Stratospheric Platforms Ltd proposes complete 5G coverage across Scotland, powered by sustainable Hydrogen.



Stratospheric Platforms (SPL), a uniquely innovative British company based in Cambridge, has been working on wide area 5G telecommunications systems since 2016. Backed by Deutsche Telekom, it has developed a high-altitude, hydrogen-powered aircraft (technically known as a HAP or High Altitude Platform) which can provide uninterrupted 5G connectivity direct to consumer smart phones across areas as wide as 140km and at the same time, direct broadband connectivity to properties. It has proposed to the government (DCMS) complete coverage of the UK with a small fleet of aircraft operating from Prestwick. The coverage capability is particularly well suited to the challenging terrain of Scotland.

SPL's Stratomast HAP delivers wide area, high data rate, flexible telecoms capability. Acting as a network of masts in the sky, a single Stratomast system provides a low cost means of guaranteeing 100% geographic connectivity to the whole of Scotland. Each aircraft can simultaneously provide home broadband services to properties in rural and remote areas and 4G/5G mobile phone coverage.

Each Stratomast HAP carries a large high-power telecommunications system capable of covering up to 15,000 km2. The aircraft and payload are powered by a zero emissions, hydrogen power system. A fleet of 21 aircraft, capable of providing 100% coverage over Scotland, require only 8 offshore wind turbines to generate the power needed to produce Hydrogen from sea water and a service throughout the year with an availability greater than 99.9%.

The Stratomast system benefits remote and rural regions by providing a communications service which only requires standard

mobile phones for mobile connectivity, or for home broadband services a low cost, low power MiFi device (sub £100). The system does not require any unsightly expensive additional infrastructure or towers on the ground and removes the need for costly fibre optic cables laid across the seabed to island or rural communities. Furthermore, rural businesses, such as farming can increase their efficiency by being able to use IoT devices anywhere and access big data; supports tourism by guaranteeing high speed connectivity and supports fisherman by extending mobile phone voice and high speed data coverage far out to sea.

Data rates provided but the Stratomast HAP are significantly higher than anything that can be provided by satellites and need no satellite ground station as essentially this is just a telecoms mast in the sky.

Operating from an airfield located in Scotland, such as Prestwick, the company aims to provide full geographic ubiquitous telecommunications coverage, not just to Scotland, but the whole of the UK and large parts of Northern Europe, cementing Scotland as the technical leader in the provision of telecommunications, high altitude platforms and hydrogen aircraft for the foreseeable future.

Stratospheric Platforms welcomes the development of Prestwick as a UK Space Port and the opportunity to locate significant manufacturing and service operations at the airport, building on Prestwick's internationally recognised aerospace manufacturing and Air traffic Management capabilities.

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