



**Transforming Corporate Culture:**  
Bestbath's Approach to Scaling Problem-Solving Capability



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# Learning Objectives

## EDUCATE

Describe the Gap

Practical **PDCA**

The power of a simple  
**Problem Statement**  
and how to write one

## EMPOWER

Solve the Gap

Lean Boards

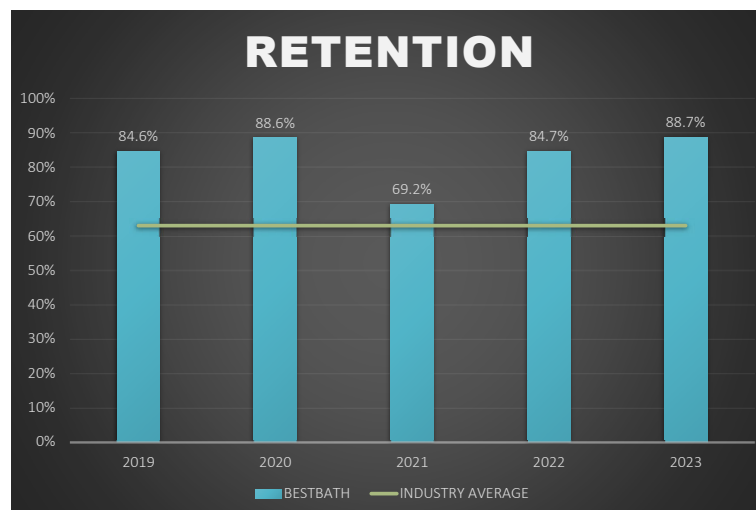
A3 / A6

## REWARD

Reward Learning

**Profit Share** model  
(Bottom up!)

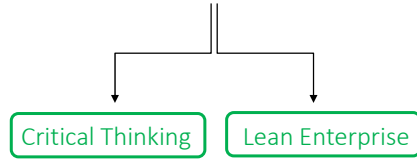
# Metrics



# Transforming Corporate Culture



People development



Process improvement

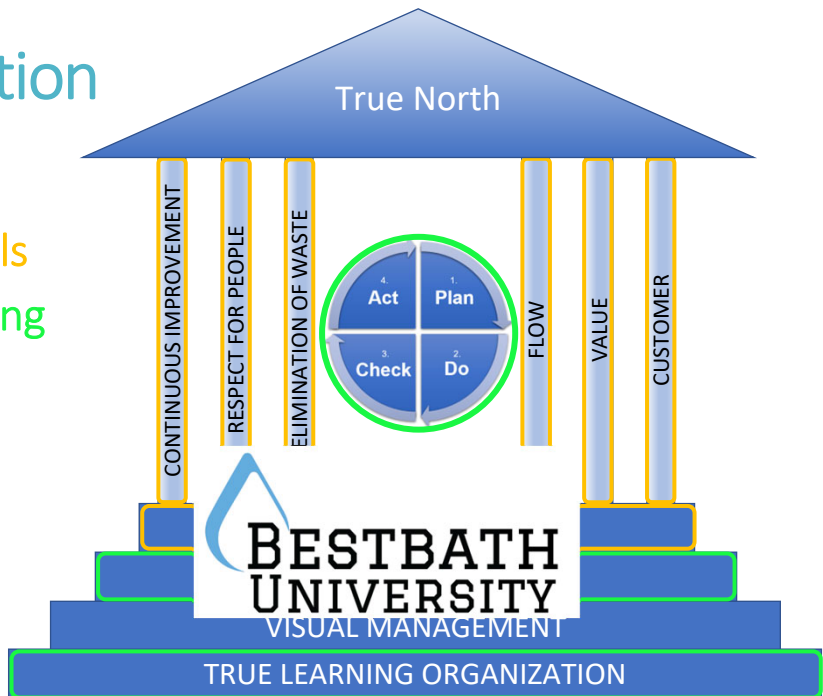
who engage with



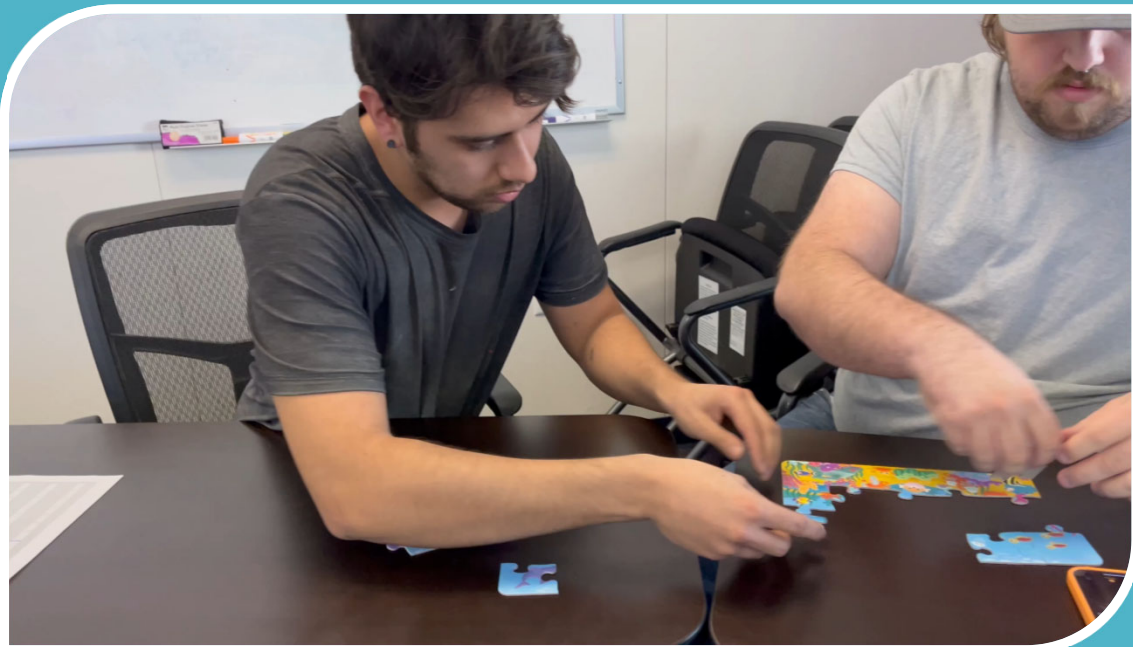
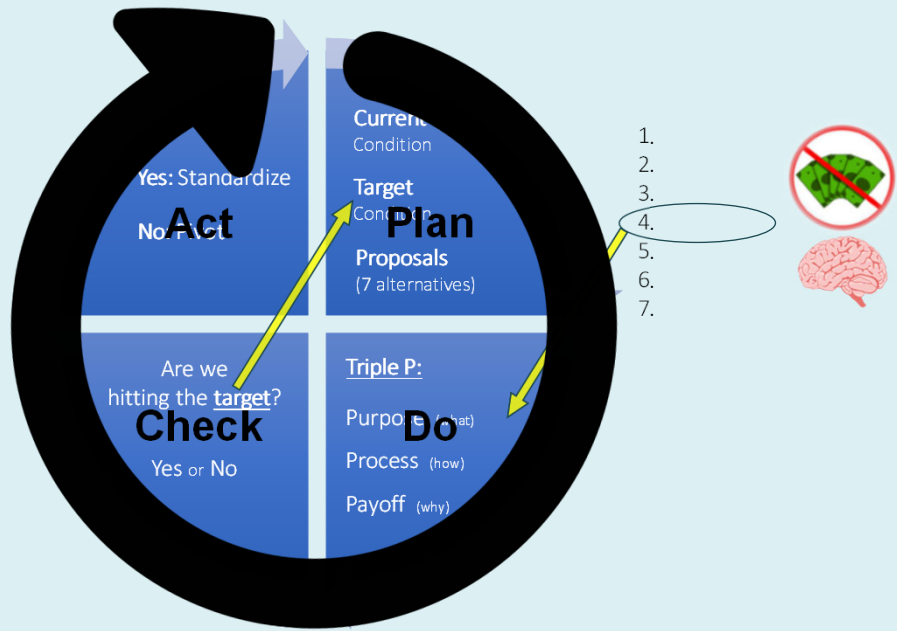
# EDUCATE

## Lean Education

Lean Fundamentals  
Lean Problem Solving



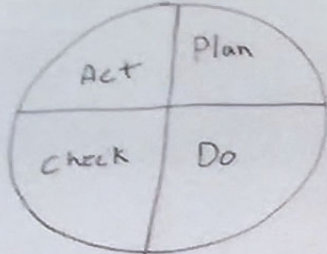
# PDCA





Chat People Raise React View Notes Apps More Camera Mic Stop sharing Leave

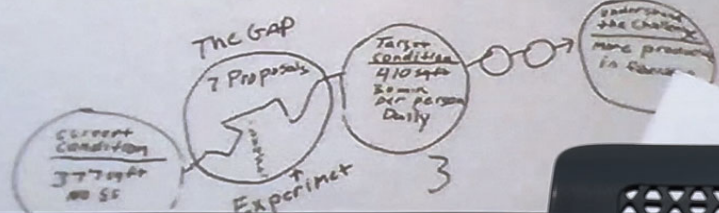
PDCA on being more productive in Fabrication  
 Current conditions: 377sqft @ 5s  
 Target conditions: 410sqft and 30 min a day per person



7 Proposals

- 1 One guy break off part early (Start next part)
- 2 Pre-cut materials
- 3 Multiple parts run at same time
- 4 Guns set up before 6:30
- 5 Earlier schedule
- 6 Charge the line (Get parts day before)
- 7 Breakdown 1/4 daily Goals. (100sqft / 1/4 Day)

The Gap



Current Condition  
377sqft @ 5s

7 Proposals

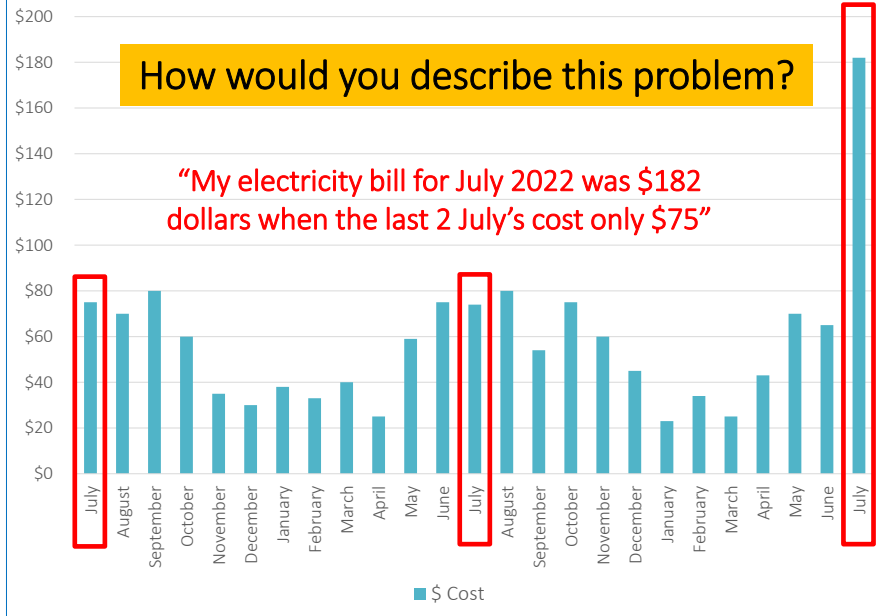
Target Condition  
410sqft  
30min per person  
Daily

Experiment

Understand the Challenge more product in fabric

YOUR TURN

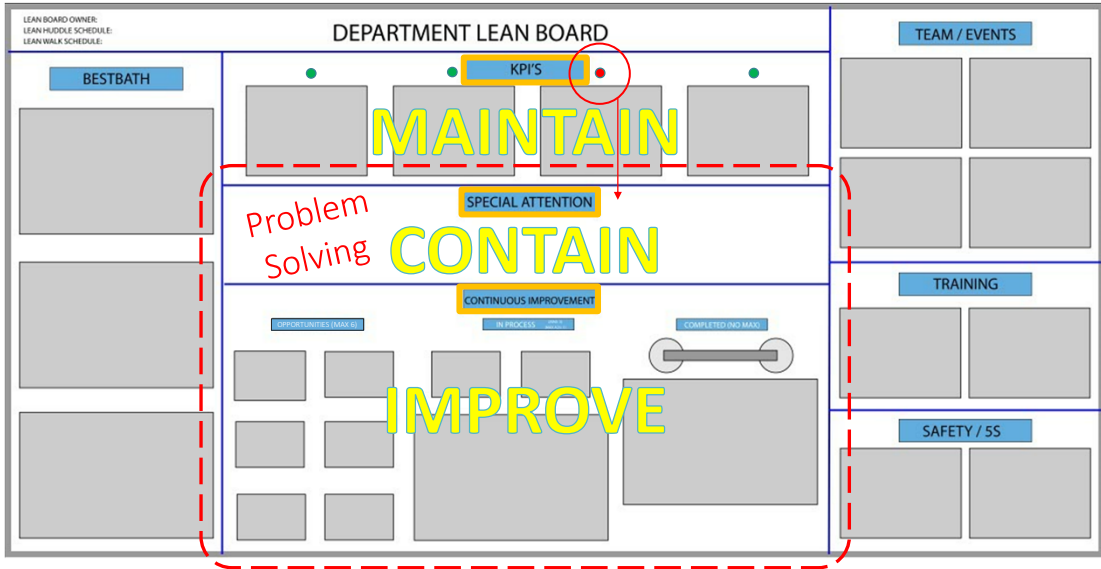
### Electricity Bill: 2020 – 2022



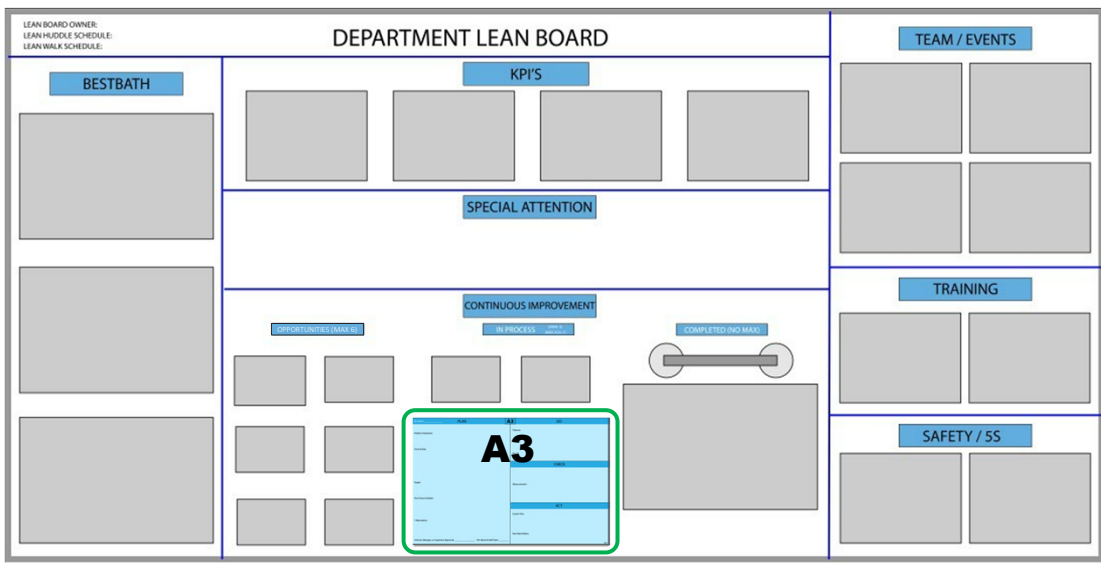
# EMPOWER



# 3 Elements of Daily Work



# Empower



<p>A3 Owner: _____</p> <p style="text-align: center;"><b>PLAN</b></p> <p><b>Problem Statement:</b>  <b>Gap</b></p> <ul style="list-style-type: none"> <li>• Clear &amp;</li> <li>• Show</li> </ul> <p><b>Facts &amp; Data:</b></p> <div style="text-align: center;"> </div> <p><b>7 Alternatives:</b>  <b>Cost Avoidance</b></p> <ul style="list-style-type: none"> <li>• Low (or no) cost, high impact</li> <li>• Don't substitute \$ for brains!</li> </ul> <p>Director, Manager, or Supervisor Approval: _____ "Do" phase kickoff date: _____</p>	<p style="text-align: center;"><b>A3</b></p> <p style="text-align: center;"><b>DO</b></p> <p><b>Purpose:</b>  <b>What</b></p> <p><b>Process:</b>  <b>How</b></p> <p><b>Payoff:</b>  <b>Why</b></p> <p style="text-align: center;"><b>CHECK</b></p> <p><b>What are we checking? Target!</b></p> <p><b>Measurements:</b></p> <p style="text-align: center;"><b>ACT</b></p> <p><b>Sustain Plan:</b></p> <p><b>How Much Waste:</b></p> <p style="text-align: right;">RevC</p>
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<p>A3 Owner: <b>Johnathan Gilliam</b></p> <p style="text-align: center;"><b>PLAN</b></p> <p><b>Problem:</b></p> <p><b>Facts &amp; Data:</b></p> <p><b>Target:</b></p> <p><b>Root Cause Analysis:</b></p> <p><b>Alternatives:</b></p> <p>Director, Manager, or Supervisor Approval: _____</p>	<p style="text-align: center;"><b>A3</b></p> <p style="text-align: center;"><b>DO</b></p> <p><b>Purpose:</b></p> <p><b>Process:</b></p> <p><b>Measurements:</b></p> <p><b>Target:</b></p> <p><b>How Much Waste:</b></p> <p style="text-align: right;">RevC</p>
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Additional mold re-transportation

The original flange was not designed to be scraped

We the release multiple sticks to

We the 1/2"

clipped to fall off, they dry mold damaged 208 service (not) spot repair \$75.00 an hour necessary labor (1)

the mold.

Individual or team to clips vs 90-degree mounted and are

To make demolding easier by their wedges to allow the part tape that the Prep team applied withstand the pulling up motor flanges from overspray material

**Root Cause Analysis:**

**Alternatives:**

1. Stop using HDPE altogether - Reduces prep
2. Add adjustment blocks to the mold for better
3. Use marking tape to hold HDPE on - still a
4. Use Duct tape to hold HDPE on - still a
5. Quarter inch spacers into mold and HDPE
6. Use mold cover strips to attach HDPE
7. Collaborate with Engineering to help design

local modifications to HDPE guards.

locate the guards without falling off.

2.1 hours.

prevent demolding and labor control


flange damage related services. At an rate of 75.00/hour this will cost the company

Using the sticks or at a minimum returning for these guards (shifts) and are visible (They can be repaired and put back into

Services. As an average 2.5 hours spent on per assembly.

Attaching, and returning the HDPE flange 4 steps throughout the day to locate and pulling in a savings of \$2,805 in labor costs (4) with an additional 2.5 hours of time spent 1,375 annually with this improvement. As well

2/1/2

A3 Owner: <b>Johnathan Gilliam</b>		PLAN		A3		DO	
<b>Problem Statement:</b> HDPE flange guards currently fall off the flange 8 out of 10 showers, and our target is 0 out of 10. When fallen off, they are often not placed back on the mold resulting in mold damage and time to repair them. We have 208 service repairs each year with 104 (50%) related to flange damage. Each spot repair takes 2.5 hours. Target is to free up 260 hours of capacity. At the company improvement rate of \$75/hr, this improvement is estimated to save \$19,500 in unnecessary labor.		<b>Purpose:</b> To reduce flange damage and to aid in demolding the parts off of the mold.		<b>Process:</b> Work with engineering or other outsourced individual or team to create or discover the right type of clip to meet our needs. "Reviewing HDPE U-Channel strips vs 90-degree angled strips"		<b>Payoff:</b> Diminished Flange Damage, reduced repair time and labor cost, easier demolding of parts, less frustration by all affected by this issue.	
<b>Facts &amp; Data:</b> <p>Additionally, we take on average 175 steps per shift, 1200 steps per day, equaling 2.2 miles a week, locating, gathering and returning the HDPE flange guards to Mold Prep cell to be cleaned and grpped for the next shift, resulting in an average loss of 1 hour worth of productivity and added unnecessary motion and transportation, along with battling the structural damage to the HDPE guards that get banged up against walls in various areas on the Production floor.</p> <p>The original way we chose to deal with the material build up and flange damage issues was to add the step of applying a thick (rolled on) layer of gel coat to the flange edge in our QC process checklist for Services and Finish molds with added applications of Mold release (FMS/FP-NC) to the gel coat to aid in keeping the material from building up on the edges. This initially showed promise but inevitably failed due to process drift. Flanges weren't being scraped after each turn resulting in excessive material buildup resulting in damage to flanges.</p> <p>We then purchased 1/8" 90-degree angle HDPE strips that we initially started to tape to the flanges but could not get the tape to stick to the flanges due to the release agents that are applied to every mold to keep the parts from bonding to the mold surface. We then modified all of the HDPE guards to match our standard multipiece wall clip so that the guard could be clipped to the flange rather than using tape. The 1/8" HDPE did not stand up to the build process causing the HDPE sticks to warp and clips to become brittle and break.</p> <p>We then moved up in diameter of HDPE from 1/8" to 3/4" while still utilizing our standard clips to attach the guards to the molds needed. Going up in thickness of HDPE eliminated the warp that we were seeing with the 1/8" HDPE guards and the clips seemed to last longer than before when they were attached to the 1/8" HDPE but are still falling too frequently to sustain this improvement.</p>		<b>Measurements:</b> <p>100% HDPE flange guards are proving to be the answer to this issue and improvement</p> <ul style="list-style-type: none"> <li>Without HDPE guards - Average demold time was 3 min 30 seconds</li> <li>72 single piece showers ran weekly (on average)</li> <li>232 minutes spent demolding showers throughout the week (W/O flange guards) or 4.2 hours.</li> <li>3744 single piece showers ran annually (on average)</li> <li>238.4 hours spent demolding showers annually (W/O flange guards)</li> <li>\$16,360 spent in labor demolding showers (W/O flange guards)</li> <li>100% HDPE guards - average demold time was 1 min 04 seconds</li> <li>126 minutes spent demolding showers throughout the week (with flange guards) or 2.1 hours.</li> <li>109.2 hours spent demolding showers annually (with flange guards)</li> <li>\$8,190 spent in labor demolding showers (with flange guards) 50% reduction in time spent demolding and labor costs!</li> </ul> <p>Annually we service on average 540 single piece showers with roughly 270 of those services being flange damage related services. At an average 2.5 hours spent on each service totals 675 hours spent in labor annually, at a labor rate of \$75.00/hr this will cost the company \$50,625 in labor annually.</p>		<b>Check</b>		<b>ACT</b>	
<b>Target:</b> To make demolding easier by giving the demolder the entire flange on both sides of the mold to access the part with their wedges to allow the part to be broken free from the mold as opposed to the [K2] access points provided by the tape that the Prep team applies for the demolder to slip their wedges under the part, as the tape often doesn't withstand the pulling up motion by the demolder needed to get their wedges under the part. Also, to protect the flanges from overspray material bonding to the exposed fiberglass on the flange edges.		<b>Root Cause Analysis:</b> <p><b>What, why? It is normal</b></p> <ol style="list-style-type: none"> <li>Why do the HDPE guards fall off? - They are not strong enough to accept the various thicknesses of flanges we have.</li> <li>Why are they not strong enough? - the clip design doesn't hold well.</li> <li>Why are they not designed to hold well? - Because they are wall clips not HDPE clips</li> <li>Why wall clips? - Because that is what was on hand.</li> <li>Why did we use what was on hand? - Because it was easier to try what was on hand.</li> </ol>		<b>Sustain Plan:</b> To sustain this improvement, Production leadership has agreed to ensuring that their team is re-applying the sticks or at a minimum returning the guards to the Prep team if they fall off. The Prep team now has the standard of cleaning and caring for these guards (daily) and are visibly checking the guards for damage and bringing them back to the service area if repairs are needed so they can be repaired and put back into rotation. We are expecting to get 8-10 months of use out of them before needing to replace.		<b>How Much Waste:</b> <p>Annually we service 540 single piece showers with 270 of those services being flange damage. At 2.5 hours spent on each flange repair service, 675 total hours spent in labor annually, at a labor rate of \$75.00/hr this would cost the company \$50,625 in labor annually. In addition to service repair time, we walk 525 steps / shift (or 1,050 steps per day) equaling 2.1 miles a week or 109.2 miles annually to locate, gather, and return the HDPE flange guards to Mold Prep cell for cleaning and preparation for the next shift. We have eliminated the need to take these additional steps throughout the day to locate and gather up HDPE guards due to how well they are performing and staying attached to the showers saving \$2,730 in labor costs (added to the above). We are also saving another \$8,190 annually in labor costs demolding parts along with an additional 2.1 hours of time spent saved demolding parts weekly (16.9/yr), freeing up 165 hours of capacity demolding parts. In total we are saving \$61,545 annually with this improvement. As well as improving the first pass yield quality of parts along with an improved work experience (morale).</p>	
<b>7 Alternatives:</b> <ol style="list-style-type: none"> <li>Stop using HDPE altogether - Reduces prep time and demold time.</li> <li>Add adjustment sticks to the mold. <del>Not used</del> - They fall off the mold and are not easy to align with the clips.</li> <li>Use molding tape to hold HDPE clips - <del>Not used</del> - Adds extra steps with leaving additional glue from tape on mold.</li> <li>Use dual tape to hold HDPE clips - <del>Not used</del> - Adds extra steps with leaving additional glue from tape on mold.</li> <li>Change stick magnets into mold - <del>Not used</del> - Would require extensive mold modifications to all single piece showers and additional modifications to HDPE guards.</li> <li>Use mold cover strips to attach HDPE - <del>Not used</del> - Would require extensive mold modifications to all single piece showers and additional modifications to HDPE guards.</li> <li>Collaborate with engineering to help design a clip specific for HDPE flange guards that will allow for less flange thickness to accept the guards without falling off.</li> </ol>		<b>Director, Manager, or Supervisor Approval:</b>  "Do" phase kickoff date: 2/1/2023				RevC	

# Case Studies

Bestbath case studies using an A3 mindset to return the flow value along the supply chain

- ADA / Custom Engineered Solutions
- Quick installation
  - Project delivery
  - Pre-assembly / factory leveled
  - Lead times in a custom market

PLAN		A3		DO	
Problem Statement		Purpose			
Fact & Data		Process			
Target		Payoff			
Root Cause Analysis				CHECK	
7 Alternatives					
Director, Manager, or Supervisor Approval				ACT	

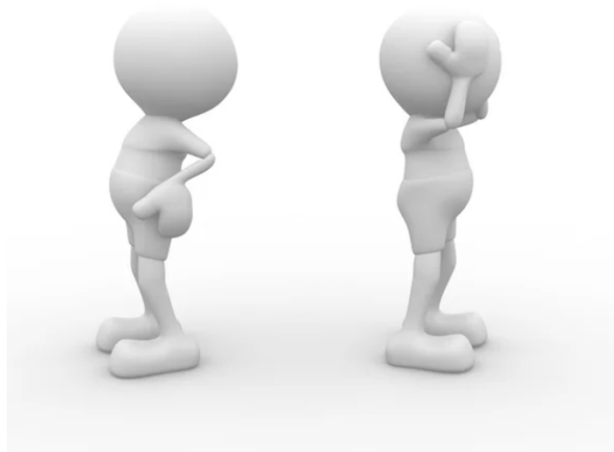
# YOUR TURN

“A problem defined  
is a problem half solved.”

- Albert Einstein



## Empower



“Jay wants an A3 for every improvement”

# Empower

**A3**

11" ↑


A3 Owner: _____		PLAN	<b>A3</b>	DO
Problem Statement:		Purpose:		
Facts & Data:		Process:		
Target:		Payoff:		
Root Cause Analysis:		CHECK		
7 Alternatives:		Measurements:		
Director, Manager, or Supervisor Approval: _____		ACT		
"Do" phase kickoff date: _____		Sustain Plan:		
		How Much Waste:		

17" →

**A6**

4" ↑


6" →

Team Member: _____		Dept: _____	Date: _____
Idea:			
<b>Waste:</b> <input type="checkbox"/> Transportation <input type="checkbox"/> Overproduction <input type="checkbox"/> Waiting <input type="checkbox"/> Inventory <input type="checkbox"/> Skills <input type="checkbox"/> Defects <input type="checkbox"/> Overprocessing <input type="checkbox"/> Motion	<b>Improvement:</b> <input type="radio"/> Quality <input type="radio"/> Cost <input type="radio"/> Delivery <input type="radio"/> Safety / 5S <input type="radio"/> Morale <input type="radio"/> TTI: _____	<b>Team:</b> <b>Resources Needed:</b> <input type="checkbox"/> Eng <input type="checkbox"/> Prod <input type="checkbox"/> Tooling <input type="checkbox"/> Ship/Rec <input type="checkbox"/> Purch/Inv <input type="checkbox"/> Sales/Mktg	<b>Due Date:</b> <b>Status:</b> 4. Act      1. Plan  3. Check      2. Do (shade in progress)
HOW MUCH WASTE?			

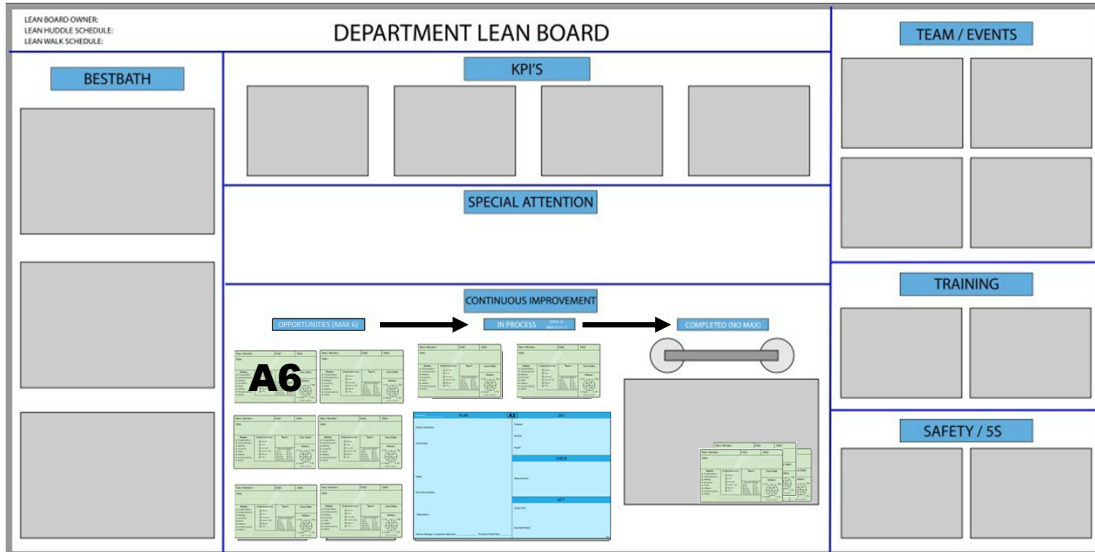
# Empower

**A6**

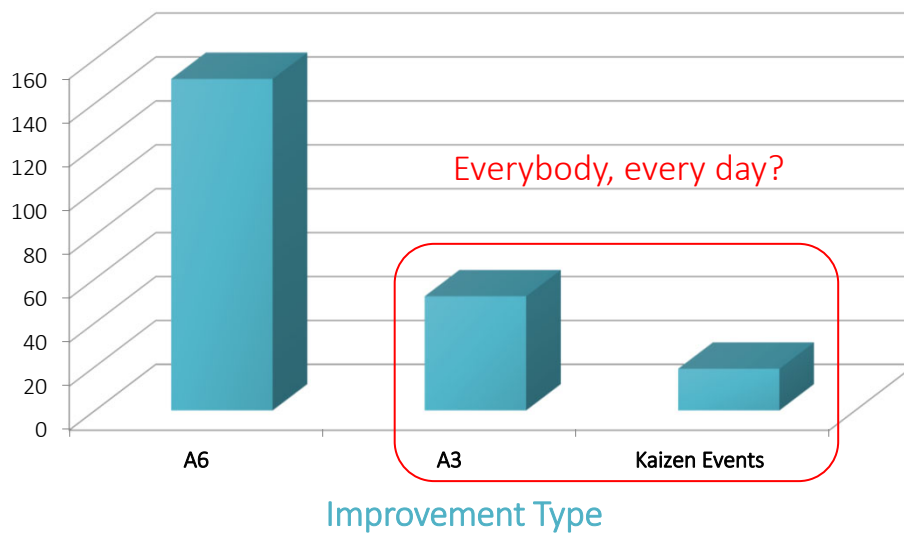


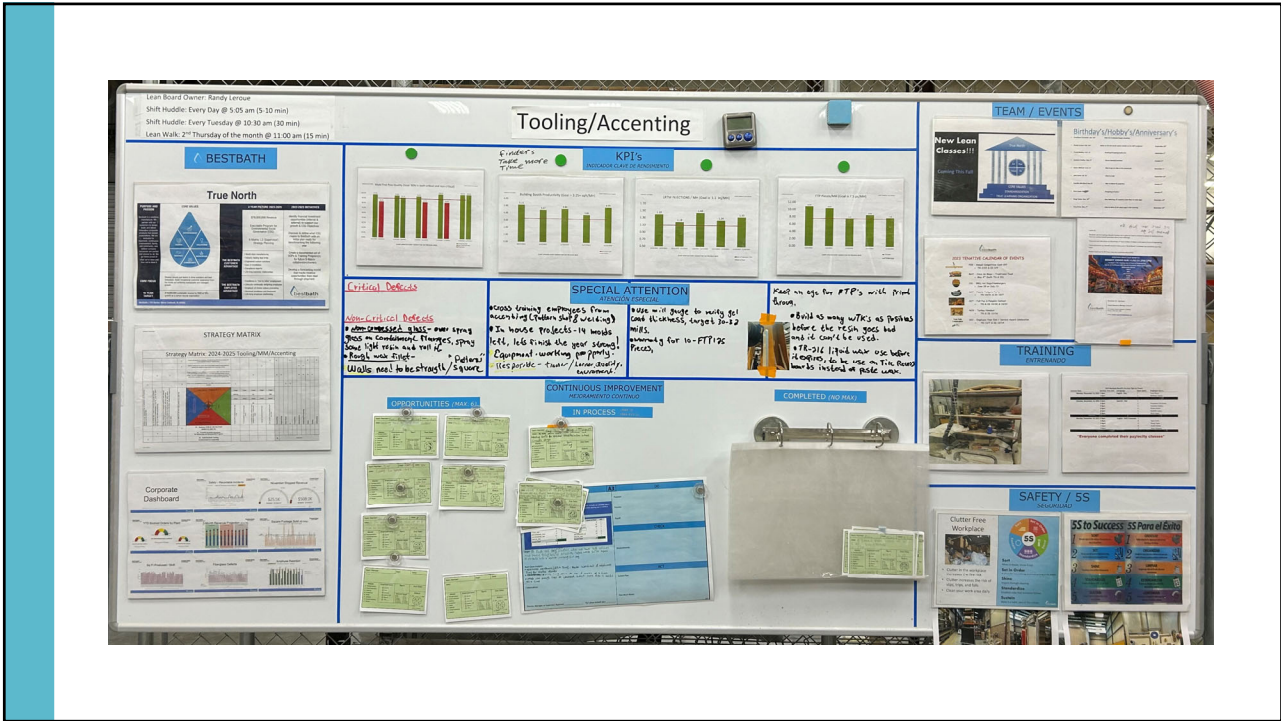
Team Member: _____		Dept: _____	Date: _____
Idea:			
<b>Waste:</b> <input type="checkbox"/> Transportation <input type="checkbox"/> Overproduction <input type="checkbox"/> Waiting <input type="checkbox"/> Inventory <input type="checkbox"/> Skills <input type="checkbox"/> Defects <input type="checkbox"/> Overprocessing <input type="checkbox"/> Motion	<b>Improvement:</b> <input type="radio"/> Quality <input type="radio"/> Cost <input type="radio"/> Delivery <input type="radio"/> Safety / 5S <input type="radio"/> Morale <input type="radio"/> TTI: _____	<b>Team:</b> <b>Resources Needed:</b> <input type="checkbox"/> Eng <input type="checkbox"/> Prod <input type="checkbox"/> Tooling <input type="checkbox"/> Ship/Rec <input type="checkbox"/> Purch/Inv <input type="checkbox"/> Sales/Mktg	<b>Due Date:</b> <b>Status:</b> 4. Act      1. Plan  3. Check      2. Do (shade in progress)
HOW MUCH WASTE?			

# Empower



## dis Continuous Improvement Culture





## Quantified Improvement Tracker

90% A6's

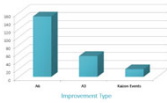
A3 / A6'S: 93

Cost reduction: **\$118k**

Hours saved: **6,190**

Steps reduced: **367 miles**

**TOTAL \$581,654**



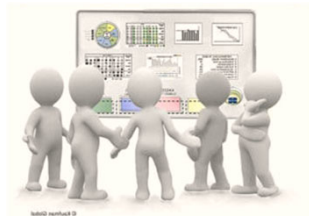
Departments	Count of Improvement	Sum of Reduction in Cost (\$)	Sum of Time Saved (in Hrs)	Sum of Distance Reduced (in Steps)	Total Savings in Cost, Time, & Steps	Count of Safety	Count of 5S	Count of Moral	Count of Quality	Count of Delivery (better flow)
<b>2022</b>	93	\$ 118,778	6,190	735,915	\$ 581,654	17	40	76	49	50
Idaho Plant	88	\$ 119,503	5,980	586,155	\$ 575,330	15	37	72	48	46
Accounting	3	\$ -	169	-	\$ 12,675	-	1	3	2	-
Assembly	3	\$ -	14	24,200	\$ 1,353	1	2	3	2	3
Commercial Sales	2	\$ -	45	-	\$ 3,375	-	2	2	2	2
Crating	4	\$ 81,000	1,956	50,000	\$ 228,325	2	2	3	3	2
Customs	-	\$ -	-	-	\$ -	-	-	-	-	-
Dealer Sales	4	\$ -	803	-	\$ 60,225	-	3	4	4	4
Engineering	8	\$ 18,120	188	100,840	\$ 33,481	2	2	7	5	1
Final Finish	1	\$ -	120	-	\$ 9,000	1	-	1	1	1
HR	6	\$ 4,550	1,114	2,675	\$ 88,133	-	4	5	4	4
Inventory Control	-	\$ -	-	-	\$ -	-	-	-	-	-
IT	3	\$ 4,752	-	-	\$ 4,752	-	2	1	-	-
Logistics	7	\$ (17,896)	693	-	\$ 34,079	1	1	6	3	6
Maintenance	10	\$ 10,454	49	600	\$ 14,137	2	6	10	4	2
Marketing	3	\$ 3,825	11	-	\$ 4,650	1	3	2	3	3
Mold Maintenance	6	\$ 768	196	118,240	\$ 16,946	-	1	5	5	-
Production	5	\$ -	-	122,200	\$ 1,528	2	5	5	2	5
Project Management	4	\$ -	340	-	\$ 25,500	-	-	-	2	4
Purchasing	4	\$ 280	4	-	\$ 580	-	1	2	1	3
Scheduling	1	\$ -	13	-	\$ 975	1	1	1	-	1
Tooling & Accenting	10	\$ 150	50	149,400	\$ 5,768	1	-	7	2	2
Trim	4	\$ 13,500	215	18,000	\$ 29,850	1	1	3	1	4
Tennessee Plant	5	\$ (725)	210	149,760	\$ 6,324	2	3	4	1	4
Tennessee	5	\$ (725)	210	149,760	\$ 6,324	2	3	4	1	4

## Empower



Lean Huddles

Gemba Walks



### 2024 - LEAN WALK SCHEDULE

1st Thursday	Manager	Location	Duration
11:00am	Marketing	Shanel Sales	12 minutes
11:12am	Sales (1)	Rachael Sales	12 minutes
11:24am	Sales (2)	Cassie Sales	12 minutes
11:36am	HR / Safety	Brandon HR	12 minutes
11:48am			
<b>2nd Thursday</b>			
11:00am	Accounting	Meighan Finance	12 minutes
11:12am	Tooling & Accenting	Randy Tooling	12 minutes
11:24am	Mold Maintenance	Randy Mold Maint	12 minutes
11:36am	Production	Mario Barrier Coat	12 minutes
11:48am	Trim / BB / Customs	Mario Customs	12 minutes
11:48am			
<b>3rd Thursday</b>			
11:00am	Maintenance	Frank Maint	12 minutes
11:12am	Engineering	Bob Eng	12 minutes
11:24am	FF / Assembly / Crating	Miguel Crating	12 minutes
11:36am	Purchasing & Inventory	Gary Crib	12 minutes
11:48am	Shipping / Receiving / Sched	Gary Warehouse	12 minutes
11:48am			
<b>4th Thursday</b>			
11:00am	IT	Sergio War Room	12 minutes
11:12am MDT	TN - Materials	Janice North Bldg	12 minutes
11:24am MDT	TN - Assembly & Final QC	Brian North Bldg	12 minutes
11:36am MDT	TN - Trim & Final Finish	Matt South Bldg	12 minutes
11:48am MDT	TN - Gelcoat & Lamination	Johnny South Bldg	12 minutes
<b>5th Thursday</b>	No Lean Walks		



2024  
**Lean Summit**

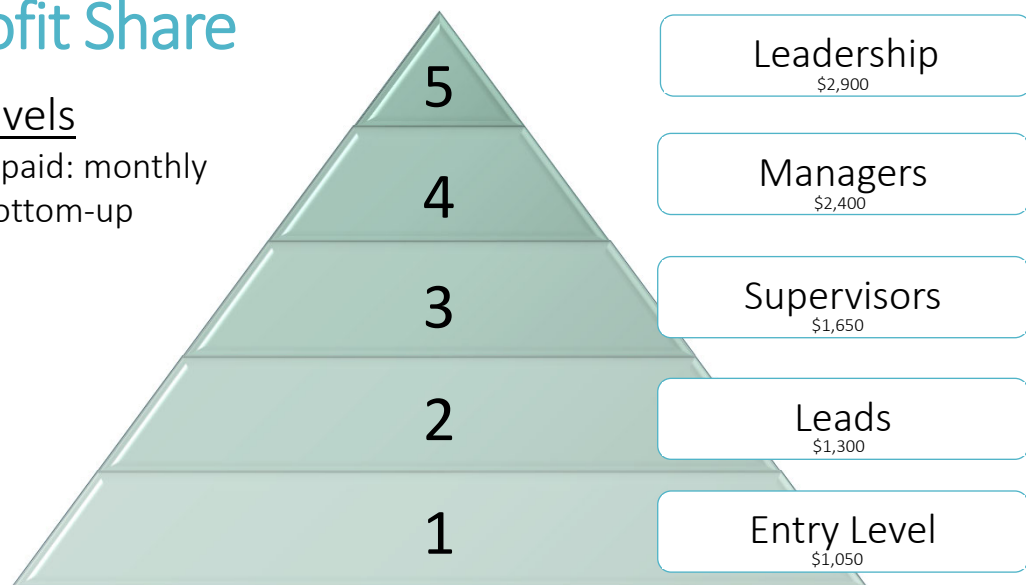


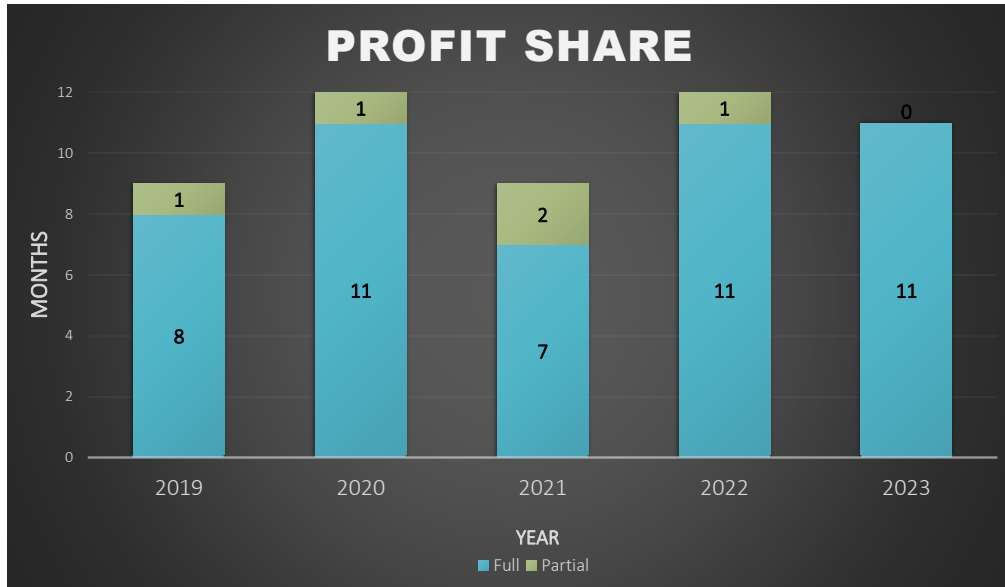
# REWARD

## Profit Share

### 5 Levels

- If paid: monthly
- Bottom-up





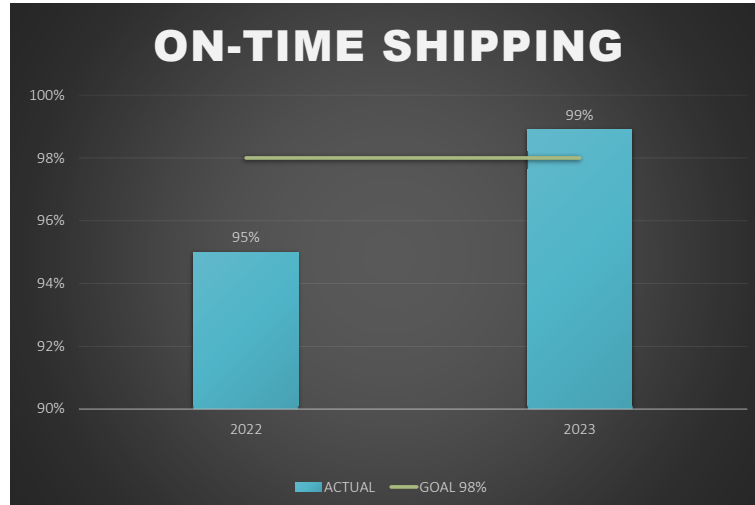
**EDUCATE**

**EMPOWER**

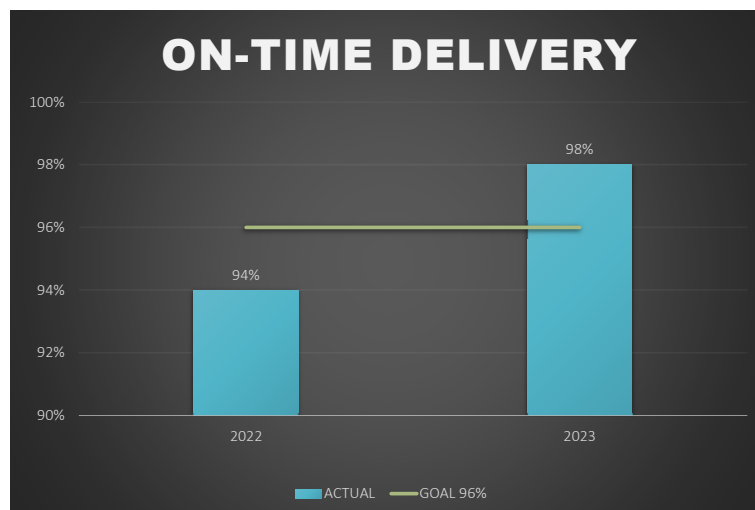
**REWARD**

Educating, empowering, and rewarding employees to solve problems has led to the following solutions:

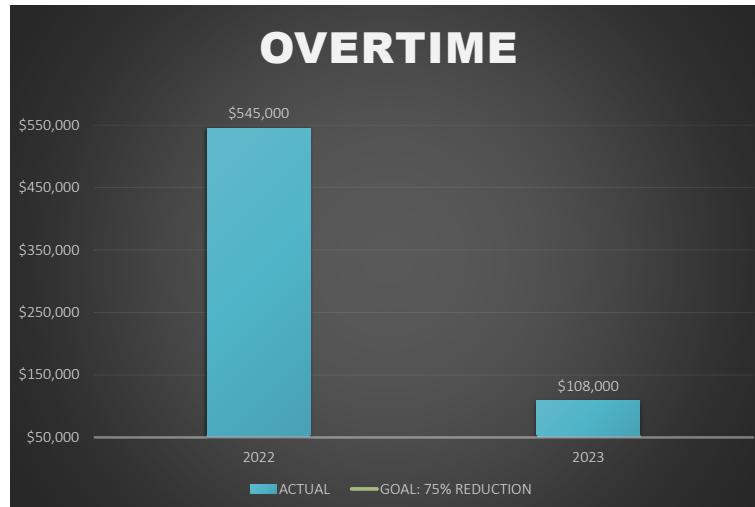
## Metrics



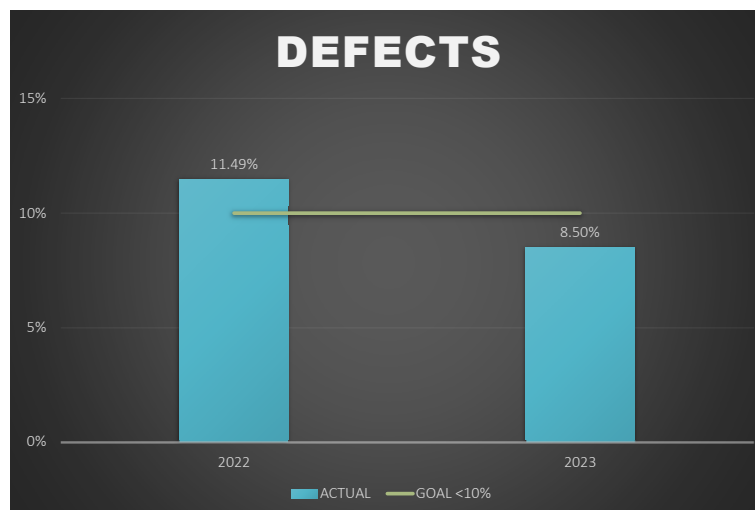
## Metrics



## Metrics

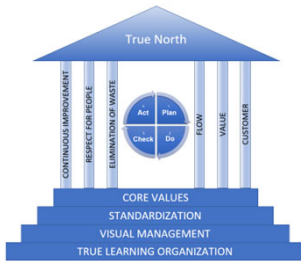


## Metrics



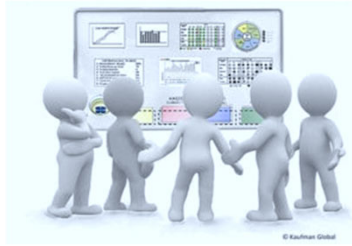
# Summary

## EDUCATE



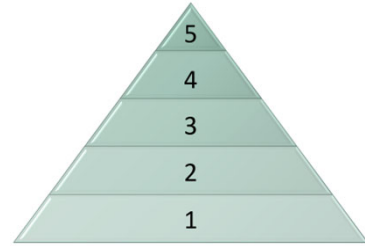
Describe & solve the gap

## EMPOWER



Everybody, every day

## REWARD



Bottom up!



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Happy to help  
however we can!

**Transforming Corporate Culture:**  
Bestbath's Approach to Scaling Problem-Solving Capability