

Stratospheric Platforms Limited announces successful demonstration of high-speed connectivity from the stratosphere into a live telecommunications network

Today, 19th October 2020, Stratospheric Platforms Ltd working with Deutsche Telekom AG (“DT”), its largest shareholder, technology partner and launch customer, is pleased to announce the world’s first successful demonstration of high speed LTE/4G data and voice connectivity via a remotely piloted aircraft operating in the stratosphere and integrated into DT’s live terrestrial network.

Stratospheric Platforms is developing a hydrogen fuel-cell powered, long endurance platform, communications payload and related infrastructure that will operate as a telecoms mast in the stratosphere. The platform will deliver high quality 4G and 5G ubiquitous coverage, more cost-effectively to users than is possible with current terrestrial mast solutions. The services will be operated alongside, and fully integrated with existing terrestrial communications networks, and can also be used to deliver rural broadband connectivity and greenfield mobile network services in unserved areas.

The demonstration carried out by DT was performed in Bavaria using a H3Grob 520 aircraft – a remotely piloted Aircraft System (RPAS) operating in the low stratosphere at an altitude of 45,000ft (c. 14km) – and a LTE antenna, with architecture compatible with 5G standalone delivered signals, to user equipment at the 2.1 GHz frequency band. A Voice over LTE (VoLTE) call, video call, data call, and video streaming were demonstrated on a standard smartphone and linked into the DT terrestrial live network. The stratospheric test demonstrated download speeds of 70Mbps and upload speeds of 23Mbps over a 10 MHz bandwidth.

Richard Deakin, Chief Executive Officer of Stratospheric Platforms Limited, commented:

“Today is the worldwide unveiling of Stratospheric Platforms and our journey to revolutionise the telecoms experience for many poorly-served customers around the world. We have operated quietly for the last five years to ensure that we significantly de-risked the key technologies before revealing the company to the world. Our lead partner Deutsche Telekom, has now completed a world’s first proof of concept trial on our behalf using LTE/4G telecoms services and we are looking forward to demonstrating our 5G antenna which will shortly be ready for stratospheric flight testing. We will be working with our partners and others over the next few years to bring this to operational deployment around 2024 with key benefits that distinguish our solution from all other competition and a significant cost advantage, which allows the telecommunication companies to provide users, wherever they are, with a unparalleled high quality customer experience.”

Bruno Jacobfeuerborn, member of SPL’s Supervisory Board for Deutsche Telekom and Chief Executive Officer of Deutsche Funkturm:

“We are thrilled to be working with Stratospheric Platforms to realise our vision of connectivity from the sky. SPL’s unique technology will enable us to deliver to all our customers, wherever they are located, a true broadband experience. We welcome other investors to join us on this journey to cost-effectively address the challenges of broadband roll-out”

Contact details:

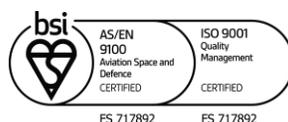
Richard Deakin, Chief Executive Officer

media@stratosphericplatforms.com

www.stratosphericplatforms.com

NOTES FOR EDITORS

Stratospheric Platforms Limited Suite 1, McClintock Building, Granta Park, Great Abington, Cambridge, Cambridgeshire, CB21 6GP
Company Registration No. 011482V | VAT No. GB0045823 | ISO Certified AS9100



About Stratospheric Platforms Ltd (SPL):

SPL was formed in 2014 with the vision of developing a high-altitude platform, associated payloads and ground infrastructure to deliver civil communication services to both the connected and unconnected world. Deutsche Telekom AG became a shareholder in 2016. Stratospheric Platforms started the development at the outset to ensure that the platform will be capable of operating as a normal civilian aircraft with regulatory type certification. The platform is large – around a 60 metre wingspan, which is equivalent to that of a Boeing 747 – but around only 3.5 tonnes in weight.

The platform will be powered by an environmentally friendly hydrogen fuel-cell system, which combines liquid hydrogen and oxygen into electrical energy with the waste being just water vapour. A fully functioning ground-based demonstrator producing 49kW at simulated stratospheric altitudes has already been successfully tested.

The communications system on the platform consists of a “backhaul” antenna which uses mm-wave into the Mobile Network Operator’s terrestrial network and a large “fronthaul” antenna (over 3 metres in diameter) which provides communications services direct to a normal smartphone, laptops and other consumer devices. The next generation of development, already identified and patented by Stratospheric Platforms, will enable significantly higher spectral efficiency whereby platforms operate in conjunction with one other (rather than acting as individual “masts in the sky”).

Technology partners include:

Platform: Northrop Grumman International Trading Inc utilising Scaled Composites LLC (USA), Bombardier Belfast (UK), Thales (UK), NATS (UK).

Hydrogen Power System: QinetiQ (UK), IAV (Germany), Pankl Turbosystems (Germany), TWI (UK), Cranfield Aerospace (UK).

Communications System: Deutsche Telekom (Germany), Cambridge Consultants (UK)

There are a number of benefits of Stratospheric Platforms' technology compared to satellites, and other solar-powered high-altitude platforms:

- The platform is essentially a flying mobile phone tower and unlike satellites can provide direct connection to standard consumer devices.
- Satellites operate from over 10 times the distance from the earth and therefore cannot compete with the “low latency” provided by the Stratospheric Platforms system – essential for 5G services.
- Compared to solar power SPL's platform has a huge power advantage from the hydrogen power system which provides significant capability for the communications antenna. The antenna provides coverage on the ground equivalent to around 500 terrestrial “cells” and due to the angle of the signal from above, will enable near 100% high quality coverage over an area up to 140km in diameter. Unlike solar power sources which inherently do not generate significant power, and none at night, and are adversely affected at high latitudes, SPL's system generates power 24/7 irrespective of the seasons or time of day.
- Satellite coverage is significantly inferior to that provided by Stratospheric Platforms' solution due to the low power, broad beam patterns and low data transmission rates.
- SPL's platforms can be deployed incrementally and in modular fashion, can be location or capacity adjusted in real time and each platform will have a flight endurance of 1-2 weeks. The telecommunications customer can therefore determine the cost and

effectiveness required in real time rather than needing to deploy a whole satellite constellation before any services can begin.

DT currently holds 38% of SPL and has exclusive licences to operate the technology, when commercially deployable, in 18 countries around the world, providing the ability for over 500 million people to potentially benefit from this exciting development.

Stratospheric Platforms is currently in active discussions with other potential investors in relation to a series B fundraise.