

GOALS & OBJECTIVES

- 1 Adoption of 5G Advanced and pre-6G NTN by satellite operators
- 2 Provide novel satellite components for 5G Advanced NTN
- 3 Development of 5G Advanced NTN user equipment and gNB
- 4 Development of AI governance modules for resource management
- 5 Creation of mission planner for the design of future satellite networks



TRANTOR is conceived for accelerating the innovation in 5G+ satellite networks and ground equipment (user terminals and gateway infrastructure) and ultimately help operators provide better connectivity for communities around the world.

TRANTOR

Horizon Europe

PARTNERSHIP



CONTACT US

Centre Tecnològic de Telecomunicacions de Catalunya
(CTTC)

Av. Carl Friedrich Gauss 7, 08860, Castelldefels,
Barcelona, SPAIN

 @trantorhe

 [linkedin.com/company/trantorhe](https://www.linkedin.com/company/trantorhe)



www.trantor-he.eu

5G+ evoluTion to mutioRbitAI
multibaNd neTwORks



ABOUT TRANTOR

TRANTOR performs a significant step forward by paving the path for the 5G NTN evolution towards 6G. In-orbit validation of a complete satellite value chain involving automated management of satellite resources across multiple bands, satellites, orbits and a converged radio access network are the pillars in its core.

TRANTOR targets the development of novel satellite network management solutions, fully integrated into the 3GPP management framework, which allows the significant scaling up of heterogeneous satellite traffic demands and capacities in a cost-effective, highly dynamic, band and orbit-agnostic manner.

TESTS & DEMONSTRATIONS

- 1 End-to-End single band connectivity with single GEO and LEO satellites**
Baseline scenario demonstrating the basic support to end-to-end 5G NR connectivity over GEO and emulated LEO satellite.
- 2 End-to-End single-band connectivity with CU/DU split with OBP satellite**
This scenario is similar to the baseline demonstration but exploits on-board processing capabilities for CU/DU splitting.

3 Multi-band transmission from a single GEO satellite

This scenario is an extended multi-end case, where the UE has Advanced capabilities to receive in multiple bands, specifically Ku and Ka.

4 Multiorbital, multi-band transmission using a GEO and a drone-emulated LEO satellite

This scenario combines all the previous ones considering a multi-band transmission from LEO and GEO satellites.

5 Multi-satellite, multi-band transmission using two GEO satellite

This demonstration extends the previous scenario by considering that the two bands are transmitted from different GEO satellites, thus the UE-A has Advanced multi-satellite (i.e., multiTRP capabilities).



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