oledcomm

Your optical wireless innovation solution for aerospace, industry and beyond

LiFi by Oledcomm

Oledcomm

Oledcomm is a **French company**, pioneer and world leader in **LiFi technology** with over **15 years of R&D** and **33 patents**. Our products offer **ultra-secure**, broadband **wireless** connectivity, while avoiding the use of radio waves, making them ideal for many terrestrial applications, where **security** and **reliable connectivity** are crucial.

Benefiting from extensive expertise in the terrestrial field, Oledcomm has expanded its activities since 2020 to develop a range of products **specifically designed for aerospace**, using the same fundamental technologies. Indeed, aerospace occupies a central place in Oledcomm's roadmap. Our flagship product, **SatelLiFe**, marked a significant milestone by becoming **the first module to achieve light-based communication in space**. On April 15, 2023, on board **Latmos' Inspire7** nanosatellite, then on May 20, 2023, inside **OneWeb's JoeySat** demonstration satellite. We also plan to launch on board the **Ariane 6 launcher** by the end of 2023.
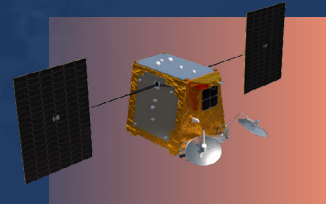
3 CES Awards

33 patents

European Innovation Council

Winner of CNES 2020 and Nextspace 2021 R&D challenge

Winner of the EIC Accelerator 2021
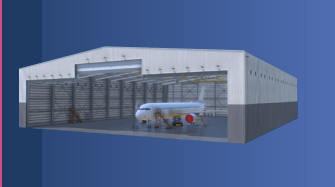*(European Innovation Council)*
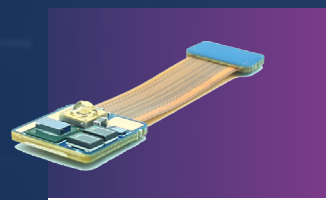
Success Stories

OneWeb

JOEYSat OneWeb and Airbus demo Satellite launched by SpaceX on May 20th 2023

AIRFRANCE

1st demonstration of in-flight WiFi connectivity on an Airbus A321
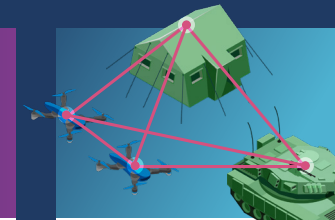
AIRFRANCE INDUSTRIES

500m² of avionics maintenance premises equipped with LiFi

MINIATURIZATION

1st to miniaturize LiFi technology

POINT TO POINT

Release of our latest secure last-kilometer point-to-point communication product

arianespace arianeGROUP

Qualification flight on Ariane 6 in 2024

LiFi
Technology Features

No Electromagnetic Interference

LiFi is ideal for use in sensitive areas because it does not emit radio frequency waves. It can be used **where WiFi is not desired or where there is strong interference**. It also helps **reduce network congestion**.

Mobility

Wireless enables mobility in the workspace through **uninterrupted roaming between antenas and access points**.

Cybersecurity

Light does not cross walls and thus provides an **unhackable, non jammable with zero electromagnetic signature wireless connectivity**.

Time effectiveness

All our products are developed **with a Plug & Play installation approach** to **optimize time management and minimize expenditure**.

Mass reduction

LiFi technology **replaces data cable harness**, making it possible to **reduce the mass of vehicles** (satellites, launch aircraft, drones,etc.) thus **reducing launch costs and fuel consumption**.
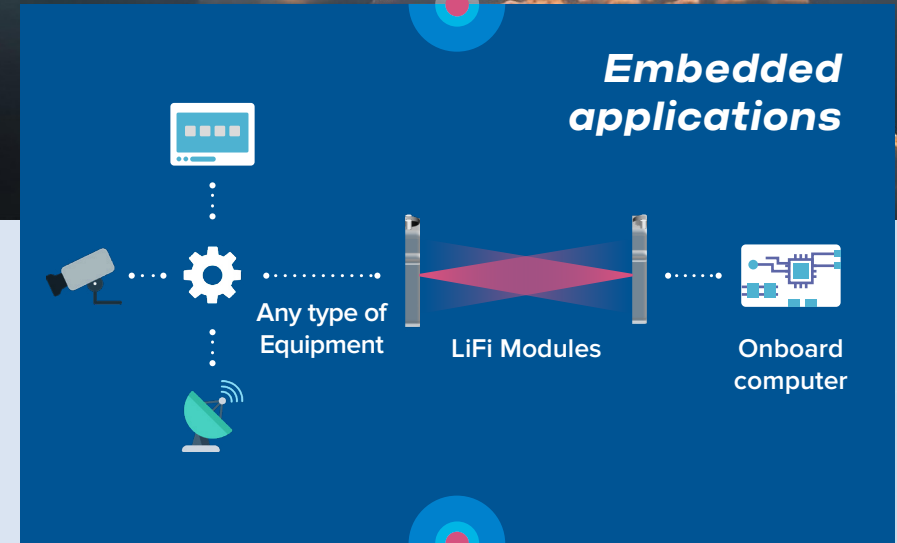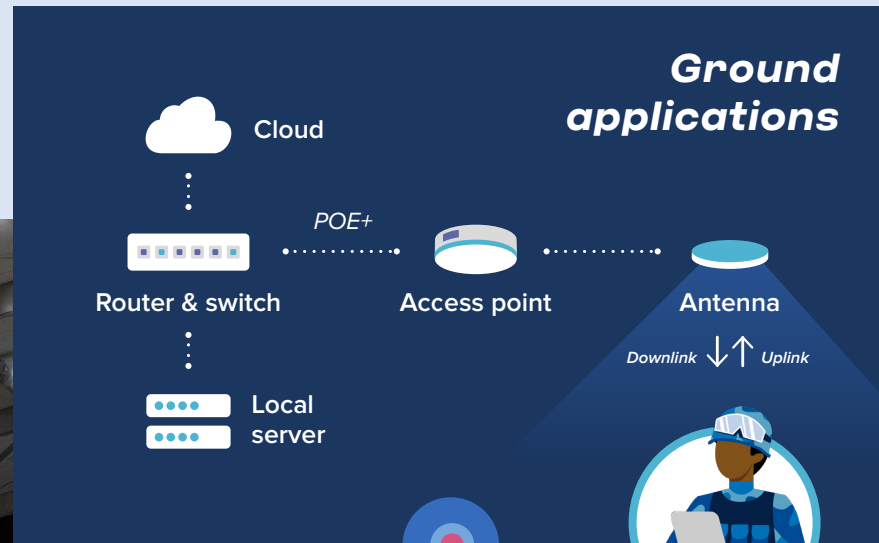
Error reduction

LiFi simplifies installation by **eliminating traditional cables**, offering **plug & play integration**. This reduction in cabling **reduces potential errors related to routing and wiring verification**.

How it works ?

LiFi Overview

Rather than using Radio Frequencies (RF), LiFi uses the **near-infrared spectrum** to transmit and receive data. By broadcasting data via a light beam, Oledcomm LiFi **does not penetrate the walls** and allows a connection strictly limited to the space in which it is installed. Therefore, LiFi is **non-jammable**, **unhackable** and provides an entirely **foolproof cybersecurity** connectivity solution.

Ground applications

Cloud

POE+

Router & switch

Access point

Antenna

Downlink ↓ ↑ Uplink

Local server

Embedded applications

Any type of Equipment

LiFi Modules

Onboard computer

A wide range of application

Our land-based solutions

Assembly, Integration and Testing facilities

| Provide connectivity in faradized areas & where WiFi is forbidden

| Wiring removal and wireless data transfer between equipment and operators
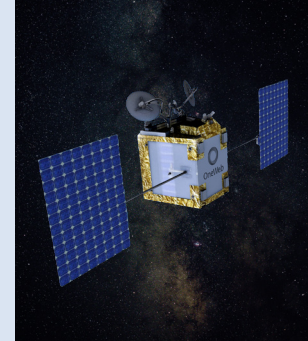*(EGSE, test benches/chambers, laboratories)*

| Improve operator mobility

Maintenance facilities (civil, military, private)

| Ultra-secure flight data transmission

| Simplify maintenance operations
(Improve operator mobility, wiring removal)

| Provide connectivity in faradized areas & where WiFi is forbidden

Sensitive areas

| Provide connectivity in sensitive areas

| ATEX zones

| No WiFi zones

| Secure communications

Our Embedded Solutions

Satellite

| Hosted payload integration

| Data harness removal

| Complex deployment mechanisms

| Orbital rendezvous

Launcher

| Intra & inter-stage wireless communication

| Interface board between payload and launcher

| Wireless communication between satellite and launcher

Aircrafts (civil, military, private)

| Data harness reduction

| Highly secured in-flight connectivity
(crew & passengers)

| Secured cockpit data
(EFB, communication headset)

A wide range of products tailored to your needs

LiFiMAX®

Access point
250 Mbps

Antenna
250 Mbps

Receiver
Plug & Play
USB-C

LiFiMAXTab
Android 10
8 cores

LiFi cases
for iPad &
Android tablets

SOLERIS

Access Point + Antenna
350 Mbps
125° - 30 m²

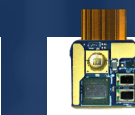**Receiver**
Plug & Play
RJ45 & USB-C

SatelLiFE

A wireless module using light to replace data harnesses
(Platform & Payload)

Multi-protocols (CAN, SOCAN, 1553, I2C, UART, Serial, SpaceWire). Entirely designed by Oledcomm (software & hardware)

LiFindustry

Point to point
Up to 1Gbps
10 m 100 meters

Point to point
Up to 1Gbps
0.25 m to 25 meters

Miniaturization

GIGABIT OFE
2 Gbps
1 to 5 meters

GIGABIT AFE
A Gbps
1 to 5 meters

Up to 3 different physical networks in the same space

| Tested and approved by the French Army

| Ruggedized solution

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