

DEVELOPMENT OF UNMANNED TRUCKS IN TRANSPORTATION

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One of the most potential applications of driverless trucks in freight transportation is the quick and massive development of driverless driving technology in recent years. These cutting-edge automobiles have the potential to significantly alter logistics by improving transportation's effectiveness and safety while lowering the cost of delivery.

Self-driving trucks can significantly save fuel expenses, travel time, and the amount of human-caused accidents. But there are drawbacks to the introduction of autonomous trucks as well, including the need to modify infrastructure, regulatory issues, and labor market effects. The present status of unmanned truck technologies, their benefits and drawbacks, and their potential for advancement in the freight transportation industry will all be examined in this paper.

On the M-11 Neva highway, autonomous trucks have begun to drive themselves.

In June 2023, the first unmanned cargo flight was place. At first, there were just three cars on the highway, but throughout the course of the year, there were 22. The fleet is expected to grow to 43 trucks by the end of 2024. Approximately 330,000 cubic meters of freight have been moved since the project started [1].

Four unmanned trucks – two from KAMAZ and two from Sberautotech – are reportedly using the roadway, according to the Ministry of Transportation. In just a year and a half, these vehicles have covered almost 3 million kilometers without any incidents, enabling them to advance to the next phase of development, when the driver can sit in the passenger seat. According to RBC, open tests of freight drones were carried out for the first time in 2023.

“Starline” is an NGO. A digital model of the road is employed for navigating, and the control system makes use of a number of specifically made sensor systems when the truck is in motion. Two test drivers attended the testing, and the sophisticated tractor’s software processes the data. According to TASS, driverless trucks can start operating on additional routes in 2024. 30 Unmanned logistics corridors are expected to be at least 19.5 thousand kilometers long.

The M-11 Neva highway now has 67 unmanned truck units in its fleet. Since the experiment's start in 2023, trucks have carried more than 640 thousand cubic meters of goods and covered more than 5.8 million kilometers. The controls in the cockpit are still operated by a human. The driver has shifted to the passenger seat since last year.

Future developments include fully autonomous aircraft and the expansion of technology to the M-12 highway and Central Ring Road. In less than two years, the experiment – which began with three trucks – helped create a new industry. It has already made use of a sizable worldwide business and a reliable fleet [2].

We anticipate that the geographic extension of the trial will contribute to the technology’s increased popularity. The Central Ring Road's digital counterpart is presently undergoing testing, and autonomous cargo transportation is anticipated to start soon.

To sum up, one of the most important developments in logistics and freight transportation today is the creation of driverless cars. Unmanned trucks have a lot of potential to improve delivery times, lower the cost of fuel and labor, boost the efficiency of cargo transportation, and lower the number of human-caused accidents.

China is among the nations that are now successfully developing and testing automated driving technology. Big businesses spend a lot of money and time creating the infrastructure, sensor systems, and software required to run driverless trucks.

References

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