



Optimize your optical communications with unique atmospheric data

Unique atmospheric data for reliable Earth-Space laser communications

Miratlas provides companies, hyperscalers, space institutions and Defense players with precise atmospheric measurements to guarantee high-performance optical links, day and night.

1 – What Miratlas does: Turning the atmosphere into a strategic decision-making tool

Miratlas designs and deploys instruments and services enabling real-time measurement of all parameters impacting light propagation through the atmosphere:

- Turbulence
- Cloud cover
- Light absorption

This data maximizes the reliability and performance of optical communications between satellites and ground stations, even in changing weather conditions. Miratlas is the only player in the world capable of characterizing atmospheric turbulence day and night, providing a complete and continuous view of the optical communication channel.

2 – Why choose Miratlas? An essential solution for your strategic projects

Key points:

- **Data-driven decisions:** plan your optical links with precise, real-time and historical information.
- **Site optimization & OGS sizing:** identify the best ground locations and size your Optical Ground Stations to maximize performance, availability and return on investment.
- **Performance and continuity:** reduce outages, maximize throughput and anticipate atmospheric disruptions with AI-based forecasting.
- **Exclusive technology:** reliable data 24/7, for complete coverage, day and night.

3 – Our clients: demanding space, telecom, cloud and Defense players

Miratlas supports a diverse range of clients in their optical communication projects:

- Satellite and telecom operators
- Space agencies and research institutes
- Hyperscalers and cloud players
- Defense players
- Innovative technology companies

Thanks to Miratlas, these clients benefit from unique and continuous data to optimize the performance of their optical networks, precisely size their infrastructure and make informed strategic decisions.

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4 – Our exclusive tools: Miratlas technologies serving your optical communications

Miratlas offers a suite of innovative tools to measure, analyze and predict sky conditions, in order to optimize optical communications between Earth and Space. These solutions provide reliable and continuous data, essential for the performance of your links and the planning of ground stations.

List of tools:

- **Sky Monitor:** autonomous system that continuously measures cloud cover, turbulence and atmospheric absorption, 24/7 and 365 days a year.
- **CDIMM:** reference instrument for measuring nighttime turbulence, ensuring critical data for the planning and sizing of optical stations.
- **SHABAR:** specialized sensor providing a high-resolution profile of daytime turbulence, essential for detailed site analysis and optimization of optical architectures.
- **Pathfinder:** analytics and simulation software tool that helps select the highest-performing sites for OGS stations and optimize optical links.
- **Sky transparency map:** real-time visualization of cloud cover and atmospheric transparency, indispensable for anticipating the quality of optical links.

Thanks to the complementarity of C-DIMM (night) and SHABAR (day), Miratlas is the only industrial player in the world capable of providing a complete 24/7 view of optical propagation conditions — a major strategic advantage for modern optical architectures.

Get ahead of your optical communication projects with unique, reliable and continuous atmospheric measurements, and optimally size your ground stations.