

Lyosha: Hello Timur!

Timur: Hi!

Lyosha: I have a question you'd probably not expect. How did you get here?

Timur: Well ... By bus.

Lyosha: This is what I want to talk about. Do you know why buses can cause flooding?

Timur: Buses and floods? This is illogical!

Lyosha: Let me explain. Humanity emits more than 55 (fifty five) billion tons of carbon dioxide annually. And carbon dioxide, accumulating in the atmosphere, leads to climate change. For example, the average global temperature increase.

Timur: Well, maybe, it was very hot this summer. But what does the flood have to do with it?

Lyosha: A significant part of the planet is glaciers. They melt, the water level in the ocean rises. That leads to floods.

Timur: It is logical. And the buses are to blame for everything?

Lyosha: Most of all emissions are generated by only four spheres of human activity that run on fossil fuels: industry, housing and communal services, power plants and, of course, transport. For example, in Russia there are about 96 (ninety six) thousand buses, of which only 611 (six hundred eleven) run on electricity.

Timur: But why not to change all the city transport to electric, if the problem is so significant?

Lyosha: It's very simple. Unfortunately, electricity is difficult to store. And so far there are only two solutions: to create a long network of wires, as is done for trams and trolleybuses. Or to use expensive batteries, which are also unsafe. Unfortunately, you won't get very far on cheaper options.

Timur: We can replace the battery with a charged one at the bus stop. And we can charge the battery that was removed before the arrival of the next bus.

Lyosha: Hmm ... this is a good idea! You just need to come up with a good gripper.

Timur: And this is how we will do it: we have a good autonomous electric bus. He pulls up to a bus stop. There is a special mechanism above the stop. It moves along three axes. The X and Y axes use a belt drive. The Z axis runs on the winch. And the gripper itself uses an electromagnet. On the roof of the bus there is a battery that we need to pick up for charging, and when the bus arrives at the bus stop, we pick it up from the bus and change it to a fully charged one.

Lyosha: This is a great idea! But I have one more suggestion: now there are quite a few delivery services, and there are a huge number of couriers on the roads. But what if our bus will also deliver parcels or orders from the online store? For example, the courier of an online store approaches his nearest stop, selects the place of delivery of the goods through a simple system. Then he puts the order in the cell. The nearest bus picks up the parcel and takes it along the route. And at the selected stop, the cell with the parcel is unloaded, and the recipient can pick it up. In order for the system to understand that the package is addressed to it, we will use a QR code. The bus stop realizes that a parcel addressed to it has arrived, and in the process of replacing the batteries, it also picks up the parcel from the bus. Due to this system, we will significantly reduce the number of cars on the roads.

Timur: And all this will make a good contribution to the fight for clean energy!

Thank you for the attention!