



## Pankl Turbosystems: Innovative air supply system for stratospheric flight

Pankl Turbosystems is a part of the ongoing evolution of mobile communication technologies. Pankl has developed, as part of a team of international technology partners on behalf of Stratospheric Platforms Limited, an environmentally-friendly unmanned aircraft which supports the live terrestrial network from the stratosphere and delivers broadband connectivity and greenfield mobile network services in underserved areas.

### **With Zero-Emissions to Flight Level 600**

Together with world-renowned partners, Pankl Turbosystems has worked on an environmentally-friendly hydrogen fuel cell for an unmanned aircraft, equipped with light and powerful telecommunication systems to provide LTE/4G/5G for smartphones without interruption.

The challenge for Pankl Turbosystems was to ensure the required supply of oxygen to the fuel cell system at every flight stage. This includes not only the propulsion power requirements of stratospheric flight, but also the required energy for the telecommunications systems. Toward this goal, Pankl has developed an innovative multi-staged air supply system for ascending into the stratosphere. The validation of this system was conducted in a ground test under simulated altitude conditions.

### **State-of-the-Art Connectivity**

The combination of the experience and knowledge of our employees in the fields of turbomachinery, the development of ultra high-speed electric motors and state-of-the-art power electronics, made it possible to manufacture an innovative multi-staged air supply system on an accelerated schedule, fulfilling all requirements of a flight to the stratosphere.

We wish to thank Stratospheric Platforms Limited for putting their trust in us, so that we were able to manage such a complex task within a short time.

For further information about this or other successful customer projects of Pankl Turbosystems, please contact us via email ([sales-turbo@pankl.com](mailto:sales-turbo@pankl.com)).