



## A HELPING HUMAN HAND

*Autonomous trucks won't be “fire and forget” assets. They will require a great deal of human interaction and management.*

A funny thing happened at the Indianapolis Motor Speedway back in October and it confirms something I have long felt and have [talked about before](#).

NACFE was attending the Indy Autonomous Challenge — a technology demonstration event on the track, where an international assembly of racing teams representing both tech companies and universities from all over the world competed to run Indy Race Cars in timed laps around the speedway. The kicker? The cars were completely under autonomous control for all portions of the race.

The victor on the track that day was the TUM Autonomous Motorsport from the Technische Universität München with a two-lap average speed of 135.944 around the Brickyard. But the win wasn't without some drama.

In the finale, the car fielded by the Autonomous Racing Team representing the Graz University of Technology actually logged a first timed lap that was 30 mph faster than the TUM car. All the Graz team had to do was put in a second lap at that speed, and they would be the winner of the race.

But, as the Graz car entered the turn to begin its final timed lap, it suddenly decelerated to 65 mph, and cruised leisurely around the track before entering the pits to end the competition — while the engineering students and technical advisors on the Graz team frantically scanned their laptops and telemetry trying to figure out why the car wasn't running at full speed.

The culprit? Human error. One of the engineers had failed to enter the correct number of laps into the autonomous control system on the car. So, although the car performed flawlessly, the team lost the race because of a simple human mistake.

I think there's a very important lesson to be taken away from that race and the way it ended. There seems to be a widespread perception that autonomous trucks will soon appear on our roads, and they'll start roaming the countryside all on their own with little to no human interaction to assist them.

“ Although autonomous trucks are wondrous things, they are not yet ready to deal with the dynamics of our roads and highways without the knowledge of a human specialist.

But the picture that is emerging today is one that is quite different. It seems that — at least in the early stages of deployment — autonomous trucks will require a great deal of human supervision to perform safely and efficiently as they go about their routes delivering freight.

Make no mistake: Autonomous vehicle technology is a wondrous thing. And its developers are working hard to design systems that can deal



Photo courtesy of the Indy Autonomous Challenge.

with a multitude of highway contingencies. But highways and roads are extremely dynamic and unpredictable. And — just as with the Graz team’s Indy finish — these systems simply aren’t going to be able to deal with many issues that they encounter on the road. These will include problems like rerouting due to weather, accidents, construction or dealing with law enforcement officials.

As amazing as these systems are, they can’t do something as simple as add another lap to their internal control systems to finish a race without human help.

This is more evidence that autonomous trucks are going to create jobs for humans in the trucking industry as they become commonplace. It is very likely that in the early days of their deployment, experienced truck drivers will be extremely desirable as “mission control specialists” who will guide and assist a small cadre of autonomous trucks under their care as they go about their business.

These human specialists will have a wealth of knowledge and experience regarding specific

routes, highways, traffic patterns, customer preferences and breakdown responses that autonomous vehicle systems simply will not be able to duplicate in the real world.

Most of the time, I expect autonomous trucks will quietly go about their day without a need for a helping human hand. But when problems do arise — and, sooner or later, problems always arise — they will need help. At that time the experience, flexibility and problem-solving skills of human beings will be indispensable when they do.

As I’ve said many times, there will be truck driving jobs for a very long time to come. They just won’t be the kind of truck driving jobs that we know and understand today.

**About the Author:** Jack Roberts is a transportation journalist who has been covering North American commercial vehicles for 25 years and has developed a reputation as a leading authority/futurist concentrating on new trucking technology, including autonomous vehicles, battery-electric trucks and emerging blockchain technology.



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