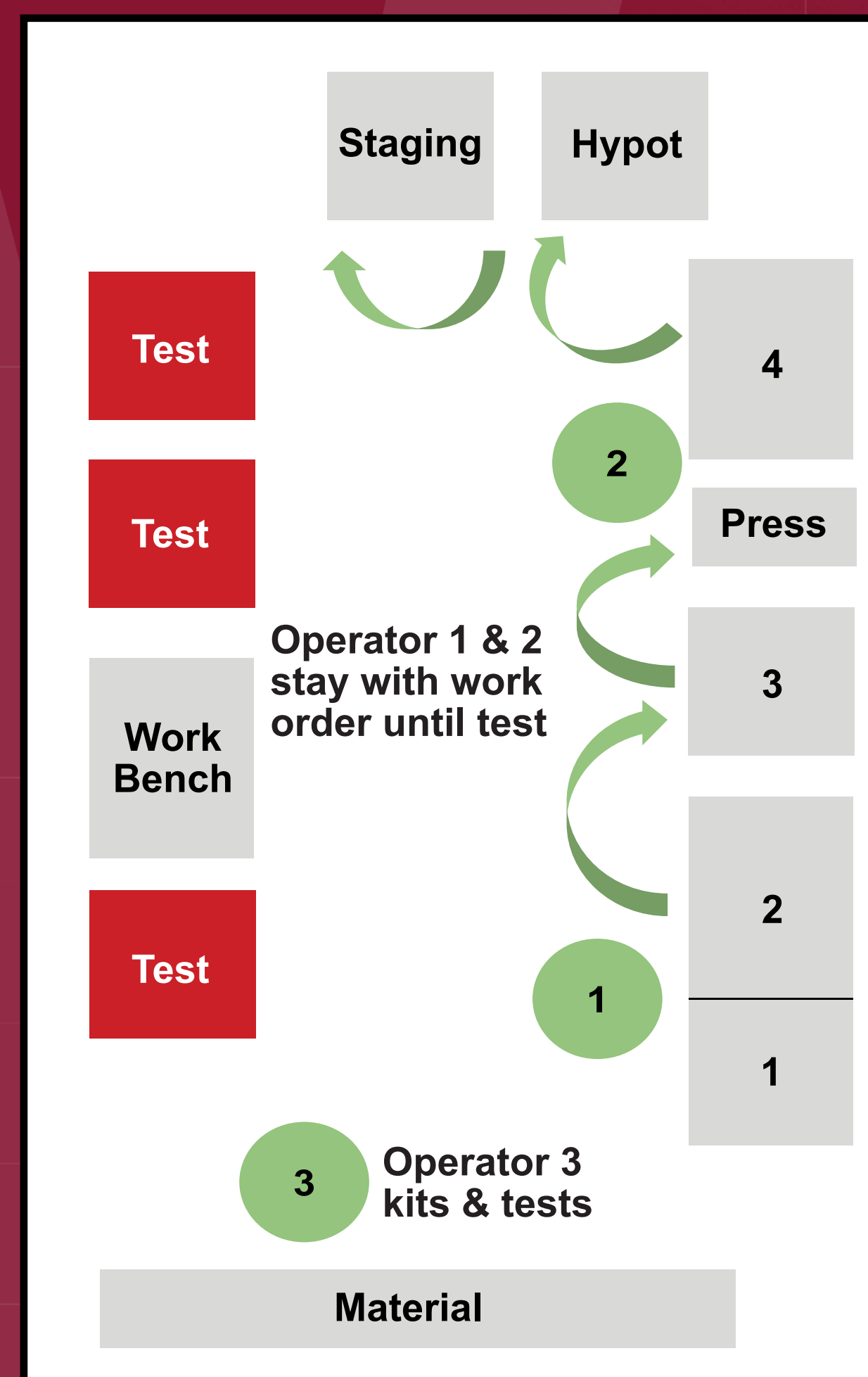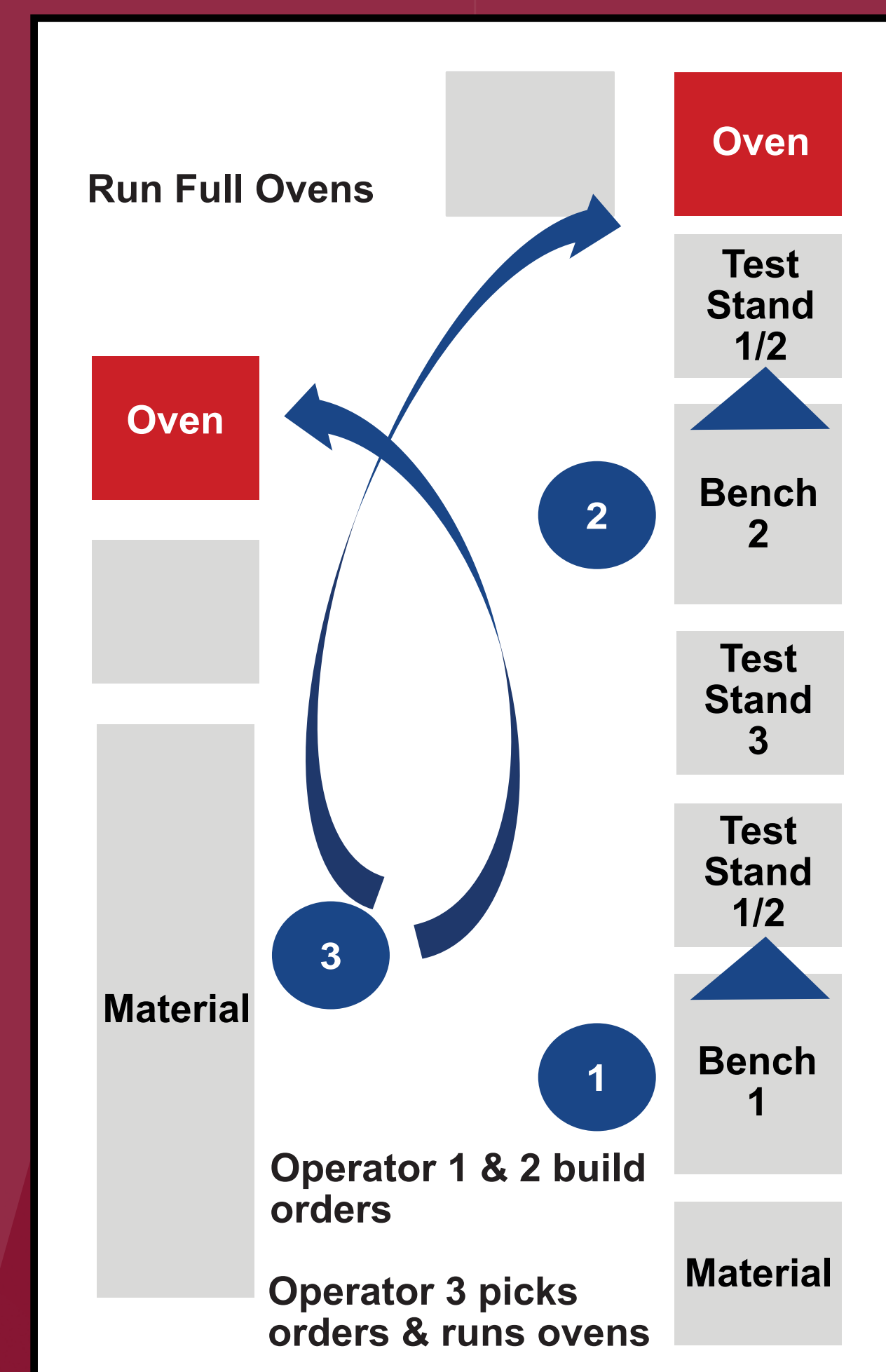
PISC Production			
Employees	3	1	1
SWIP	25	3	3
MAX DBR	27	10	10
Rework Poss.	No		
DBR Attainability	67%		

GEN2/3 Production			
Employees	3	2	1
SWIP	17.286	10.233	3.839
MAX DBR	28	17.6	8
Rework Poss.	Yes		
DBR Attainability	153%		

LITB Production			
Employees	3	2	1
SWIP	8.344	5.612	2.936
MAX DBR	12.072	8.996	4.848
Rework Poss.	Yes		
DBR Attainability	104%		

PISC Production — Run Full Ovens; Oven; Test Stand 1/2; Bench 2; Test Stand 3; Test Stand 1/2; Bench 1; Material. Operator 1 & 2 build orders. Operator 3 picks orders & runs ovens

GEN2/3 Production — Staging; Hypot; Test; Press; Work Bench; Material. Operator 1 & 2 stay with work order until test. Operator 3 kits & tests

LITB Production — Test Fixtures; LITB 2 Test; LITB 1 Test; Test; Test Fixture; Bench 2; Material Cart; Bench 1; LITB 3 Test; Work Table; Press. Operators stay with work order from start to finish

Visual representation of how members move through the cells to reach daily goals.

Solution Development

Data Gathering

Gathered Raw Files → Cleaned & Filtered Data → Established Current Inventory → Developed Distributions

Simulation

Evaluated Staffing Scenarios · Identified Bottlenecks · Determined Maximum Capacity

Reestablished Inventory Levels
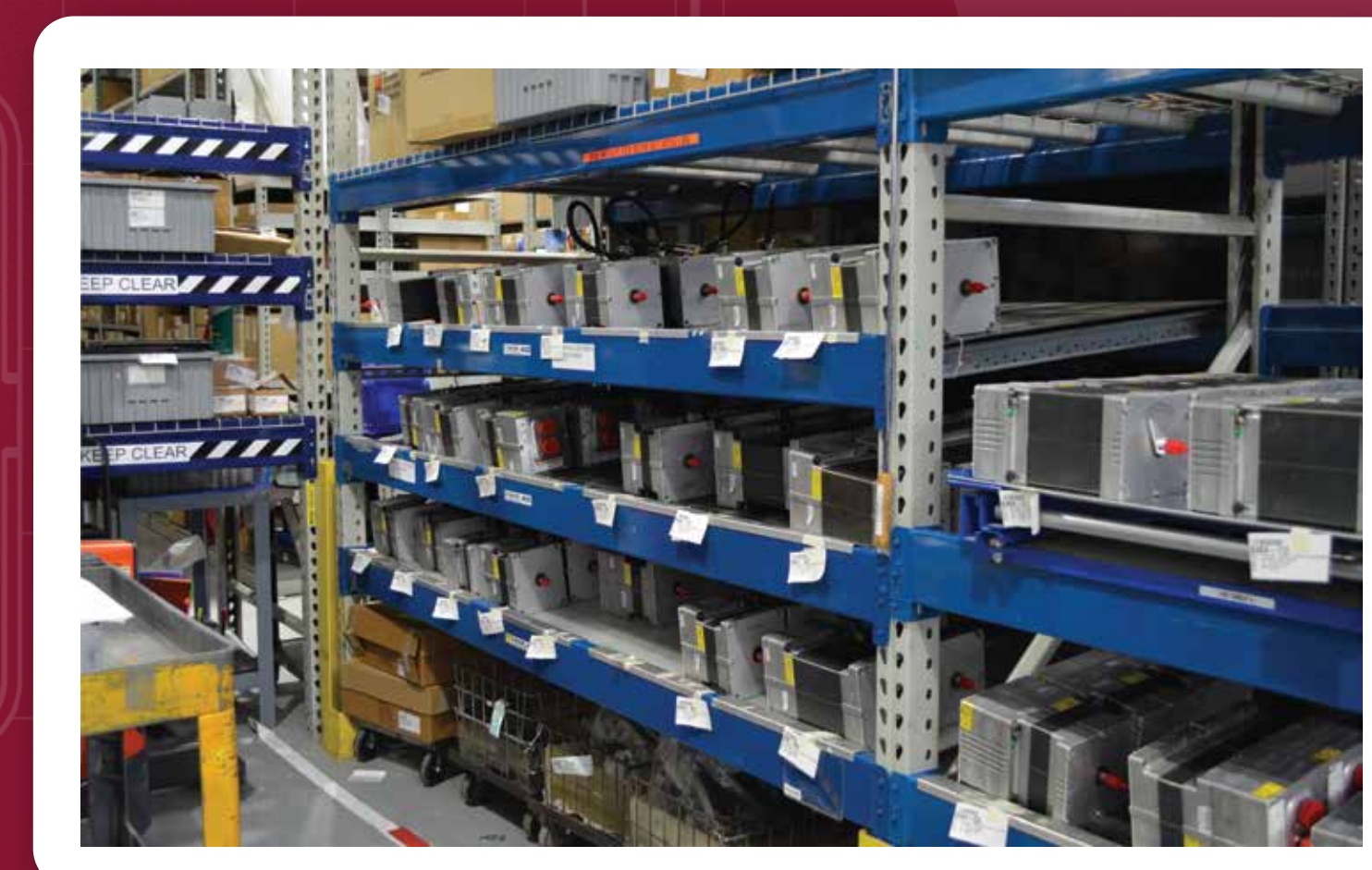
Current GEN2/3 Inventory
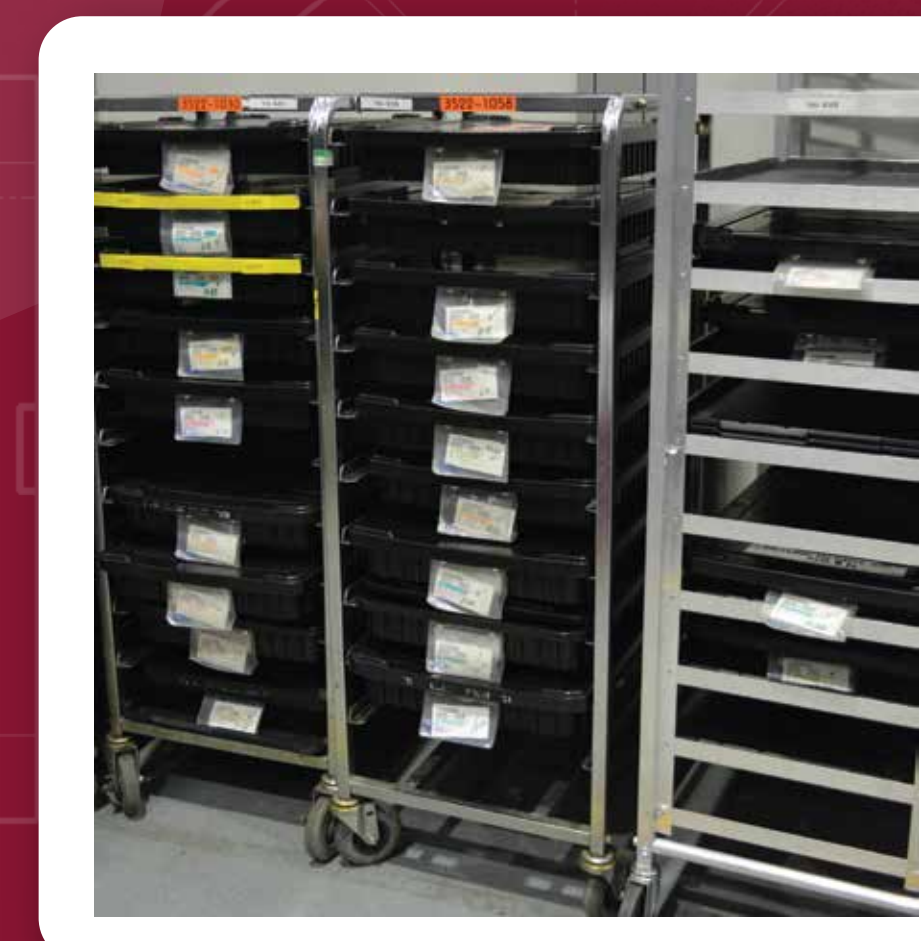
Current PISC Inventory
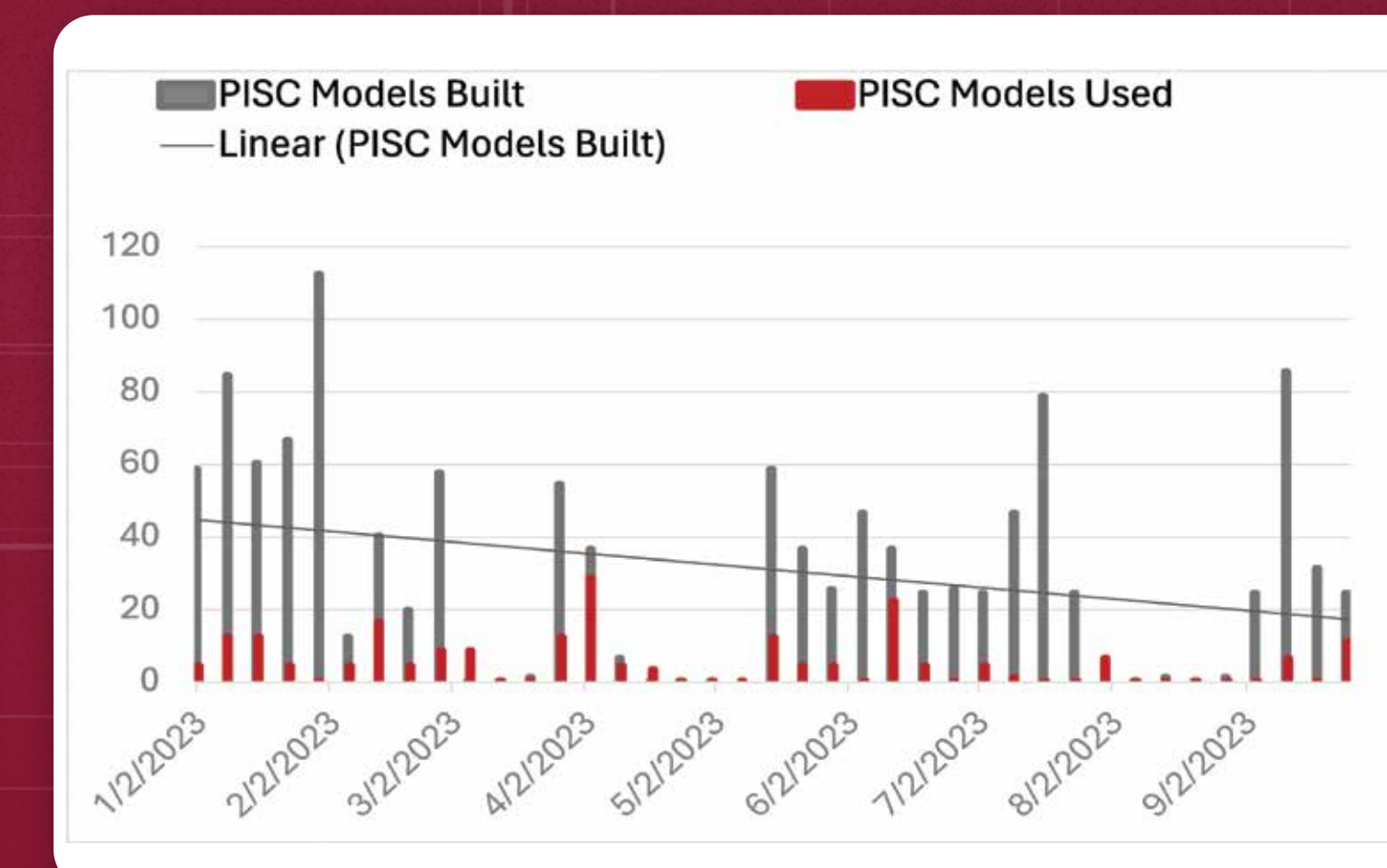
PISC Models Built vs. Used
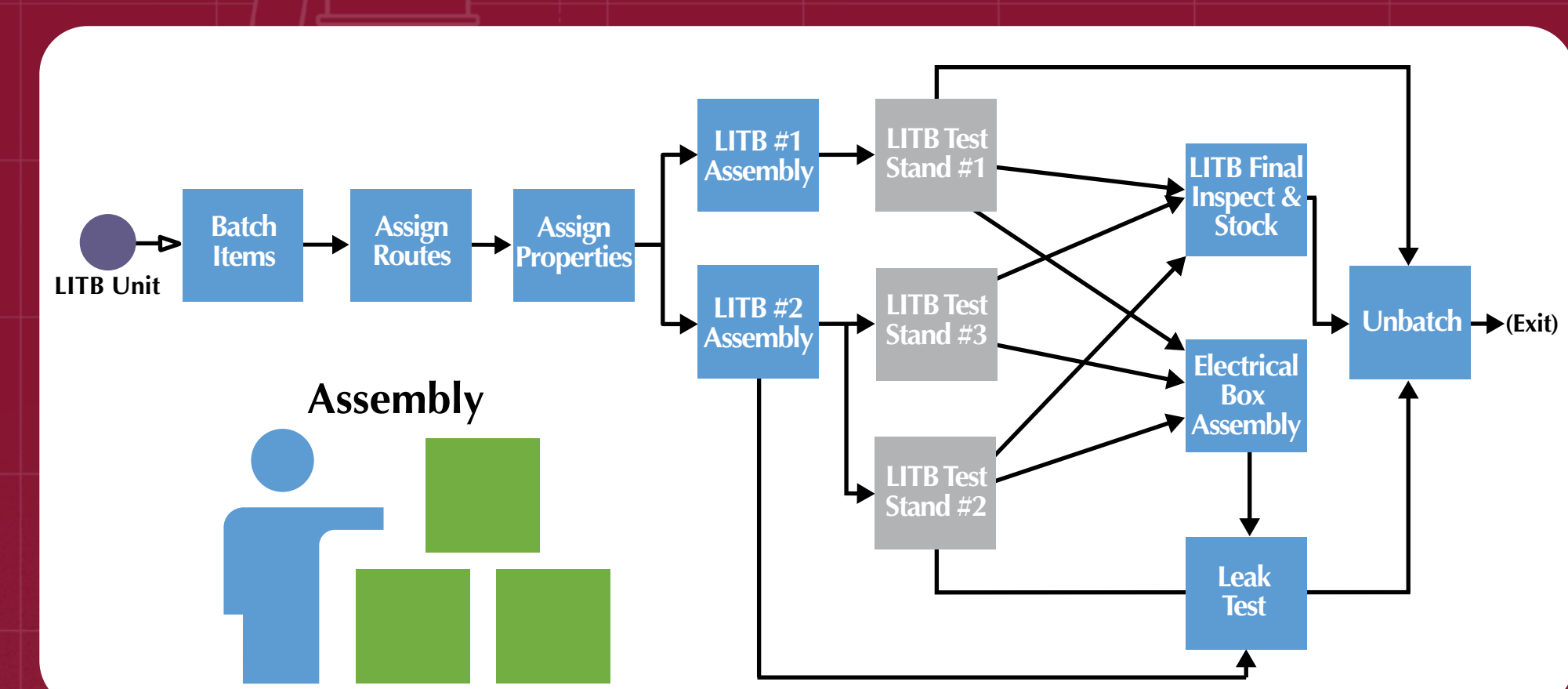
Objectives

Set Up Standardized Work in Process (SWIP)	Reduce Lead Time Standard Deviation by 25%	Establish Maximum Capacity of Each Cell
0% SWIP → 100% SWIP	**PISC** 1.16 ➡ 0.87 days; **GEN2/3** 0.81 ➡ 0.61 days; **LITB** 1.87 ➡ 1.40 days	No Maximum Capacity Established ↓ Maximum Capacity Established

Future Capabilities

Product Lines Expected to be Expanded to **8**

Expected Savings From the Expansion

$3,328,000