BUSINESS | AUTOS

Robots Are Looking Better to Detroit as Labor Costs Rise

Expensive new union contracts spark more interest in assembly-line automation for vehicles, but risks exist

By Nora Eckert Follow

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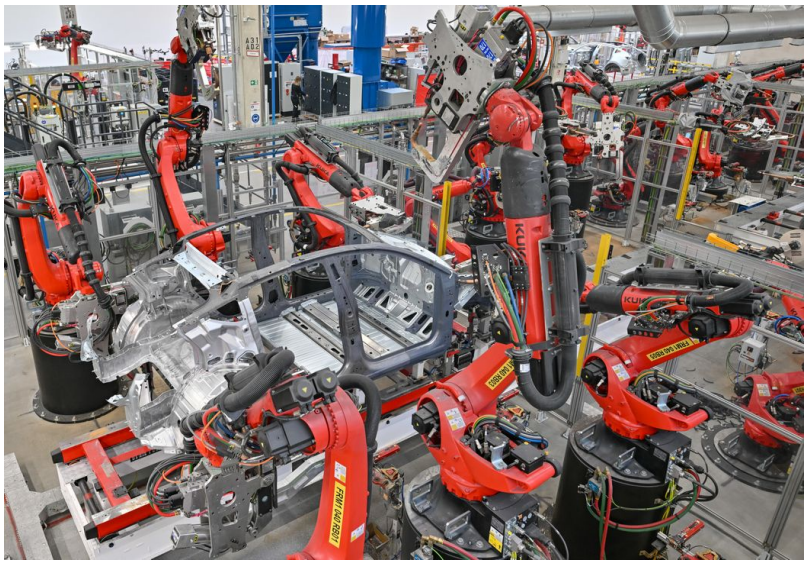

Robots weld the body of a Model Y electric vehicle at Tesla's factory near Berlin. PHOTO: PATRICK PLEUL/DPA/PICTURE ALLIANCE/GETTY IMAGES

Automakers are looking to an old friend to help offset rising labor costs: robots.

For decades, car companies have increased automation inside their factories. Now, auto executives are looking more closely at this approach, to address a rising labor bill and take advantage of more sophisticated technology.

Competition from relative newcomers like Tesla, which has been more aggressive in deploying this factory technology, is also nudging more traditional auto manufacturers in this direction.

On a recent investor call, Ford finance chief John Lawler pointed to "opportunities in automation" when asked about how the company plans to cover the cost of its new labor contract. He also cited other possible offsets, such as reducing the complexity of Ford's vehicles.

While automakers have been moving to automation for some time, rising labor costs are poised to accelerate the adoption of such technologies, said Laurie Harbour, president of Michigan manufacturing consulting firm Harbour Results.

“Automation is the future. More so than we’ve ever seen,” she said.

United Auto Workers members on a picket line outside a Ford plant. PHOTO: EMILY ELCONIN/BLOOMBERG NEWS

United Auto Workers members approved a labor contract in late 2023 with Ford, General Motors GM **-1.67%** and Jeep maker Stellantis STLA **-2.02%** that included a record 25% wage increase over four years and marked the sharpest labor-cost increase for the companies in recent memory.

The effect from the deals in Detroit quickly rippled through the industry, with Toyota Motor, Hyundai Motor 005380 **0.81%** and other nonunionized automakers increasing wages to stay competitive.

Detroit executives have said the contracts were richer than they had planned for, and they are strategizing ways to blunt the increased costs. Ford said the new terms would add about $900 in cost per vehicle by the time the contract expires in early 2028. GM executives pegged the hit from richer labor contracts during that period at roughly $500 a vehicle.

A spokesman for GM said the company will continue to use technology to help its team members increase productivity, and make work environments safer. Stellantis, Ford and the UAW declined to comment.

Automakers have used robotics since at least the 1960s to make manufacturing easier and more efficient. One of the earliest examples of these machines was an automotive assembly robot called Unimate that was installed in a GM factory in 1961 to handle die castings.

A robot works with engine parts at a Stellantis plant in Dundee, Mich. PHOTO: BILL PUGLIANO/GETTY IMAGES

The auto industry is a top consumer of robots, according to the International Federation of Robotics. The global automotive industry installed 136,000 new industrial robotic units in 2022, the federation found, second only to the electronics industry.

Often these so-called cobots work alongside workers to access hard-to-reach spots or perform tasks that are particularly physically demanding. Ford said in 2018 that it had at least 100 of these cobots across two dozen plants around the world.

Tesla has been a leader in factory robotization, putting pressure on competitors to follow suit. Last year, executives at the world's most valuable automaker said introducing more automated equipment was a crucial tool in its goal to cut the cost of making future models by 50%.

Dozens of new battery factories and electric-vehicle plants in the works will also open the door to broader use of high-tech systems, analysts say. It is easier and less costly to install robots in a new facility versus retrofitting an existing one. Plus, it is more streamlined to have updated systems that "speak" to each other

smoothly, as opposed to popping in a new machine among older ones.

Automakers are likely to introduce more robots and other forms of automation over time, replacing workers as they retire, rather than displacing swaths of their current workforce.

"The mode of operation for decades now is 'ride the attrition curve,'" said Jim Schmidt, a vice president in consulting firm Oliver Wyman's automotive practice, based in Detroit.

The trend is making the UAW and its members nervous about the prospect of machines replacing jobs.

"There's robots in every factory," UAW President Shawn Fain said on a livestream with Sen. Bernie Sanders last year. "The companies have used technology as a way to cut jobs instead of interjecting robots and technology to make our jobs easier."

There are varying views on how extensive auto-industry automation will become in the next decade, and many analysts point out that other strategies—such as streamlining the production process by offering fewer vehicle options—can have larger cost savings.

Additionally, whatever machines gain in terms of productivity can be zeroed out by the needed personnel to fix or program robots, some academics say. Humans are sometimes better at completing precise tasks that require visual judgment and the ability to nimbly adjust equipment.

There are other risks to automating. Adding robots to a process for the first time can introduce quality problems, said Mark Wakefield, managing director at advisory firm AlixPartners. There needs to be a clear advantage to using a machine, either from a cost standpoint or because the task hasn't been effectively carried out by workers, he said.

It can also be too expensive to retrofit an existing factory with this new machinery, making it more attractive to remain with the status quo, analysts say.

"If the way you put the last car together worked well, if you change something

"If the way you put the last car together worked well, if you change something, you have to balance the risk with the reward of some lower cost," Wakefield said.

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