

## Call for pitches – Guidelines for R&T topics

**Topic of interest:** Low Cost User Terminals

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**Short description of research topic:**

Low Cost User Terminals for Mega Constellations

**Detailed areas of research proposed:**

The cost of user ground terminals (UT) in Ku-band for LEO telecommunication mega constellations such as OneWeb or Starlink is the main issue with regards to the economic equation of these constellations.

Technical requirements linked to LEO constellations UTs (high agility electronically steered multi-beams for LEO satellites tracking and handover) result in expensive technical solutions, preventing an actual deployment to main stream users consistent with business case requirement. Cracking the UT cost below \$500/UT is the main challenge for all mega constellations operators.

**Target results foreseen (e.g. maturity level to reach, deliverables to produce, estimated timing, etc.):**

The proposed R&D stream would consist of:

- Establish UT technical requirements
- Trade candidate low cost active antenna RF technologies such as meta materials, RF lenses arrays, ...
- Study, develop and test UT terminal antennas prototype
- Assess production cost with ad hoc partners

**Other relevant aspects to consider (e.g. previous experience required working in Defence and Space sector, access to specific facilities or laboratories, etc.)**

A clear expertise in the technological area and possibilities to bring to the consortia material, laboratories, test-facilities and workforce would be of high interest.