



AUTOMATING UNDESIRABLE TASKS TO COMBAT RISING LABOR SHORTAGES

AGENDA



- Why am I here and why did I agreed to speak?
- Background and Cross Company Overview
- Alarming Labor Statistics
- What can we do to combat this rising labor shortages?
- Real World Examples
- Open Discussion

WHY WE DO
WHAT WE DO

ABANDONED
MEAT PACKING
PLANT



Cross Company

- Founded in 1954 - Employee owned (ESOP) since 1979
- 600+ associates all focused on improving our customer's processes and products...



Automation:

Automating manual processes

Making machines better

Factory automation integration



Hose & Fittings:

Industrial and hydraulic hose assemblies for mobile and in-plant applications



Precision Measurement:

Industrial Measurement: Calibration, inspection, testing, repair.

Design & Build gaging, custom test machines

Metrology equipment sales



Mobile Systems Integration:

Hydraulic equipment Controls and advanced technology for the mobile OEM market

Vehicle Electrification Telematics



Process Solutions Group:

Control Systems

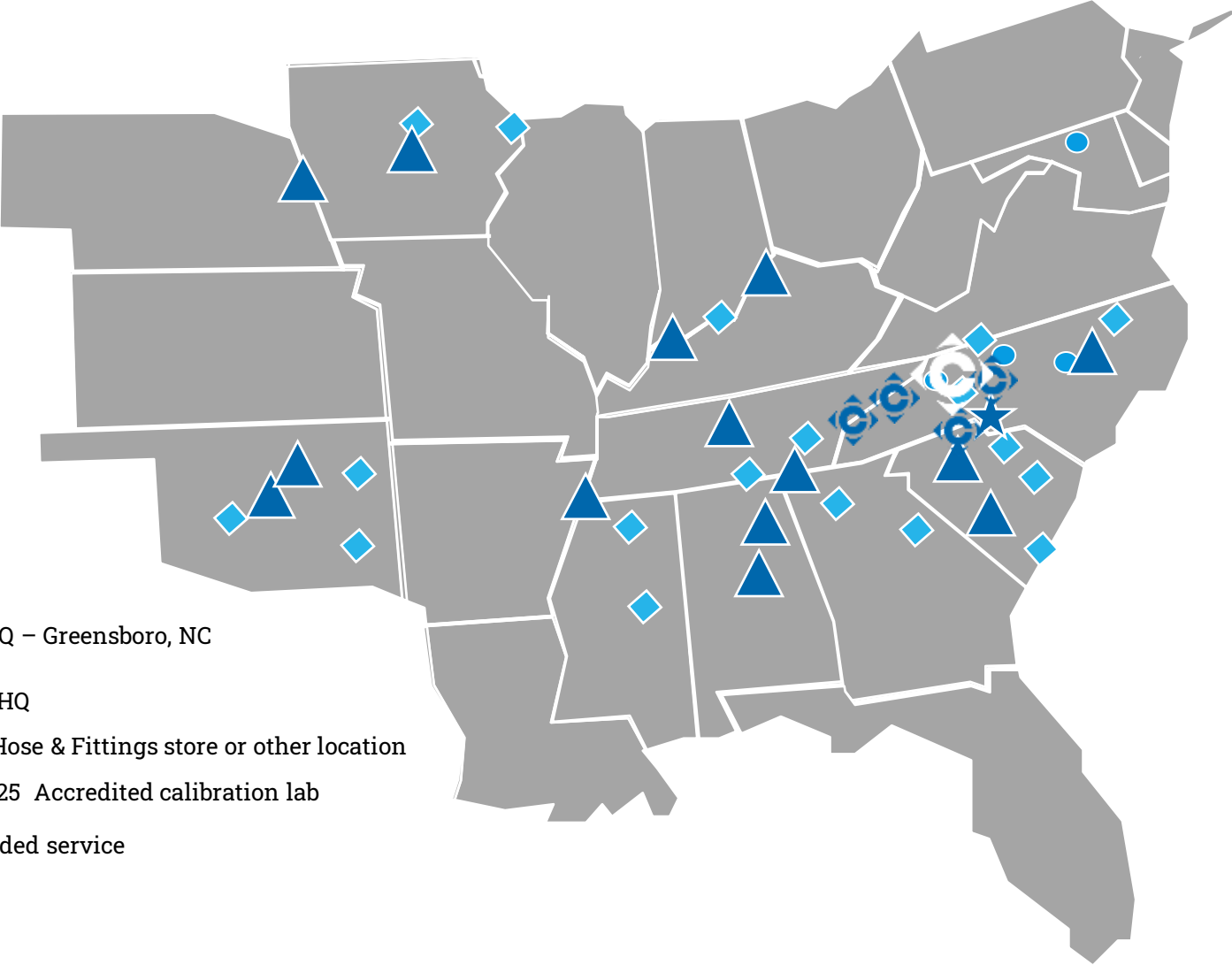
Flow Measurement






Pressure Management

Valve Services

Gas Detection

Locations



-  Corp HQ – Greensboro, NC
-  Group HQ
-  Cross Hose & Fittings store or other location
-  ISO17025 Accredited calibration lab
-  Embedded service

INNOVATING THE INDUSTRIAL WORLD, ONE CUSTOMER AT A TIME.

Manufacturing automation experts partnering
with you to develop innovative solutions
backed by world-class customer service.





Some Alarming Labor Statistics

- In March there were just under six million unemployed people seeking work.
- "The number of job openings rose to 11.5 million by the end of March — indicating there are close to two open jobs for every unemployed person.
- Chief U.S. economist at Oxford Economics stated "Anecdotally companies are still saying the biggest issue is a lack of available workers."

Labor Force Participation

There would be over 3 million more workers today if labor force participation was the same as in February 2020

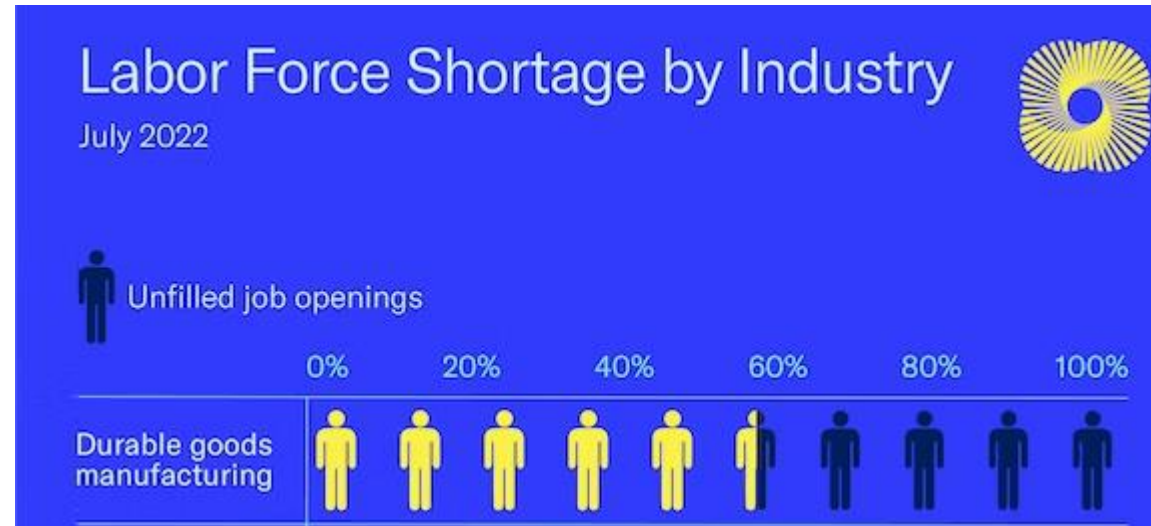


3M+
missing workers



Some Alarming Labor Statistics

- Even if every unemployed person with experience in the durable goods manufacturing industry were employed, the industry would only fill 65% of the vacant jobs



Quit Rate by Industry

A Little Comfort for Manufacturing

Accommodations and Food - 6.3%

Retail = 4.5%

Manufacturing Quit Rate = 2.5%

Why are these 2 industries higher than Manufacturing?

Another Big Factor for Mfg



Globally, 16% of companies are fully remote

During COVID-19 close to 70% of full-time workers are working from home.

After COVID-19 92% of people surveyed expect to work from home at least 1 day per week and 80% expected to work at least 3 days from home per week.

59% of respondents said they would be more likely to choose an employer who offered remote work compared to those who didn't.

23% of those surveyed would take a 10% pay cut to work from home permanently.

Compounding the Problem

Noah Smith - Economics Blogger:

- **Reshoring** “In recent years, there has been increasing talk of reshoring our industrial base from China. For a long time this was just talk, but in the past year, thanks to China’s policy missteps, [reshoring finally seems to have begun](#):
- **New Manufacturing Facilities** - “The construction of new manufacturing facilities in the US has soared 116% over the past year, dwarfing the 10% gain on all building projects combined...There are massive chip factories going up in Phoenix...And aluminum and steel plants that are being erected all across the south”



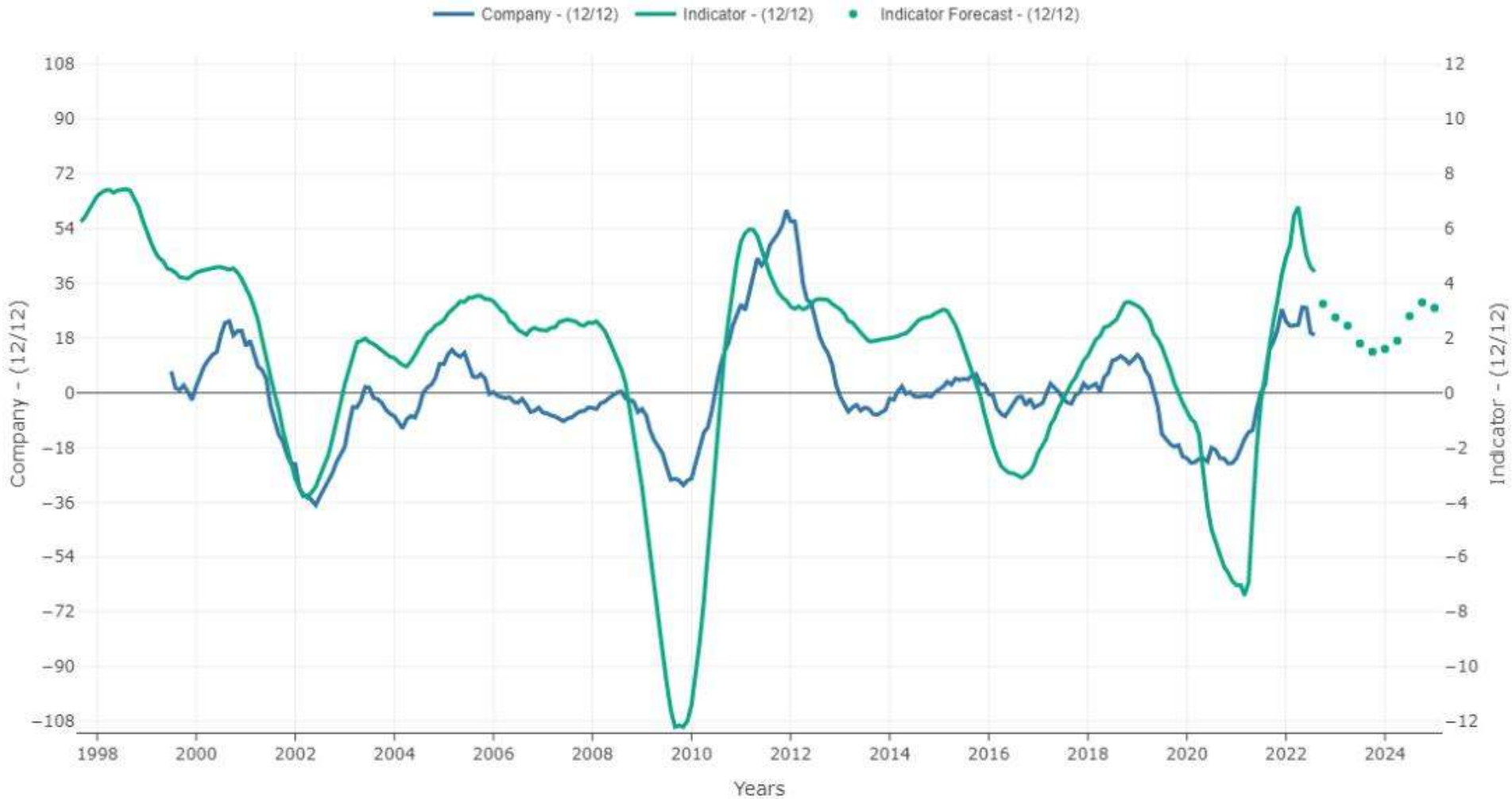
ITR ECONOMICS
First In Forecasts Worldwide

Correlation: -0.67

Cross Company - AG Sales History

US Industrial Production Index

Lead/Lag Months: 2 | Indicator View: Normal View



What Can We Do to Combat Labor Shortage?

- **Recruit**
- **Retain**
- **Automate**

Flexible vs Fixed Automation



Fixed Automation

Fixed automation systems are used in manufacturing in order to perform a specific task or fixed sequence of processing operations.



Flexible Automation

With high product line turnover, increased competition, and narrow profit margins plaguing manufacturers, flexible automation is the best solution. It is the best solution to automate those undesirable tasks



AUTOMATING UNDESIRABLE TASKS TO COMBAT RISING LABOR SHORTAGES

Where are the Undesirable Tasks?

Dirty Jobs - Dirty jobs are often unsanitary or hazardous work that can impact human health. One example is the need for sewer scrapers..

Dangerous Jobs Dangerous jobs put humans in harmful situations. To prevent the loss of human life, automation can be used. [Example](#)

Dull Jobs - Dull, low-interaction, high-repetition jobs require very little human thought. They often include processes that have a sole objective of efficiency and output. Automation systems can work around the clock to streamline dull jobs. This saves businesses money and **frees up human capital for tasks that have an element of variety and a need for critical thinking**

Where are the Undesirable Tasks?

Home Run Applications - Automating Manual Processes:

Human(s) doing repetitive, consistent tasks that can be readily replaced by an automated station.

- Pick and Place
- Machine Tending
- Palletizing/De-palletizing
- Measurement, custom weighing, inspection (gauging, fixturing)
- Vision-based Inspection (Keyence, Cognex, etc.)
- Packaging
- Part transfer



Is there an ROI for Automating these Manual Tasks?

[ROI Calculator](#)





ROI Calculator for Proposals

Rev 1.1 5/11/20

Quality + Efficiency - Risk = Innovation

Proposal Detail	
Is this a Cross Proposal? <input checked="" type="checkbox"/>	Proposal Cost? \$175,000 Dollars
Expand comment section? <input type="checkbox"/>	Show Proposal Detail? <input checked="" type="checkbox"/>

Initial Customer Production Process Detail:	
Planned weeks per year of equipment uptime?	50 Weeks
Planned equipemnt uptime per week?	5.0 Days
Number of shifts per day?	2 Shifts
Hours per shift?	8.0 Hours
Average hourly rate of employee(s)?	\$25
Burden percentage of hourly wage?	26%

Quality Improvement Metrics	
Based on our proposal, we improve quality that will: 0	
Increase yield? <input type="checkbox"/>	Reduce material? <input type="checkbox"/>
Reduce labor? <input type="checkbox"/>	

Efficiency Improvement Metrics	
Based on our proposal, we improve Efficiency that will: 1	
Increase yield due to speed? <input type="checkbox"/>	Reduce labor? <input checked="" type="checkbox"/>
Reduce raw material? <input type="checkbox"/>	Reduce Energy? <input type="checkbox"/>

Efficiency Improvement Metrics	
Based on our proposal, we improve Efficiency that will: 1	
Increase yield due to speed? <input type="checkbox"/>	Reduce labor? <input checked="" type="checkbox"/>
Reduce raw material? <input type="checkbox"/>	Reduce Energy? <input type="checkbox"/>
	<input type="checkbox"/> =Data Entry <input type="checkbox"/> = Results
Decrease in labor based on an improvement in Efficiency	
Category	Quantity
How many total people are producing this product?	2 Ppl or Person per Shift
Percent reduction in labor based on this proposal?	100% Percent
Average hourly rate of employee(s):	\$25.00 Dollars
Burden percentage of hourly wage:	26% Percent
Planned weeks per year of equipment uptime:	50 Weeks
Planned equipment uptime per week:	5 Days
Number of shifts per day:	2 Shifts
Hours per shift:	8.0 Hours
Weekly production hours:	80 Hours
Reduction in labor hours due to investment:	2.0 Ppl or Person per Shift
Additional labor savings per hour:	\$63 Dollars
Annual labor savings	\$252,000 Dollars

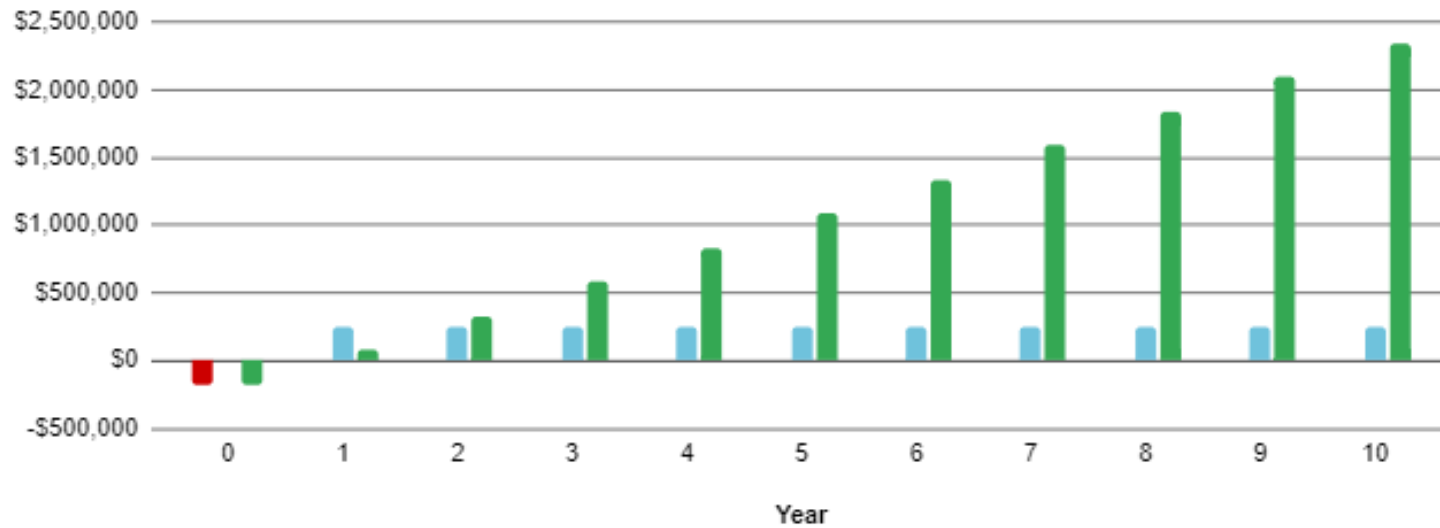


Investment Summary

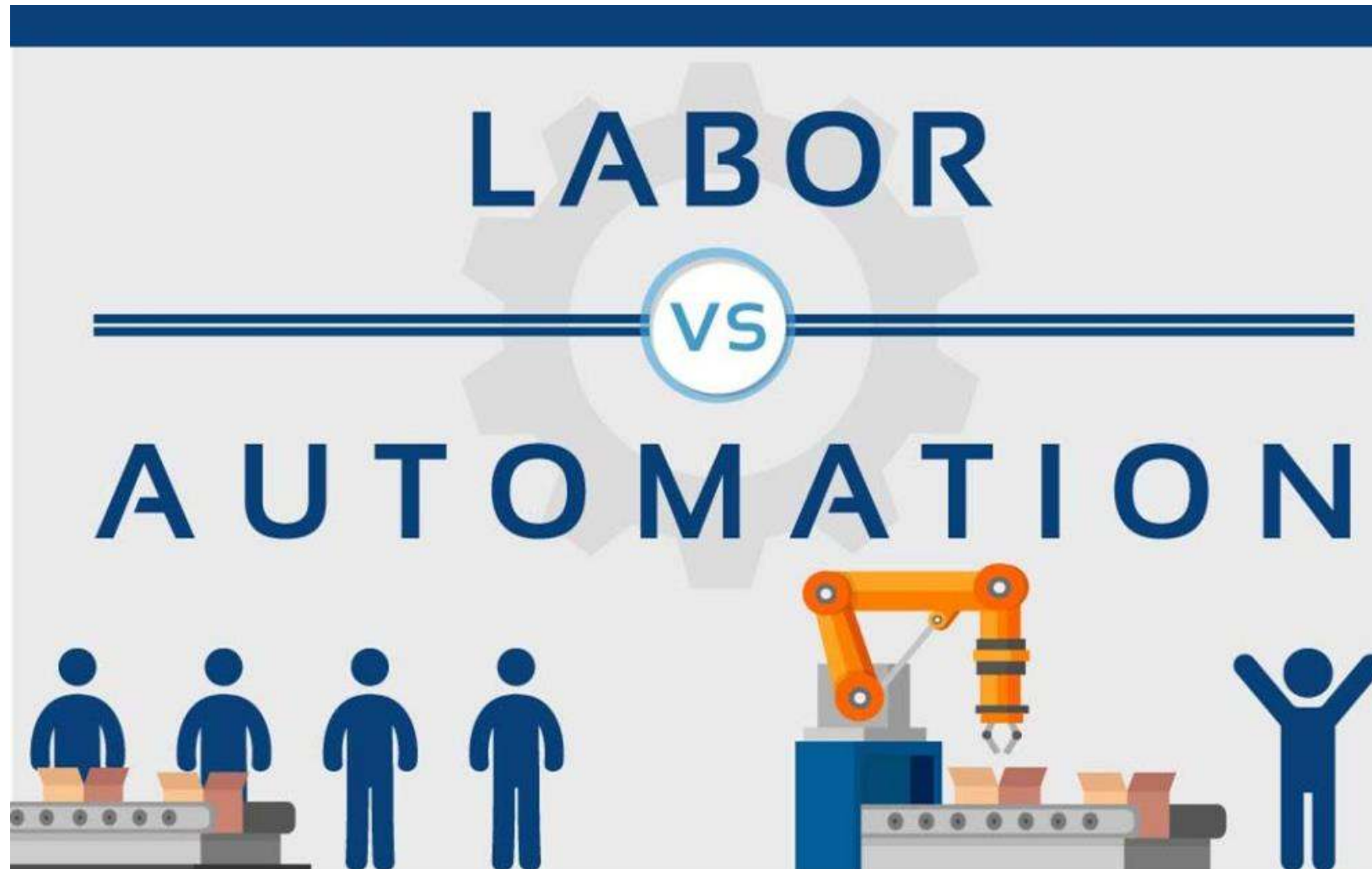
Estimated Annual Savings:	\$252,000	Dollars
First Year Investment:	\$175,000	Dollars
ROI (Years):	0.69	Years
ROI (Months):	8.3	Months

Return on Investment Chart

■ Initial Cost ■ Payback ■ Cumulative Return



Workforce Buy-In



What Can We Do to Combat Labor Shortage?

- Recruit
- Retain
- Automate

Questions or Emotional Statements?

