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What Happens When Robots Replace 90% of a Factory Workforce?

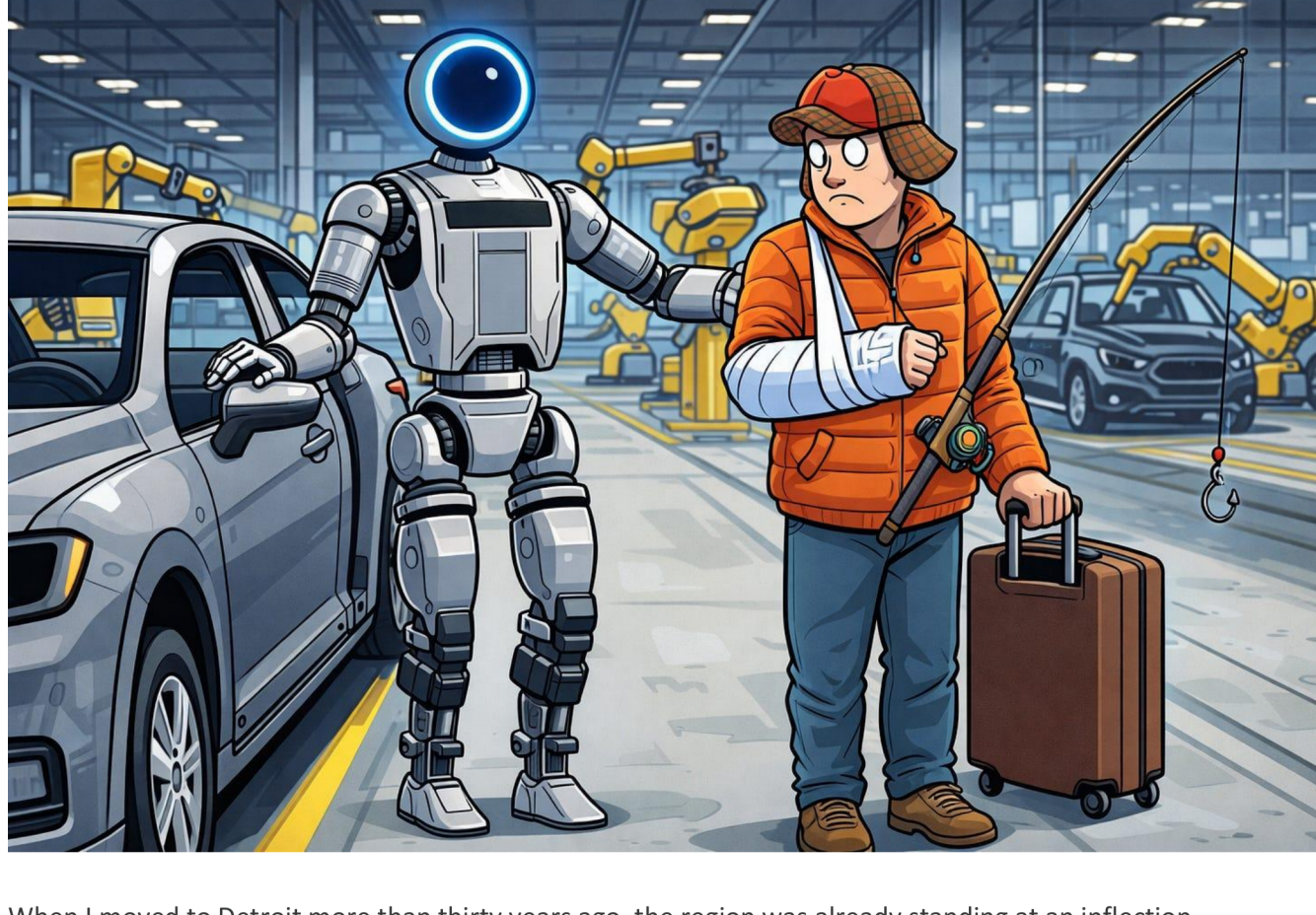
No drama, no benefits, no workers comp, no pension, no grievances, no problem

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A Detroit “Factory ZERO” thought experiment.



When I moved to Detroit more than thirty years ago, the region was already standing at an inflection point. The Motor City and its surrounding communities had been taking hits for decades. Iconic auto plants were closing or downsizing. Buick City in Flint, Chrysler Jefferson in Detroit. And while the Packard Plant shut down in the late 1950s, its vast footprint continued a slow, painful decline well into the 1990s. Communities built around these behemoths began to wither.

And yet Detroit was still the car capital of the world. The autoworker was the backbone of the middle class. A factory job meant you could raise a family, buy a home, send your kids to college, and retire with dignity.

In 2006, Warren Buffett famously described General Motors as a health-care company with cars as a side hustle. It was an observation rooted in how much the automaker spent on benefits compared with raw materials like steel. Throughout my career as a journalist, that framing has stayed with me.

Which is why recent reporting on Hyundai’s aggressive push into humanoid robotics sent me down a familiar journalistic rabbit hole.

<https://www.mobileworldlive.com/industry/hyundai-google-tap-boston-dynamics-atlas-robot/>

I’ve covered auto strikes. I’ve covered layoffs. And as a car owner, I’ve walked away from brand loyalty when reliability and service no longer matched what was promised to me as a customer.

From my vantage I see that by any historical measure, the auto industry is once again at a turning point.

Hyundai’s work with Boston Dynamics and the evolution of its Atlas humanoid robot raises a question I imagine automakers have quietly been circling for decades: what happens when robots are no longer tools on the line, but the workforce itself?

To explore that question, I used General Motors’ Detroit/Hamtramck facility as a hypothetical Factory ZERO as a thought experiment. Not as science fiction, but as a numbers-based exercise grounded in publicly available labor data, recent reporting on automation, and transparent assumptions.

This is a thought experiment, not a news report. The numbers are real; the scenario is hypothetical. Factory ZERO is used as a model. An opening into the rabbit hole only, but the same economic dynamics would apply to auto plants and any other manufacturing facility in any city or state. This is a clarion call for workers, unions and consumers in every sector to think about the ‘what next’ when it comes to the robots we can see and the ones (AI) we can’t.

For generations, automation came with an assurance: robots would make work safer and more efficient, but people would remain essential. From what I can see happening right now, I think that assumption is now under real pressure.

Consider a pared-down version of Factory ZERO employing roughly 230 workers. Now imagine 90 percent of those jobs, 207 positions replaced by humanoid robots capable of continuous, minimally interrupted operation.

No insurance payouts. No pensions. No sick leave or vacation days. No payroll. Not even a lunch break. Just a nano-moment in time to change its own battery pack.

What does the company gain? And what do workers and communities lose?

Federal labor data provides a starting point to consider this bold new era. According to the U.S. Bureau of Labor Statistics, the average employer cost for a manufacturing worker is about \$46 an hour, including wages and benefits. For unionized manufacturing workers, the category closest to auto assembly, that rises to roughly \$52.50 an hour.

Over a standard 2,080-hour work year, that translates to annual employer costs between \$96,000 and \$109,000 per worker.

Eliminate 207 workers, and the math becomes unavoidable: roughly \$20 million to \$23 million a year in labor costs avoided at a single plant.

That figure is not just wages. Paid leave accounts for about \$1.5 million annually. Health insurance adds roughly \$1.9 million more. Retirement contributions, payroll taxes, and supplemental pay make up the rest.

Then there’s the risk no spreadsheet fully captures: labor disruption. During the 2023 UAW strike, General Motors estimated losses of roughly \$200 million per week across its operations. While that number can’t be cleanly assigned to one plant, the incentive is clear. Robots don’t strike. They don’t call in sick. They don’t slow down during contract negotiations. They don’t need HR departments.

They do break. And when they do, humans still matter, at least for now.

From a balance-sheet perspective, replacing human labor with machines converts a volatile operating expense into a capital investment with far more predictable risk.

But robots are not free.

Hyundai and Boston Dynamics have not disclosed unit pricing, maintenance costs, energy demands, or real-world failure rates for humanoid robots deployed at scale. Any claim of precise savings without those figures is speculation.

So, let’s be explicit about assumptions.

For this exercise, assume a purchase price of \$200,000 per robot. Replacing 207 workers would require a capital outlay of approximately \$41.4 million.

Assume routine maintenance at 10 percent of purchase cost per year, a conservative but defensible estimate for complex industrial machinery. That adds about \$4.14 million annually, or \$20.7 million over five years.

Total five-year robot cost: \$62.1 million.

Now compare that to humans on the manufacturing floor. At the unionized benchmark, five years of labor for 207 workers costs roughly \$113.1 million. The difference is about \$51 million saved over five years at one plant alone. And that doesn’t include avoided strike risk.

Operationally, the robots produce far more labor hours. Running 24/7 with brief battery-swap downtime, 207 robots generate roughly 1.7 million labor-hours per year. On a two-year straight-line amortization of the purchase price, that works out to about \$12.18 per robot-hour, compared with \$46 to \$53 per human hour.

This is a theoretical exercise. Real-world constraints matter. Not every task is automatable. Integration is complex. Cybersecurity is not optional.

But if you’re playing chess instead of checkers, the direction of travel is unmistakable. These are businesses. They were built to make money, we, the humans, just get to drive the fruits of the labor.

Now consider the human ledger.

The \$20 to \$23 million in wages and benefits removed from a single plant represents income stripped from households that anchor neighborhoods, support small businesses, and stabilize municipal tax bases. When those jobs disappear, the economic shock ripples outward from restaurants and childcare providers to housing markets and city budgets.

Automation doesn’t remove humans from factories entirely. It changes which humans matter. Demand rises for robotics technicians, controls engineers, software developers, safety specialists, and cybersecurity professionals. These are good jobs. There are simply far fewer of them, and they require training pipelines many displaced workers don’t yet have access to.

We can surmise that the ‘robotery’ (my word for it) is incredibly attractive for some businesses like those tied to factory floor manufacturing. I want to take a look at what this level of technology means to humans.

I don’t believe the answer lies simply withing robotery. It’s in the choices surrounding it.

Automation can reduce injuries, increase productivity, and create new skilled work. But without deliberate decisions to share those gains through retraining, reduced work hours, wage growth, or reinvestment in communities, the benefits concentrate upward while the costs stay local.

The technology is arriving whether factories are ready or not. What remains unresolved is whether the future of manufacturing will be defined by shared prosperity or by quieter plants, leaner payrolls, and communities left to absorb the difference.

That outcome isn’t dictated by robotics. It’s dictated by choice. Human choices. Or let me say, human choices at this juncture.

As a journalist, I’ve learned one principle holds almost without fail: money doesn’t talk. It screams. And what it’s screaming now is this. Watch the industries that design, build, program, and maintain the robots. Find the stuff the robots can’t do, yet! Tell your children and grandchildren to learn it and learn it well.

That’s where I see the human jobs are going in this particular industry.

I’ve spent my career covering turning points like this one. They rarely announce themselves with sirens. They arrive quietly, wrapped in efficiency, sold as inevitability.

The robots are only part of the story. The decisions the humans make are the rest of the story.

Detroit has lived this story before. The machines get better. The jobs disappear. The communities are told to adapt.

The question isn’t whether robots will replace people. That decision is already being priced into balance sheets.

What I see unfolding isn’t a technology story. It’s a power shift.

And if history is any guide, the danger isn’t that we didn’t understand what was happening. It’s that we understood it perfectly and did nothing until the factory floors went quiet.

Full disclosure. AI assisted in the research and development of the math for this story. The words and thoughts are human-driven. At least, the last time I checked, I am still a human.