

Press Release – Greenerwave
Paris, June 16, 2025

SIAE 2025 – Paris-Le Bourget:

Greenerwave and Safran Passenger Innovations revolutionize in-flight connectivity with a low-power, cost-efficient and agnostic Ka-band SATCOM terminal

A breakthrough solution for commercial aviation offering high-speed, sustainable connectivity compatible with all constellations.

**Booth A3 (French Ministry of Armed Forces Booth) &
Booth B43 (NewSpace Alliance)
June 16–22, 2025**



Paris, June 16, 2025 – Greenerwave, pioneer in electromagnetic wave control technologies, and Safran Passenger Innovations (SPI), expert in in-flight entertainment and connectivity systems, announce a strategic partnership to develop a next-generation Ka-band aero SATCOM terminal. This cutting-edge terminal, fully compatible with current Ka-band satellites and future Ka-band NGSO constellations, will provide optimized in-flight connectivity without compromise. By combining enhanced passenger experience and increased operational efficiency, this collaboration represents a major leap forward for airlines and aircraft manufacturers, redefining the standards for in-flight high-speed connectivity.



Already recognized for its energy-efficient, multi-orbit Ku-band terminal, Greenerwave is expanding into the aerospace market with this new Ka-band solution—developed with a global industry leader. This highlights the maturity and relevance of Greenerwave’s technology for aerospace applications, just weeks after announcing the opening of its new office in Toulouse.

A competitive, easy-to-integrate alternative in the fast-growing in-flight connectivity market

With digital demand surging, in-flight connectivity has become essential for commercial aviation. Passengers expect seamless digital experiences comparable to ground connectivity, while airlines are in search of high-performance, flexible, and cost-effective solutions. Yet existing systems often come with limitations: difficult integration, high power consumption, excessive heat dissipation, lack of flexibility with operators, and significant costs.

Greenerwave and SPI are responding with a disruptive solution that enhances connectivity while significantly lowering total cost of ownership. By merging SPI’s deep expertise in onboard connectivity and entertainment with Greenerwave’s pioneering work in Reconfigurable Intelligent Surfaces (RIS) and passive electromagnetic wave control, the two partners are developing a high-performance, lightweight, energy-efficient SATCOM terminal compatible with all modems and Ka-band constellations.

Thanks to Greenerwave’s technology, the new terminal will offer a truly competitive alternative. Its compact and low-SWaP (Size, Weight and Power) design enables fast integration—eliminating the multiple days of downtime typically required by existing systems—thus helping airlines reduce operating costs.

“Thanks to its unique approach to 100% passive electronic wave control, Greenerwave is building the ideal terminal for aero applications: fully agnostic, energy-efficient, compact, and cost-effective. It’s a true revolution. This partnership with Safran, the global leader in in-flight connectivity, will bring this breakthrough to the commercial aviation market,” says **Geoffroy Lerosey, CEO and co-founder of Greenerwave.**

A next-generation solution for commercial aviation

This Ka-band terminal is designed for commercial aviation with a future-ready, cost-effective, and high-performance solution. Once installed, it gives airlines full freedom to choose their preferred operator while ensuring adaptability, scalability, and long-term investment protection. Its minimal thermal dissipation also makes it ideal for use in extreme environments, such as aircraft parked on hot tarmacs, ensuring reliable performance under all conditions.

In addition to its technical strengths, the software-defined terminal simplifies infrastructure and reduces both system complexity and total cost of ownership—without compromising quality of service. Its low energy consumption aligns with the aviation sector’s sustainability goals, reducing emissions and contributing to more responsible operations.

Integrated within Safran Passenger Innovations’ connectivity architecture, the terminal gives airlines a scalable, high-efficiency, and future-proof solution that enhances both performance and cost control.

“To meet the needs of our dynamic IFEC industry, an aero terminal must be adaptable to various constellations and challenging environments. SPI considers Greenerwave’s technology to meet these



demands, and we are eager to develop this terminal for our customers." - **Matt Smith, CEO of Safran Passenger Innovations.**

A strategic asset for airlines through next-level passenger experience

This partnership arrives in a highly competitive market, as airlines seek to modernize onboard services with advanced connectivity to attract and retain customers—while controlling costs and improving operational performance. Satellite-based connectivity has become a strategic lever in the aviation industry's digital transformation.

By adopting the SATCOM solution from Greenerwave and Safran Passenger Innovations, airlines will benefit from a high-performance, energy-efficient, and cost-effective infrastructure while delivering an enriched passenger experience. The terminal provides uninterrupted high-speed Wi-Fi from boarding to landing—allowing for streaming, browsing, and messaging throughout the journey.

This innovation also opens the door to future applications, including 5G NTN integration, and may contribute to the eventual standardization of satellite connectivity across the aviation industry.

How it works

Greenerwave designs metasurfaces comprising elements that “shape” electromagnetic waves, enabling directional beams to be generated and controlled. These metasurfaces consist of a group of centimetric-sized elements called pixels that act as micromirrors. Each pixel can modify the sign of the reflected wave. The interactions between pixels and microwaves are controlled by algorithms derived from the world of physics that direct waves after their reflection on the surface. Passive, low-cost and easy to manufacture, this technology aims to optimize the use of electromagnetic waves while drastically reducing the antenna energy consumption and production costs.

About Greenerwave

Greenerwave is an industrial deeptech founded in 2015 by researchers Geoffroy Lerosey and Mathias Fink, spin-off from the Langevin Institute, dependent on CNRS and ESPCI-PSL (École supérieure de physique et de chimie industrielles de Paris). Specializing in the control and orientation of electromagnetic waves, Greenerwave designs and develops, in France, a revolutionary technology that drastically improves the energy efficiency of equipment, making it more economical, more environmentally friendly and less dependent on semi-conductors. This disruptive technology finds application across various sectors, ranging from the automotive industry to satellite communications and the Internet of Things.

To learn more, please visit www.greenerwave.com

Press contacts Greenerwave

Stéphane Laurain stephane@edifice-communication.com +33(0)6 98 58 38 35

Ilinca Spita ilinc@edifice-communication.com +33(0)6 64 75 12 98