The Phasa-35 on a trial flight | Photo source BAE systems

A NEW SOLAR AIRCRAFT COULD STAY AIRBORNE FOR A YEAR

MOBILITY & TRANSPORT

The solar-powered electric aircraft is designed to operate unmanned in the stratosphere

Spotted: BAE Systems has developed a solar-powered electric aircraft, PHASA-35, which is designed to operate unmanned in the stratosphere. The craft could stay aloft for up to one year, potentially offering an alternative to satellites.

The craft has a 35-metre wingspan and was designed and built in less than two years, in collaboration with UK company Prismatic, which BAE has since acquired. The plane is powered by the Sun during the day, and by long-life batteries at night. It is designed to provide a stable platform for operations such as monitoring, surveillance, communications and security. PHASA-35 has already completed its maiden flight.

According to BAE, the PHASA-35 is designed to give military and commercial customers an alternative to satellite usage. The company argues that capabilities such as the delivery of communications networks, including 5G, disaster relief services and border protection, could be provided by PHASA-35 at a fraction of the cost of satellites. The development of the craft was sponsored by the UK's Defence Science and Technology Laboratory and Australian Defence Science and Technology Group.

"To go from design to flight in less than two years shows that we can rise to the challenge the UK Government has set industry to deliver a Future Combat Air System within the next decade," Ian Muldowney, Engineering Director at BAE Systems, said.

Alternate-energy-powered flight is an idea with rapidly growing popularity. While PHASA-35 is designed as an unmanned vehicle, a number of companies are also working on developing manned solar planes. These include SolarStratos, which is developing a solar-powered two-seater which

could reach the stratosphere, and ZeroAvia, which is developing a hydrogen-fuelled aviation powertrain.

Further flight trials are scheduled for later this year, and the aircraft could enter commercial operations within 12 months of their completion.

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Takeaway:

While PHASA-35 has been designed with the military in mind, BAE also points out that the craft actually has a wide number of commercial uses, saying that it could become, "a game changer in the air and space market, plugging the gap between aircraft and satellite technology." By combining the flexibility of an aircraft with some of the benefits of satellites, such as the ability to stay airborne for long periods, it could have a range of applications, such as forest fire detection and maritime surveillance.