



# 2024 PPSA SAFETY INNOVATOR AWARD

Clearwater Paper

May 2024

# SUMMARY

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REVIEW ERGO KAIZEN

COLLABORATION

COST

ELWOOD KAIZEN RESULTS AND HIGHLIGHTS

LAS VEGAS RESULTS AND HIGHLIGHTS

SHELBY RESULTS AND HIGHLIGHTS

REAPPLICATIONS

NEXT STEPS

# ERGONOMIC KAIZEN

## SIMPLE SOLUTIONS THAT HAVE POSITIVE IMPACTS ON SAFETY

Through education and principles to create a safety culture to reduce risk and have fun!

- **Education**

- To identify a problem:
  - Ergonomics
  - 5S/Housekeeping
  - Motion Waste

- **Brainstorming Solutions**







- **Train the Trainer to hold Kaizen Events**
- **ERGO Risk Assessment**

- **ERGO Principles**

- Is it too high or too low?
- Is it out of reach?
- Is it awkward?

**Is the process better today than it was yesterday?**

ERGONOMICS

PROBLEM	SOLUTION	REMEMBER
 DOWN TOO LOW	▶ RAISE IT UP	Above knee = 22" Preferred = 31"
 UP TOO HIGH	▶ BRING IT DOWN	Below shoulder = 54" Preferred = 46"
 OUT OF REACH	▶ KEEP IT CLOSE	Within 16" of body, no more than 22"
 BEND & TWIST	▶ KEEP IT STRAIGHT	In front of the body
 OVER-LOADED	▶ LIGHTEN THE LOAD	Less force and weight
 OVER & OVER	▶ ONLY HANDLE IT ONCE	No double-handling

www.riskgroup.com



# CROSS FUNCTIONAL TEAMS

## TEAMS HAD EMPLOYEES FROM DIFFERENT AREAS AND SKILLS

### Cross functional teams were created to help outside the box thinking!

- Two teams were created at each event that consisted of hourly operations, salaried employees and maintenance. Engineers even joined our events!
- Enabling and Encouraging Employees.
- “Find it Fix it Mentality”.
- All employees engaged in the brainstorming activity to find solutions.



# COLLABORATION

## MULTIPLE SITES COLLABORATED

Sites collaborated both hourly and salary to support each event.

- On average 3 employees – two hourly and one salary went supported another site between Elwood, Las Vegas and Shelby sites.
- Teams were comprised of all sites and different work areas (operations and maintenance).
- Areas that held events were converting operations, distribution, and paper machine operations.



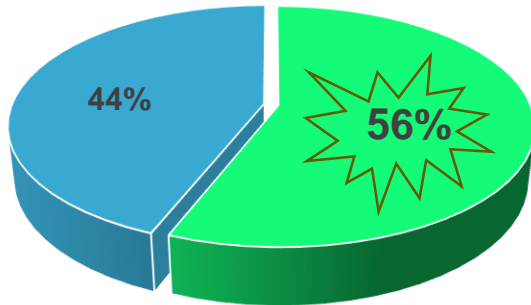
# COST TO IMPLEMENT

## PARTNERED WITH THIRD PARTY TO FACILITATE

Invested to reduce risk through identification, collaboration, education, and empowering employees. One event had a total savings of **4228 steps** per day! That's an average of about **2 miles!**

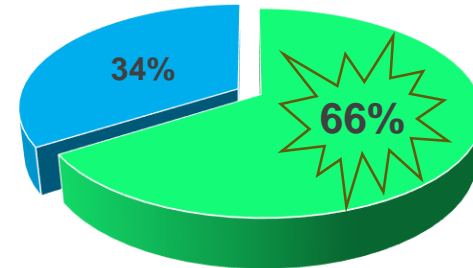


**56%** of Improvements  $\leq$ \$10



- All 4 Kaizen Events Average
- % of Improvements  $\geq$ \$10

**66%** of Improvements  $\leq$  15 minutes



- 23 Elwood & 23 Shelby Kaizen Events
- Time over 15 minutes

**Total reduction of 326 fixes that made it better today than yesterday!**

# ELWOOD KAIZEN RESULTS 2023

## Ergonomics Kaizen Event 2023 Elwood Results



# GLUE TOTE RELOCATION



## PROBLEM

- Glue tote too far from point of use.

## SOLUTION

- Relocated glue tote closer to point of use.
- Cost: Free
- Time to Complete: 15 minutes
- Benefit: 80 steps saved per day, 560 steps per week, 29,120 steps per year. **56 hours saved per year.**



# LAS VEGAS KAIZEN RESULTS 2023

## Ergonomics Kaizen Event 2023 Vegas Results



# PALLET HANDLING

2023 LAS VEGAS KAIZEN EVENT

## PVOH Pallet Handling



### PROBLEM

x Bending down to lift 51.115 lbs. bag of PVOH chemical.



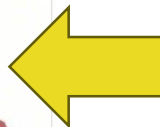
### SOLUTION

- ✓ Getting a hydraulic lift table to handle the pallet.
- ✓ Decrease the time as it level up with the table.
- ✓ \$5k
- ✓ Reduce back pain – ergonomics.



### SOLUTION

- ✓ Getting a Spring lift table to handle the pallet.
- ✓ It has two more option for safety : Accordion skirting & solid desc cover to prevent build up debris and control any kind of pallets.
- ✓ \$5k



# PALLET HANDLING

2023 LAS VEGAS KAIZEN EVENT

## Poly Handling



### PROBLEM

- x Poly rolls were too low (c= 14") when prepping a poly change.



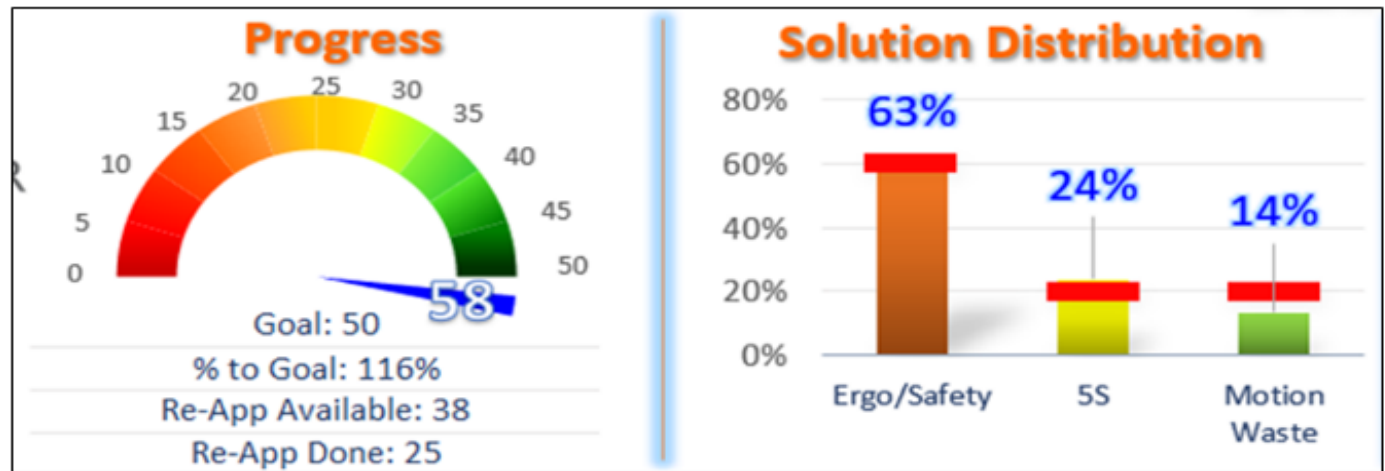
### SOLUTION

- ✓ Create a table of poly wrapped pallets to a more user-friendly height (C=46") to eliminate back bending.
- ✓ Straighten up the back while processing.
- ✓ \$10
- ✓ Saved time and less steps.



# LAS VEGAS KAIZEN RESULTS 2024

## Ergonomics Kaizen Event 2024 Vegas Results



# FACIAL CARTON REDESIGN

2024 LAS VEGAS KAIZEN EVENT

## Facial- Cartoner Reconfiguration



Employees are lifting and twisting the boxes to move them to the conveyor.

PROBLEM

- x Moving elephant guard to accommodate new cartoner loading configuration. Modify platform for more ergonomic loading of cartons

Collaborated with Graphics Packaging to find solutions!

Operators say best \$1300 spent!

Ball conveyor: \$193  
Material (Steel): \$1,050  
New Wheels: \$ 75

TOTAL: \$1,318



Employees slide the box from lift table to ball conveyor to moving conveyor

SOLUTION

- ✓ In progress
- ✓ Increased the height of the table.
- ✓ Added roller ball conveyor
- ✓ Moved the platform and stairs to reduce awkward position and lifting of the cartons.
- ✓ Cartons are able to slide from pallet to conveyor to loading area.

# SHELBY KAIZEN RESULTS 2023

## Ergonomics Kaizen Event 2023 Shelby Results



# LINE 4, WINDER



- x Employees bending over to ground level to pick up cores from core machine
- x Bending over multiple times per shift

This was a reapplication at other sites from an event!



- ✓ Added core bin on back side of machine to capture cores at waist height- Fabricated in house
- ✓ Employees no longer bend over to the ground
- ✓ Less than 1 hour to install after fabrication
- ✓ Reapplication opportunity on 6 lines

# REAPPLICATION

## REAPPLICATION FROM SITE TO SITE

**Each site was able to learn and reapply from site to site.**

- All fixes were shared to reapply to other areas of the mills as well as other sites.
- This process can not only be practiced at Clearwater Paper but can be used throughout the industry.

**Let the games begin...**



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# NEXT STEPS

## CONTINUE ERGO KAIZEN EVENTS

**Support sites to continue conducting Ergo Kaizen Events and to expand to other sites and board side of business.**

- Cultivate additional support with hourly and salary positions with multi-site engagement during events.
- Continue to conduct ergonomic training for ergonomic risk assessments and train the trainer to help lead additional ergo kaizen events.
- Variety of “Find it fix it solutions” had long term solutions identified for permanent fixes (hard piped chemical instead of manual bucket loading, permanent stairs added, ect).
- Expand the kaizen events and other ergonomic training to other Clearwater Paper sites.



# QUESTIONS

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