METIS CONSULT

WEDGE LINE ASSET CARE DOWNTIME - DMAIC

D DEFINE

Problem Statement

Asset care on the wedge line is currently 21 hours per week year to date, 4 hours per asset care. This occurs mostly on the filler side of the line. The process takes place every 30 hours of production, meaning small improvements to time would have a significant impact to manufacturing throughput.

The wedge line is a critical manufacturing asset, where the business is behind delivery plan to customer. The customer will also take additional product, meaning we can sell anything we produce extra from the downtime reduction.

Goal & Scope

Smart target
S – Specific
M – Measurable
A – Attainable
R – Realistic
T – Time based

Reduce average weekly asset care on the wedge line from 21 hours to 13 hours within 3 months.

In scope:
Wedge line
Line maintenance tools and cleaning equipment
SOP and process flows
Training and communication

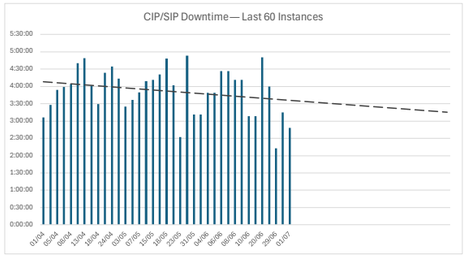
Out of scope:
All other lines
Syrup room
SIP and CIP process re-validation

M MEASURE

Current State Data

Average time from PLMS system – 04:00

Number of times	*34*
Minimum time	*03:06*
Maximum time	*04:53*
Average time	*04:00*
Range	*01:47*
Sample range	*April-June '26*



Process Element List (aggregated)

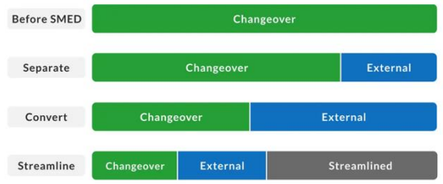
No.	Consolidated Task	Total Time
1	Final wedge checks & pre-start checks	0:06:10
2	SIC board, PR1 sheet & order paperwork	0:09:55
3	Select venting and prepare reel	0:07:46
4	Clean sterile chamber heater	0:10:00
5	Change filling pipework and CIP pipes	0:20:06
6	Collect water and set up water hose	0:10:01
7	Clean FFU, turning wheel and main body	0:51:13
8	Protect sensor and clear alarms	0:03:31
9	Clean ASU, splicing cable, outside doors and rollers	0:13:08
10	Run/start CIP cycle	1:00:09
11	Prepare packaging material and start SIP	0:11:07
12	Top up peroxide containers and test	0:10:00
13	Pull reel through, align reel, wait for tube temp and attach LF strip	0:08:56
14	Clean helix, floor and printer head	0:32:47
15	Install printer and jetwash conveyors	0:15:11
		4:30:00

A ANALYSE

Root Cause Analysis

Using Single Minute Exchange of Dies (SMED) theory to analyse each operation step to split between internal (has to be completed when the machine is stopped) vs. external (can be completed whilst the machine is running):

1) *Separate internal & external*
2) *Convert internal tasks to external tasks*
3) *Streamline all remaining tasks*



Waste & Opportunity

SMED Analysis
Current State — Summary
Measure | DMAIC Process Element List

CURRENT STATE SUMMARY

Total changeover time (mins)	270.05
Number of tasks recorded	37
Tasks tagged with a waste type	11

Waste Type	Task Count	Elapsed	% of Total
Motion	5	16.98	6.3%
Transport	3	16.13	6.0%
Waiting	3	13.37	4.9%
Total tagged	**11**	**46.48**	**17.2%**

Internal	External	Elapsed
270.05	0.00	270.05

I IMPROVE

Action Plan

Action ID	Description	Status	Responsibility
1	Gather materials required before last batch finishes	Closed	Project Team
2	Purchase all tools and equipment required to be available for the operator close to the filler	Open	Project Team
3	Move actions inside CIP set windows	Closed	Project Team
4	Move actions inside SIP set window	Closed	Project Team
5	Start all automated processes as early as possible	Closed	Project Team
6	Purchase spare parts for swapping out components	Open	Project Team
7	Fix CIP reset issue	Open	Project Team
8	Install hot tap close to filler	Open	Project Team

Results & Verification

PHASE SAVING — vs Current State	mins	hh:mm
Current State baseline	270.1	04:30
Option 1 cycle time	141.5	02:22
TIME SAVED	**128.6**	**02:09**
REDUCTION vs current	**47.6%**	

Summary of changes
- *Tasks moved to before machine stops from previous batch*
- *Ensure 2 people are completing process on filler*
- *Tools & equipment are available and local*
- *Re-order to maximise CIP/SIP automated running*
- *Spare parts purchased to quickly swap out components*
- *Work instructions created to support operator training & roll out*

C CONTROL

Sustain & Standardise

Created Work Instruction:
☑ *Yes ○ No Rev:*

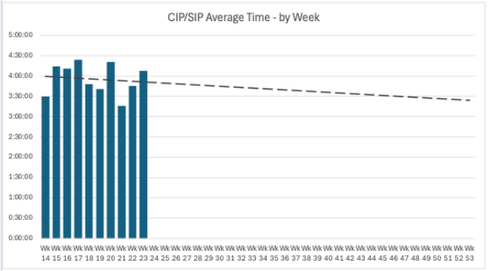
Audit planned:
☑ *Yes ○ No*
All shifts – 4/09/2026

Visual controls:
☑ *Yes ○ No*

KPI's defined and maintained:
☑ *Yes ○ No*

PLMS stop time between error codes "No Product" and Ladder Step Production after Ladder Step Spraying.

Training planned for all shifts completed– 30/07/2026



KPI: CIP Set instances from PLMS
Review: Weekly, on SIC board
Owner: Malik Ishitaq

Lessons & Next Steps

What worked well:
- *Hands on training structure worked well*
- *Learning something that can be used again on other lines or processes*
- *Lead hands working together to give their perspective from all shifts*
- *Good support from other areas of the business*

Improve next time:
- *More opportunity to test the future state before roll out.*
- *Involve more departments or other team leaders to achieve a better outcome*
- *More inclusion of operators to show what process is being followed*

Next SMED target:
6 hour weekly CIP & SIP set (Syrup Room)
Carton line