

INDUSTRIAL AUTOMATION: THE COST OF DOING NOTHING

The global industrial automation market is projected to grow to \$389.05 billion by 2029 and early adopters are gaining a competitive edge.

As a result, failing to adopt this technology at such a crucial juncture can prove costly for your business.

In turn, the cost of doing nothing has become significant – an up to 50% cost premium. In this analysis we explore that by delaying your investment in this cutting-edge technology, your organization will face numerous high, hidden costs related to labor, productivity, and safety.

The High Cost of Not Automating

50% COST PREMIUM TO DELAY YOUR INVESTMENT IN INDUSTRIAL AUTOMATION.



If you consider facility that has 3 shifts and an average of 33% of workers' time is spent transporting goods, this means that **3 AVs can perform the work of 9 workers.**

This offsets both the higher worker salary (50k annual for workers vs. 24k annual for AVs) plus the hidden costs.

1. Skyrocketing Labor Costs

THE IMPACT OF MANUFACTURING JOBS THAT REMAIN UNFILLED COULD COST THE U.S. ECONOMY:

\$1 Trillion +



A. Employment Costs:

Costs associated with hiring, retaining, and losing employees add up quickly: sick days, training costs, benefits coverage, employer contributions to healthcare, etc.



B. Labor Shortages

Labor shortages rank in the **top 4 greatest challenges** facing manufacturing, transportation, and supply chain leaders...

Around **8 in 10 manufacturing executives** surveyed stated that not filling jobs has a **moderate to very high impact** on maintaining production levels.

50% +

...and **over 50%** cite employee retention as their single biggest challenge.



Meanwhile, wages for manufacturing workers are steadily rising:



C. Wage Inflation



6%

Salary **increase** for existing employees.

6.8%

Salary **increase** for new hires.

Labor costs constitute ~ **65%** of most warehouse facilities' **operating budgets**.

Additionally, costs related to finding, hiring, and training a worker can be staggering – replacing a worker can be extremely expensive and time-consuming.



D. Labor Turnover and Training



IN 2022, THE AVERAGE TURNOVER RATE IN THE MANUFACTURING INDUSTRY AVERAGED AROUND 43% AND COST ABOUT \$7,000 TO REPLACE A WORKER.

Assumptions:

- Costs ~\$7,000 to replace a warehouse worker
- A warehouse has 100 workers
- Turnover Rate = 43%

Conclusion:

- Lose ~ 43 workers/year

Turnover = \$301,000+ per year



2. Lost Productivity & Downtime

These numerous hidden costs related to labor ultimately contribute to lost productivity:



Labor productivity in the warehousing and storage industry has **decreased every year** since 2015.

Boredom associated with repetitive, mundane tasks can be linked to errors, safety issues, lower morale, and employee turnover.

As a result, **23%** of **unplanned downtime** is caused by **human error** alone.

23% +

\$50 Billion

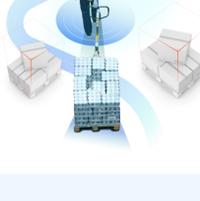
= THE AMOUNT UNPLANNED DOWNTIME CAN COST MANUFACTURERS EVERY YEAR.

3. Safety Incidents

Lastly, safety incidents, both injuries or minor occurrences, can impact production and represents another major hidden cost for organizations.

There were approximately **5 workplace injuries** for every **100 full-time workers** in 2020.

... and an **industrial accident costs ~\$42,000**, not including associated production losses.



\$171 Billion

= THE TOTAL COST OF PREVENTABLE WORKPLACE INJURIES IN THE U.S. IN 2019.

The Benefits of Investing in Industrial Automation



Address Labor Shortages

AVs take repetitive tasks and transport jobs, freeing up an estimated 30%-50% of a skilled worker's time.



Increase Productivity

By taking on mundane and tedious tasks, AVs significantly improve throughput and operational efficiency.



Combat Wage Inflation

Unlike human labor, AVs don't increase their price quarter over quarter. They improve production requiring increases in wages.



Reduce Downtime

AVs work continuously, respond the risk of unplanned events, and mitigate the possibility of human error. They also collect and analyze data to predict potential equipment failures.



Alleviate High Labor Turnover

AVs don't require extensive and costly training, plus reduce the number of employees that do. They also help alleviate boredom, which reduces the likelihood of employee churn.

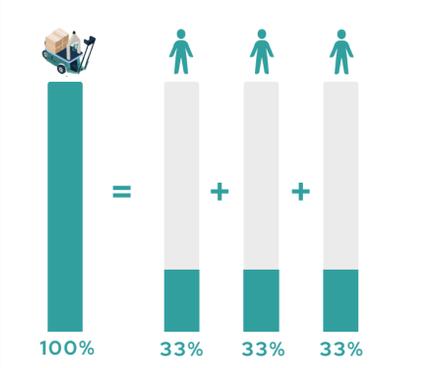


Improve Safety

There are zero known AGV-related injuries and the use of AVs in material handling can actually reduce accidents by up to 90% by removing workers from dangerous situations.

By tapping into the power of AV technology, your business can immediately realize the advantages related to **labor cost savings, enhanced productivity, and increased safety.**

THE AVERAGE WORKER SPENDS 1/3RD OF THEIR SHIFT ON REPETITIVE DRIVING.



ASSUMPTIONS:

- AMR Monthly Cost: \$2,400
- Skilled Worker Monthly Wage: \$5,000
- Skilled Worker Time on Repetitive Driving Per Shift: 33%

Number of Shifts = 1

CONCLUSION:

One AMR would allow 3 workers to **reallocate 33% of their time**, for less than 1/2 the cost of 1 worker.

Check out Cyngn's ROI Calculator [here](#).

= ONE AMR PERFORMS WORKERS PER SHIFT.

100%

OF THE DRIVING OF 3

At Cyngn:

We offer organizations a safe and reliable way to introduce AV technology to their vehicles, allowing them to harness the advantages of AVs while **avoiding the cost of doing nothing.**

The deployment of a DriveMod-enabled stockchaser at GLF's Las Vegas warehouse facility led to:

33% **Increase in efficiency** vs. using an electric pallet jack.

64% **Decrease in labor costs** vs. using an electric pallet jack.

Download the case study [here](#).



TO LEARN MORE ABOUT BRINGING SELF-DRIVING VEHICLE TECHNOLOGY TO YOUR ORGANIZATION, PLEASE REACH OUT.