

# GNA-G Global LEOSat WG Charter

**Working group charter version:** DRAFT v0.9

**Dated:** 11 July 2024

**Name of workgroup:** Global LEOSat WG

**Charter authors:** Mark Wolff (CANARIE) & Erik-Jan Bos (NORDUnet)

## Background

While GEO and MEO satellites have hardly played any important role in the development of the Internet, mainly due to high roundtrip times and low bandwidth, this has been slowly changing since roughly 2015 when the first Low Earth Orbiting (LEO) satellite operators started to emerge and be vocal on their plans. This included companies like LeoSat Enterprises (shutdown in November 2019, due to lack of investors) and OneWeb (entered bankruptcy protection in March 2020, and emerged in the same year).

The promise of LEO satellites was and is that they overcome the two major issues for satellites in the infrastructure of the Internet, i.e. they have an acceptable roundtrip time due to the much lower orbit of the satellites and they have much more bandwidth available per satellite. However, the LEOSat technology is very unlikely to play a role in the backbone of the Internet, where submarine and terrestrial cables remain the only viable solution, due to the orders of magnitude higher bandwidth on modern cables.

LEOSat technology and services are however an important addition for connectivity for R&E Networks, in at least three categories of infrastructure services delivery in the local loop:

1. Connecting a location that is hard to reach by fiber, e.g. a research station in a remote location.
2. Connecting a moving object, e.g. a research vessel.
3. As a back-up for a critical site that has its connection through one fiber path only.

The LEOSat landscape in 2024 shows that the technology has matured and that commercial players are offering services to the market. Four players are active or have announced their plans in this market at this stage:

- Eutelsat OneWeb: Established in 2023, after OneWeb joined the Eutelsat Group.
- StarLink: A SpaceX company.
- Telesat: Planning to launch 'Telesat Lightspeed' satellites in mid 2026 and global services late 2027.
- Kuiper Systems: A subsidiary of Amazon, established in 2019.

## Goal of the working group

Various R&E Networks around the world have been experimenting with LEOSat technology over the last few years. Some have already integrated LEOSat connectivity in their arsenal for connecting parts of their constituency.

The goal of this working group is to be a platform for discussion on LEOSat developments, in the areas of technology, service delivery, commercial, and legal. Discussing deployments, use cases and user cases will be the method to use for knowledge sharing.

Topics of interest will include exploring possible mechanisms for joint procurement of LEOSat services, and R&E Networking connectivity to LEOSat providers.

## Contributors

This working group is an open group for R&E. This implies that anyone working in the realm of R&E Networking is welcome to participate. From time to time, a (future) LEOSat operator can and will be invited to share their developments.

## Deliverables

The Global LEOSat WG will be working on the following deliverables:

- An up to date and agreed Working Group Charter (this document).
- A half-yearly report on the state of play of LEOSat in R&E, under responsibility of the WG Chairs.
- Presentations at community events, by members of the WG.

## Timeline

Start of WG: Early 2024

Closure of WG: When no half-yearly report has been produced, meaning the energy has gone.

## Collaboration methods

Zoom/Teams and occasional face-to-face WG meetings at community events

Mailing-list: Global LEOSat WG <[leosat-wg@lists.nordu.net](mailto:leosat-wg@lists.nordu.net)>

Box folder: Global LEOSat WG (to be considered for moving onto the GNA-G Box folder)

## Co-chairs

Mark Wolff (CANARIE),

Erik-Jan Bos (NORDUnet),

Andrew Wiedlea (ESnet).

The co-chairs are reachable at: Global LEOSat WG Co-chairs <[leosat-wg-co-chairs@lists.gna-g.net](mailto:leosat-wg-co-chairs@lists.gna-g.net)>

#####