



## eScan Gateway for Megaconstellations



### Overview

**eScan** is a novel ground station concept combining Gateway and Telemetry, Tracking and Command (TTC) services based on advanced electronic scanning multibeam antenna able to track simultaneously several Ka-Band satellites of LEO and MEO satellite megaconstellations.

It solves an incoming satellite mega-constellations system inefficiency- the need for a large number of different motorised-based reflectors farm to track many non-GEO satellites from a certain teleport site- in a very innovative way.

### Main Benefits



#### Economic Savings

Low OPEX and CAPEX related Operation, Maintenance and Infrastructure



#### Simple Installation

One **eScan** on the top of a building dome instead of a large network of parabolic antennas



#### Easy Maintenance

No complex drive mechanisms requiring less maintenance than traditional dishes



#### Environment Friendly

Ecologically wise product (less real state, less power consumption, less noise than traditional dishes)

## Key Features

- **Multifunctional.** Several services in the same ground station.
- **Multibeam.** Simultaneous communications with multiple satellites providing agility in LEO comms.
- **Broadband technology** in the whole K and Ka bands.
- **Modular approach.** Reconfigurable to produce different sizes, shapes and performance.
- **Flexible:** Easy to be upgraded thanks to its modularity.
- **Reliable.** Grateful degradation thanks to its modular approach.
- **Regulatory:** Compliant with sidelobe regulations FCC25.209, RR22-1 and 22.5D.

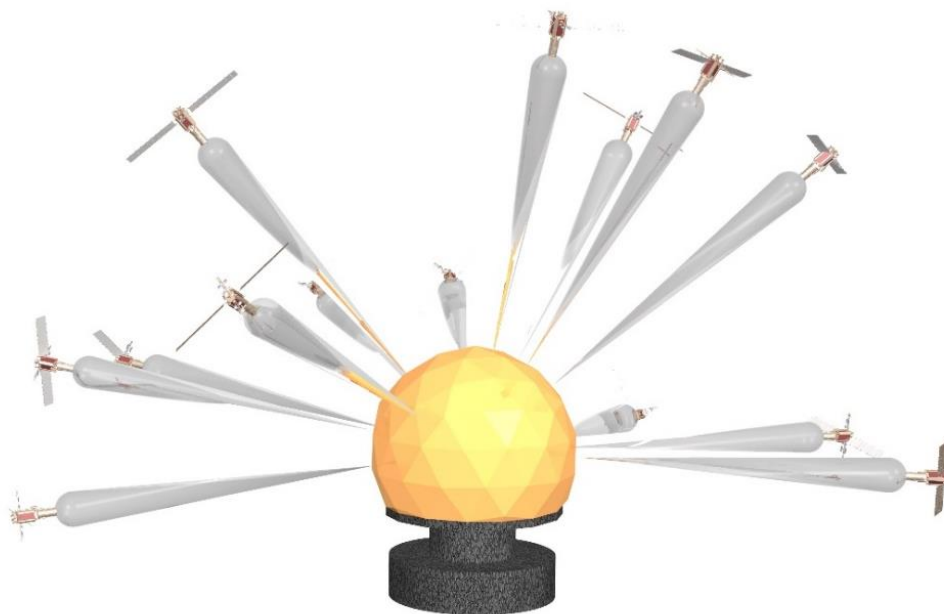
## Product Architecture

eScan architecture is based on the following elements:

- Transmission and Reception Active Array Antennas.
- Transmission and Reception Beamforming Networks.
- Clock and Reference Signals Distribution.
- Monitoring & Control (M&C) for Gateway Configuration and Operational Management.
- Infrastructure and common services.

eScan interfaces are tailored for compatibility and seamless integration with customer space and ground segment:

- **Space to Ground interface** of main LEO/MEO megaconstellations for gateway and TTC services
- **Modems interfaces** for both TTC and User Segment communications.
- **Satellite Control Centre interface** for satellite contact plan reception and health/service monitoring information reporting.



eScan is a flexible gateway solution adaptable to customer requirements. To learn more and analyse your configuration, please, contact us: [sales@celestia-tech.com](mailto:sales@celestia-tech.com)