

## PRESS RELEASE

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### Driver's sleep warning system reduces the number of accidents on surface transport in Moscow.

Surface urban passenger transport in Moscow is not only buses and electric buses, but also special services that are responsible for the development and implementation of on-board equipment, information boards, Wi-Fi on routes and other services.

Some developments of Russian specialists have no analogues in the world, are unique and promising for the domestic and foreign markets.

For example, the project Antison (driver's sleep warning system) is used to monitor the driver's condition at the wheel – with the help of camera, it reads signs of fatigue and if the driver has lost his vigilance, reproduces sound and light signals in the cabin.

The main goal is to reduce the number of accidents and incidents to zero, eliminating the factor of human error with the help of a system based on the combination of AI, IoT and edge computing technologies.

Now the system is installed in 100% of the vehicles coming on duty. Bus or electric bus does not go on route without it. With the help of artificial intelligence, the system determines various conditions that can lead to an accident – yawning, looking to the side, falling asleep. In 2020 it revealed 510 falls asleep, more than 4,500 cases of fatigue and more than 1,500 cases when the driver looked aside.

All data about the system's triggers is transmitted to the medical staff of the bus depot. Medical staff pay more attention to work with those drivers who are prone to distraction. In the course of operation, the system revealed another advantage – drivers began to pay much attention to the duty and rest time, more quality of rest. Since the system does not allow you to fall into a micro-sleep, a person is awake all the time, gets tired in the evening much more and prefers to go to bed instead of evening activities. This indirectly improves the quality of life of bus and electric bus drivers.

"The highest reward is saved lives, prevented injuries and accidents, safety on the roads for drivers, passengers and pedestrians. Since 2019, the number of road accidents caused by surface transport drivers has significantly decreased. We plan to continue to develop innovations in this direction, introduce new practices to make trips as safe as possible for passengers, drivers and other road users," Maksim Liksutov, the Deputy Mayor of Moscow for Transport.

#### **About Mosgortrans:**

Today Mosgortrans maintains 800 surface transport routes. These are daily used by over 5.5 million passengers.

There are 6.5 thousand buses, trams, trolleybuses and e-buses departing on a daily basis. Mosgortrans fleet is getting constantly renewed: an up-to-date rolling stock is acquired being adjusted to the low-mobility groups of people. New transport vehicles have a lower floor and are equipped with systems of climate control, video surveillance and navigation.

The company consists of 23 affiliates including 10 bus/trolleybus fleets, 5 tram fleets and other services maintaining Moscow surface public transport work.

More than 30 thousand company workers provide citizens with a regular, comfortable and constantly improving service.

Mosgortrans is an active member of Russian and international associations of public transport.

#### **Contacts:**

Address: 22/21 Raushskaya Naberezhnaya, b.1, Moscow, 115035  
Phone: 8 (495) 951-66-53 (office working hours: Mon – Thu: 8:00-17:00, Fri: 8:00-15:45)  
Fax: 8 (495) 951-38-27  
E-mail: [mail@mosgortrans.ru](mailto:mail@mosgortrans.ru) (for business correspondence)  
Official website: [www.mosgortrans.ru](http://www.mosgortrans.ru)