Drones as the latest means of obtaining information and transporting goods

The drone is one of the newest inventions, which was originally widespread in military units. It has now become a very popular tool for solving various tasks in everyday life. The use of drones in logistics as a means of delivering goods is a promising method that experts are actively working on. This is facilitated by the improvement of the technology of manufacturing unmanned aerial vehicles, which over time become more compact and easy to operate.

Does the **use of drones** require special training from the operator?

The use of an unmanned system in practice does not require significant technical knowledge, and almost everyone is able to buy device of this type.

The potential of drones directly in the logistics process was announced in 2013 by a representative of the leading American company Amazon. This statement was generally received with great skepticism, but also found its enthusiastic enthusiasts. Many experts believe that **drones** will be useful **in logistics** where there is a problem of transporting small volumes of cargo, and the usual methods of transportation are associated with significant difficulties. The possibility of **using drones** as a means of monitoring the load dynamics of large warehouses is also discussed, where it is not always possible to use other methods of monitoring the availability of free space.

Along with a number of indisputable advantages, the **drone** also has certain disadvantages, which are primarily related to the peculiarities of its design and the current state of technology for the manufacture of such devices. Among the factors that hinder its implementation are the following:

- Insufficient battery power, which usually allows the aircraft to stay in the air for no more than fifteen to twenty minutes;
- Uncertainty of legislation regarding the rules of **drone** stay in the air.

However, given the rapid development of the technical component, it is to be hoped that in the future the **use of drones** in this way will become more widespread. This process should be facilitated by solar technology, which is able to provide unmanned aerial vehicles with an alternative energy source.

Prospects for drone logistics in the modern world

Nowadays, the **drone,** equipped with a GPS navigation system, has the ability to fly autonomously without human intervention. In this way, the required load can be delivered to the point specified by the operator.

- What tasks can an aircraft with automatic control solve today?
- Thanks to the latest technologies, this type of robot can take over functions that previously belonged exclusively to humans.

This opens up significant prospects for new **drone logistics**, for the needs of which it is planned to produce specialized systems with appropriate software. Already, drones provide services in such important areas as:

- Delivery of pizza and other fast food;
- Transportation of parcels by postal service to the recipient;
- Transportation of medicines and donated blood;
- Providing emergency medical care in the presence of a threat to human life.

The main advantages of **using drones** in customer service should be considered the minimum period of time for which such a robot-controlled system is able to deliver the required cargo, as well as the ability to transport them to areas with no infrastructure for other vehicles. The presence of a recovery system saves some energy in order to further its use.

It should also be noted that **a drone** that has special equipment can literally save lives. In some countries, programs already exist that allow the drone to deliver the defibrillator to where the patient needs to resume heart function.

Use of drones to control warehouses

One of the eloquent examples, which demonstrates the advantages of the introduction of special purpose **drones in logistics**, should be called large warehouses, real-time monitoring of which is a rather difficult problem. This task is greatly complicated by the constant flow of goods, the cessation of which may be associated with economic losses.

- How can the **use of drones** help maintain the warehouse area?
- An aircraft equipped with a video camera can be very effective in the process of collecting and processing information about the state of the warehouse directly during its operation.

The technical support of such a device allows for continuous video recording and broadcast it to an external device, where the information is further processed by the operator. The information obtained in this way helps to solve the following questions:

- timely control over the technical condition of all parts of storage equipment;
- monitoring the degree of occupancy of certain parts of the room;
- monitoring of cargo transportation routes and determination of optimal schemes of their transportation.

The operation of large volumes of warehouse space involves constant accounting of those areas that are not yet fully loaded and as a result are able to accept new consignments. Drone video surveillance should be considered a reliable way to solve this problem. Timely collection of all relevant information makes it possible to make the best use of storage capacity and obtain a significant economic effect.

Thus, the emergence of **drones in logistics**, which are designed not only for the transportation of individual goods, but also for the observation of complex systems, their storage and transportation gives a new impetus to its further development. Equally important is the ability to adapt the internal rules of the warehouse to the peculiarities of the operation of drones, which perform the function of monitoring the entire system. The problem of timely charging of the battery in such conditions is solved quite easily and does not create significant difficulties during operation.

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