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Hybrid-Airplane Tech. GmbH | Lichtentalerstr. 14 | 76530 Baden-Baden



## **H-AERO - The "Universal Airplane" - Dirk Lorenzen, Deutschlandfunk, Sternzeit**

The h-aero® is a sustainable flight concept that synergistically combines the advantages of the flight concepts of balloons, helicopters and airplanes. The h-aero® is a payload carrier and a reusable, airborne data collector that does not pollute the air or our orbit.

Unlike an aircraft, the h-aero® can take off vertically, turn on the spot and float. Unlike an airplane, the hybrid aircraft does not need a runway for take-off and landing. The h-aero® differs from a helicopter primarily in its energy consumption. Today's drones, for example, use helicopter technology with four rotors. The h-aero®, on the other hand, is powered by a gas cell. This significantly reduces its energy consumption. Compared to a balloon, the h-aero®'s envelope is much more aerodynamic and therefore less sensitive to wind. Compared to a zeppelin, crosswind sensitivity is reduced, the area-specific carrying gas volume is maximized, the structural mass is minimized, and all this significantly.

Thanks to its rotatable wings and motors, the universal aircraft can maneuver very agilely. Three sizes are already on the market, with 500 gm, 1.1 kg and 3 kg payload at sea level.

### **Sustainable lift concept and long flight times**

The aircraft is carried by helium during its stay in the air, only small amounts of energy are converted by the battery for motorization. This enables very long flight times over weeks and months. The batteries charged with solar cells supply energy to an on-board computer which is connected to the Internet via the mobile phone network. The carriers behave like aerosols in the air and can be used for earth observation in analogy and complementarity to earth observation satellites that measure the surface and orbit daily. The knowledge about e.g. melting polar ice caps can be used in such a way that new significantly shorter shipping routes lead to reduced greenhouse gases. However, this is only one of the future application scenarios.



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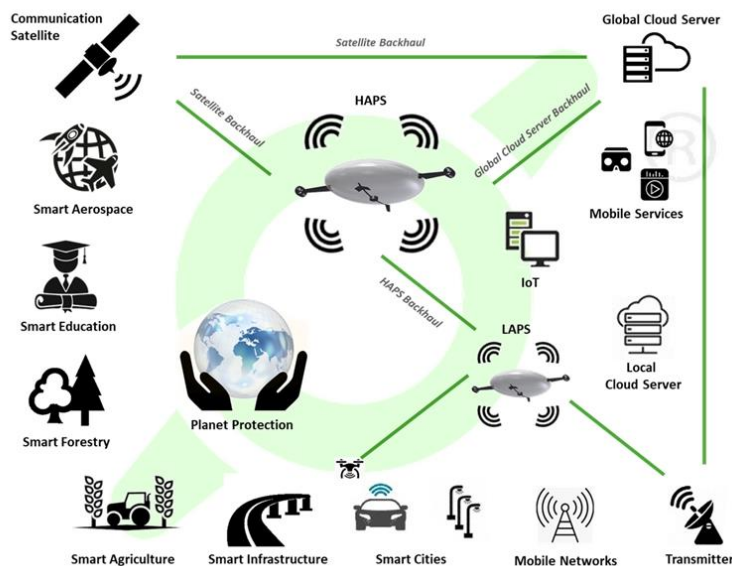
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## Fields of application and use of the h-aero®

The fields of application of the h-aero are as versatile as the versatility of its portable payloads. Inspections of tunnels or shafts underground, early detection of forest fires, noise emission measurement of wind turbines, training in technology and digitalization, security aspects of events, data acquisition

from hurricanes, inspection of power plants, digital preservation of ancient buildings indoors and outdoors, agricultural and forestry surveying, search and clearance of mine fields, exploration of raw materials, dissemination of broadcasting, Internet and telecommunications content (4G, 5G) and aerial photography.

### h-aero®s - 4G/5G/DVB In Situ HAPS, LAPS Case Space



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