

VIDEO #1

AUTONOMOUS COMMERCIAL TRUCK DRIVING SYSTEMS – 2026

Media Hype vs Operational Reality

DISCLAIMER

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Information contained within this report is based on publicly available government publications, transportation industry materials, company announcements, workforce studies, logistics research, and publicly accessible operational information available at the time of publication.

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Autonomous trucking technology, regulations, and operational deployment continue to evolve over time.

This report may be updated periodically as new information becomes available.

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AUTONOMOUS COMMERCIAL TRUCK DRIVING SYSTEMS

“Media Hype vs Operational Reality”

SEGMENT 1

OPENING QUESTION:

“WHAT IS AN AUTONOMOUS COMMERCIAL TRUCK”?

“Today, one of the biggest discussions in the transportation industry is autonomous trucking.

Depending on what you see online, some people believe autonomous trucks can replace every truck driver in America right now.

Others believe that current technology is completely fake.

The reality is somewhere in the middle.

And before we can discuss the future of commercial truck driving, we first need to answer one simple question.

What exactly is an autonomous commercial truck?”

SEGMENT 2

WHAT DOES 'AUTONOMOUS' ACTUALLY MEAN:

“One of the biggest public misunderstandings is the word ‘autonomous.’

Many people hear the term autonomous truck and automatically assume the truck is fully driverless.

But some systems only assist the driver.

Some systems still require constant human supervision.

Some systems use remote operational support and only a very small number of systems currently operate without a human safety driver under limited conditions.

That distinction matters because autonomous does not always mean driverless.”

SEGMENT 3

“DRIVER ASSIST VS TRUE AUTONOMY”

“Let’s break this down into four categories.

First, driver-assist systems.

These systems help the driver but do not replace the driver.

Examples include adaptive cruise control, lane departure warning systems, collision mitigation systems, and automatic emergency braking.

The human driver is still fully responsible for operating the vehicle.

Second, supervised autonomy.

This is where the truck may steer, brake, accelerate, or operate portions of the route while a human safety operator supervises the system.

Third, remote-assisted systems.

These systems may involve remote operational support centers that assist when the truck encounters a situation it cannot handle independently.

And finally, true driverless operation.

This means there is no human safety driver physically inside the truck.

At the time of this video, true driverless freight operations remain extremely limited and are generally restricted to specific routes and controlled operational conditions.”

SEGMENT 4

“SAE LEVELS OF AUTOMATION”

“Now let’s discuss the SAE levels of automation.

The Society of Automotive Engineers created a standard scale ranging from Level 0 to Level 5.

Level 0 means no automation.

The human driver performs all driving tasks.

Level 1 includes basic assistance features.

Level 2 includes systems capable of assisting with steering and speed simultaneously however, the human driver must still monitor the roadway.

Level 3 introduces conditional automation.

The system can drive under certain conditions, but a human must be ready to take control.

Level 4 is considered high automation.

The system may operate independently inside a defined operational area or under defined conditions.

Level 5 would represent full automation under all roadway conditions.

Currently, widespread nationwide Level 5 freight autonomy does not exist in commercial trucking operations.”

SEGMENT 5

“HOW DO THESE TRUCKS SEE THE ROAD”

Autonomous commercial trucks rely on multiple sensor systems working together.

These systems may include LiDAR.

LiDAR uses laser pulses to create a three-dimensional understanding of the environment.

Radar systems help detect objects and movement.

Cameras help identify lane markings, signs, vehicles, and pedestrians.

GPS and **Positioning** systems help determine vehicle location.

High-Definition Mapping systems provide detailed roadway information.

Artificial Intelligence systems are used to process all the information received from the system installed on the truck in real time.

These systems are constantly analyzing traffic behavior, roadway conditions, and environmental conditions while attempting to make driving decisions.”

SEGMENT 6

“OPERATIONAL DESIGN DOMAIN”

One of the most important terms in autonomous trucking is something called the *Operational Design Domain*, also known as the *ODD*.

The ODD defines the exact conditions where the autonomous system is designed to operate that may include:

Specific highways.

Specific weather conditions.

Specific states.

Specific traffic environments.

Specific speeds.

Specific operational boundaries.

****These distinctions describe how, when and where a commercial truck may operate autonomously in one environment but not in another.***

That is extremely important because most autonomous freight systems today are not designed to operate everywhere under all conditions.

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SEGMENT 7

“MEDIA HYPE VS OPERATIONAL REALITY”

Most media coverage focuses on the best-case scenarios such as:

Clear weather.

Open highways.

Minimal traffic.

Perfect road markings.

Controlled routes.

Real freight operations are far more complicated.

Actual truck drivers deal with:

Construction Zones

Customer Yards

Aggressive Drivers

Weather

Detours

Accident Scenes

Backing Situations

Breakdowns

Pedestrians

Emergency Situations

DOT and Police Interaction

Constantly changing operational conditions and much more while maintaining on-time pickup and delivery along with DOT, FMCSA and company compliance rules.

That is why operational reality matters and that is why autonomous trucking is much more complex than many headlines suggest.

VIDEO #1

CLOSING

Autonomous trucking technology is real.

But it is also highly controlled, highly specialized, and heavily dependent on operational limitations.

Understanding those limitations is critical to understanding the future of freight transportation.

In our next video, we will examine which truck configurations can and are actually using these systems currently, which companies are developing them, and how these technologies are being deployed in the real world operations in the US.