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Daddy, What Was a Truck Driver?

Over the Next Two Decades, the Machines Themselves Will Take Over the Driving.

By DENNIS K. BERMAN



Caterpillar

Caterpillar will have 45 self-directed trucks at a mine in Australia.

And then one day, man went the way of the mule.

Some 5.7 million Americans are licensed as professional drivers, steering the country's vast fleets of delivery vans, UPS trucks and tractor-trailers.

Over the next two decades, the driving will slowly be taken on by the machines themselves. Drones. Robots. Autonomous trucks. It's already happening in a barren stretch in Australia, where [Caterpillar Inc.](#) will have 45 self-directed,

240-ton mining trucks maneuvering at an iron-ore mine.

Most of the hubbub around autonomous technology has focused on passenger vehicles, notably [Google's](#) promotional wonder, the Google Car. [Ford Motor Co.](#) Chairman Bill Ford Jr. says self-driving cars will hit roads by 2025. But commercial uses are where the real money and action lie: rewiring a massive part of the U.S. economy while removing tens of billions in costs from a commercial fleet that today numbers 253 million trucks.

Ubiquitous, autonomous trucks are "close to inevitable," says Ted Scott, director of engineering and safety policy for the American Trucking Associations. "We are going to have a driverless truck because there will be money in it," adds James Barrett, president of 105-rig Road Scholar Transport Inc. in Scranton, Pa.

Economic theory holds that such basic changes will, over time, improve standards of living by making us more productive and less wasteful. An idle truck with a sleeping driver is, after all, just a depreciating asset.





Associated Press

Driving a truck will become automated over the next two decades.

But watching a half-decade of lagging U.S. employment, it's hard not to feel a swell of fear for those 5.7 million people, a last bastion of decent blue-collar pay.

A world without truck drivers may eventually be a better one. But for whom?

At least better for trucking-company owners, who today grapple with driver shortages of as much as 15%, in addition to perennial hassles of fuel costs, regulations and crummy margins. "Holy s—," exclaims Kevin Mullen, the safety director at ADS Logistics Co., a 300-truck firm in Chesterton, Ind. "If I didn't have to deal with drivers, and I could just program a truck and send it?"

Roughly speaking, a full-time driver with benefits will cost \$65,000 to \$100,000 or more a year. Even if the costs of automating a truck were an additional \$400,000, most owners would leap at the chance, they say.

"There would be no workers' compensation, no payroll tax, no health-care

benefits. You keep going down the checklist and it becomes pretty cheap," adds Mr. Barrett of Scranton, who says he can't find enough drivers.

Drivers call this nonsense. "People come up with these grandiose ideas," says Bob Esler of Taylor, Mich., who has been driving a truck since 1968. "How are you going to get the truck into a dock or fuel it?"

Of course, the real costs are hard to peg. Most experts on autonomous vehicles say that at least initially, the robot trucks will have to run on roads separate from regular vehicles, or via embedded roadside beacons. That won't be cheap.

And then there is the primary issue of safety—of the cargo and people on the roads. Most in the industry believe that machines should eventually become better drivers than humans. It is going to take a long time to prove the case to governments and the public. But a payoff awaits. The U.S. government estimates the costs of truck collisions at \$87 billion a year, with 116,000 people either killed or injured in truck and bus crashes.

Safety is why so-called "closed-course" uses, which keep automated trucks away from the public, are happening first. That brings us back to that Australian mine, in a scorched, wretched area called The Pilbara.

It's where Caterpillar is today running six automated model 793f mining trucks. Stuffed with 2,650 horsepower and more than 25 million lines of software code, they haul away layers of rock and dirt, up and down steep grades. Traditionally, these trucks would require four drivers to operate 24 hours a day.

Today the trucks use guidance systems to run on their own, only monitored by "technical specialists" in a control room miles away. If an obstacle appears in its path, the trucks have enough onboard brain power to decide whether to drive over or around it.

In addition to safety risks, human drivers "will often make judgments, most good, but some bad, and those inconsistencies can lead to problems," says Ed McCord, the Caterpillar executive in charge of the program. Automated trucks never flinch, he says. "If it's supposed to be in fifth gear coming down a grade, it will be in fifth gear every time.

Eventually there will be 45 of these trucks on site, eliminating most of the need for 180 driving positions, according to Mr. McCord. The fewer remaining jobs, he said, pay better but be more technical — at their core, about software.

"The manufacturing job of today is a technician's job," adds Mr. McCord, who started his career 40 years ago demonstrating hydraulic excavators. "The manufacturing job of yesterday was pure labor."

That's a worthy way to understand the future of the truck driver, if we can even use that term. Just imagine, for instance, a supermarket "driver" who rides inside an automated truck, delivering packages and selling services instead of worrying about red lights and right turns.

This changes the nature of work itself—from hard skills to soft skills. It makes today's Teamsters into tomorrow's concierges.

One day, your grandchildren will be wondering, as they do about the rotary phone and the VCR. "Truck driver! What was that?"

What will you tell them?

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