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AIRBORNE TRANSPORT NETWORK FOR PASSANTS

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Technical task:
Ensuring the safety of pedestrians in road traffic by means of transport drones.

Initial situation:
On the way to a destination, part of the route is often covered on foot. Sometimes, roads have to be crossed by zebra crossing, traffic lights or pedestrian bridges or underpasses. Traffic engineering measures such as zebra crossings or traffic lights slow down traffic and also pose an accident risk. Pedestrian bridges and underpasses, on the other hand, are disadvantageous because of their construction costs, size and appearance, as well as being uncomfortable for pedestrians because they have to take a detour that is tedious due to the difference in height. As a result, many people often travel even the shortest distances by taxi (e.g. Uber), which is detrimental to the flow of traffic. These disadvantages are particularly pronounced in large cities with city motorways etc. In addition, autonomous aircraft ("drones") are known that can transport loads through the air.

Solution:
Pedestrians can indicate that they want to be transported through the air. To do this, they can make a simple gesture, such as stretching an arm into the air. This is then detected by cameras or similar sensors that are within range, e.g. street lights, houses or even drones that are already flying or "parked". It would be advantageous for drones to park in "nests" on house facades, where they replenish their energy reserves and use their cameras to look for passengers. Alternatively, the pedestrians can announce their wish for transport via a small electronic device connected by radio (smartphone or smart watch).

As soon as a passenger is recognized, this is communicated to him, for example again via an electronic device or in an analogous way, e.g. the outstretched arm could be illuminated with one or more lasers. At the same time, a computing unit identifies and assigns a suitable drone. The advantage of this is that coordination takes place so that several aircraft do not set off.

Once the passenger arrives, he or she is fastened to the drone in a suitable manner, e.g. by putting on the appropriate belts himself or being "grabbed" by the drone itself or, for example, sitting on a seat and being given a safety bar (e.g. like on a roller coaster). Before, at the same time or afterwards the passenger can describe his destination, which is done advantageously by voice input, which is recorded by the drone via a microphone. For example, he could say "Take me across the street to the blue car" or "Take me home".

Once the passenger is properly secured and the target has been tuned, the drone will move to the destination to drop the passenger off. It can then fly directly to the next passenger, take a suitable waiting position, or fly to another location as needed.

Other possible variants of the invention:

The drone can be connected by radio to a human operator who can communicate with the passenger by telephone if there are problems with the attachment, target entry, identification or an emergency. If necessary, the latter can also take over control of the drone if the autonomous flight system cannot guarantee this safely.

A recognised passenger can first be identified, for example to find out whether he or she is authorized to be transported or to settle the flight with him or her. This identification can, for example, take place via facial recognition.

The drone can have a built-in, encrypted memory that stores details of the last transports. In this way, billing can take place even if a connection to a central processing unit cannot be established.

In addition, a decentralized action of the drones is conceivable, i.e. there is no central place, but drones themselves ensure that they are distributed throughout the city. In this case, billing can also take place decentrally, e.g. using prepaid cards.

The drone can be aware of its "state of health" so that it can request a repair if certain parts are defective or are mathematically at the wear limit. This is ensured by an integrated computing unit that monitors the function and service life of components.

Advantages:
Pedestrians reach their destination more comfortably, faster and safer. Conventional traffic is not slowed down by pedestrian lights. A further advantage is that short journeys (over a few road blocks) can be avoided with taxis, which further relieves regular road traffic.