HELLENIC REPUBLIC
Ministry of Digital Governance
General Secretariat for Telecommunications and Post

REQUEST FOR INFORMATION (RFI)

Satellite Communications User Ground Equipment

Multi-Mission Terminal Development and Production

Submission Deadline: 17/4/2026

Responses to be submitted to: ggtt@mindigital.gr

IMPORTANT NOTICE: All information requested and provided in the framework of this RFI will be used for information and planning purposes only. This Request does not constitute a solicitation or a commitment to procure, and does not bind the Ministry to any present or future procurement action, nor does it create any rights for respondents in relation to any present or future national, ESA, or EU procurement.

1. INTRODUCTION AND CONTEXT

Space technology, data and services have become indispensable in the daily lives of Europeans and play an essential role in safeguarding many strategic interests [1]. Focusing on secure communications and connectivity from space -one of the key applications of space technologies- the dual-use nature of these systems and the maintenance of a high degree of security represent a key national priority, particularly in order to safeguard the interests of the European Union and its Member States [2]. The purpose of this Request for Information (RFI) is to collect information from industry on the development of satellite communications ground equipment, with a focus on the user segment and secure satellite communications, in response to specific national and European needs [3][4].

1.1. Use-Case Overview

Table 1 presents an overview of existing/future GEO/NGSO constellation systems. The GOVSATCOM Sharing & Pooling programme is already offering GEO capacity to EU member states and institutions while IRIS^2 will be a multi-orbit constellation (LEO and MEO) able to serve both commercial and dual-use market segments.

1.2. User Terminals

This Request for Information seeks an Outline Concept for ground user terminals. The general elements of a satcom user terminal are illustrated in Figure 1. Each responder may include 2-3 scenarios, including all or part of the elements 1-7 depicted in Figure 1, each with an associated rough order of magnitude (ROM) cost. Each scenario shall comprise of

- ✓ A conceptual outline of the end-to-end system design including the space, ground and user segments, focusing on the concept of operations (CONOPS) of the user segment.
- ✓ The proposed subset of the user segment to be provided and the associated technical specifications of the equipment, as well as clear description of its interoperability with the entire user segment.
- ✓ Details of the programmatic implementation identifying key component lead times (e.g. terminal manufacturing).

With respect to Figure 1 (cf. Annex I for detailed break-down of options) the responders are invited to offer technical details on a solution for the antenna subsystem (1-3), the modem (4) as well as all other relevant subsystems (5-7), either as a single integrated solution, or as a modular solution with clearly interoperable components with well-defined standardized interfaces in any layer (L0/L1/L2/L3). Each abovementioned scenario shall also include the

starting (current) and target Technology Readiness Level (TRL) of each development and justification thereof. The RFI is open to entities residing in Greece and consortia/partners with a significant contribution from Greek entities.

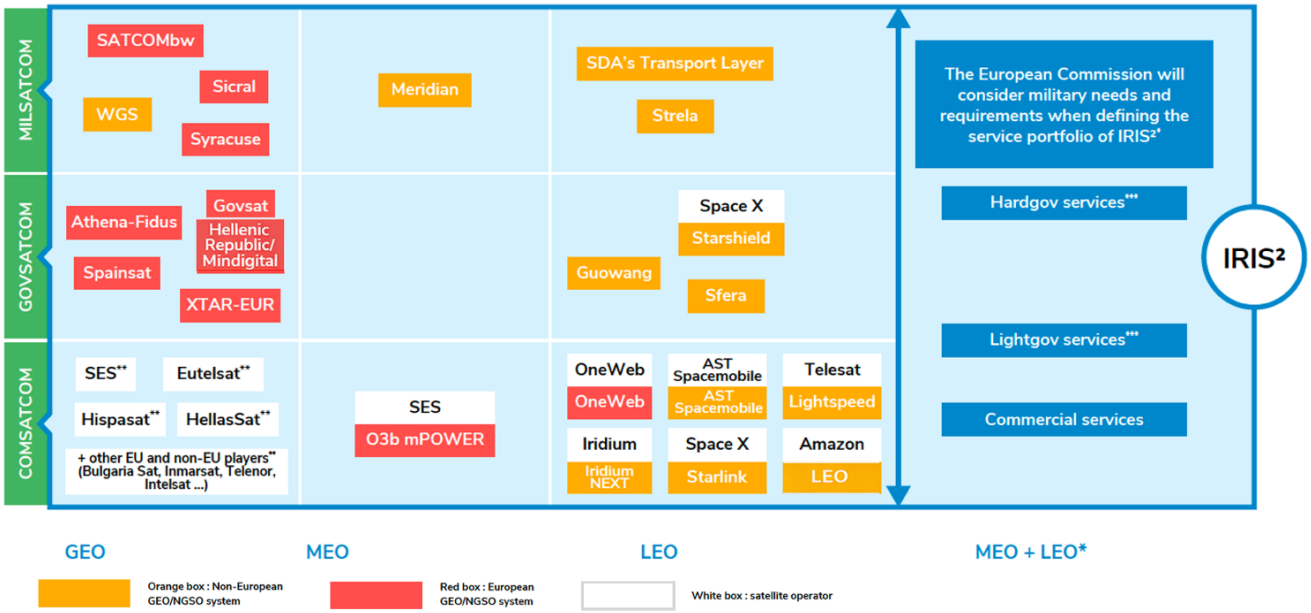


Table 1: Classification of satcom services versus operators and orbits [5].

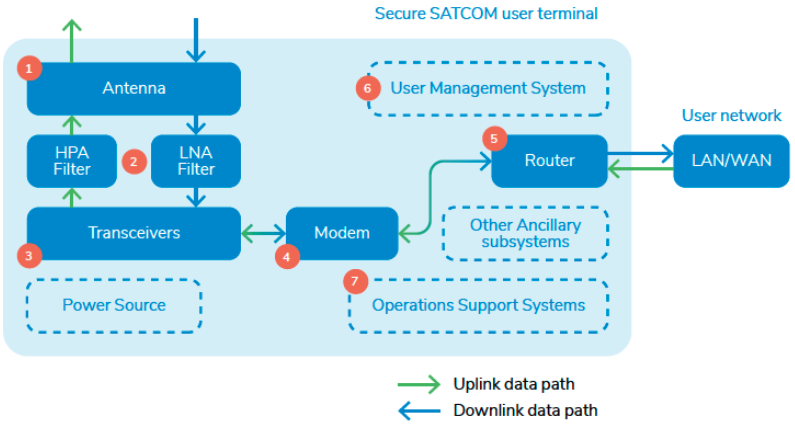


Figure 1: Terminal Architecture Diagram with fundamental building blocks (modules) [5].

2. MISSION STATEMENT AND REQUIREMENTS

2.1. Mission Statement

To develop, manufacture and supply multi-mission satellite communications user segment equipment capable of connecting with multiple space systems — including IRIS², GEO telecommunications satellites, and commercial LEO constellations (e.g. Starlink, Amazon LEO, Eutelsat OneWeb) — in response to European and national needs for secure connectivity, while establishing domestic production lines, idealy capable of delivering hundreds of terminals, and promoting to the greatest extent possible the development of national industry and the utilisation of national assets.

2.2. Main Terminal Requirements

The following requirements are non-exhaustive and are ordered in terms of priority. Where multiple options are listed within a requirement, they are separated by "/" and are also presented in order of priority. By complying with

a combinatorial subset of the design specifications included in each requirement, compliance with the respective requirement shall be considered as achieved.

Req. ID	Requirement
REQ-01	Terminals shall be interoperable with MILSATCOM, GOVSATCOM, and COMSATCOM systems, supporting multi-orbit connectivity (e.g.,: GEO, MEO, and LEO) and operation across multiple frequency bands (e.g.: X-, Ka-mil, Ka-, Ku-, C-, S-, L-, and UHF bands).
REQ-02	A mix of high-, medium- and low-end terminals shall be provided, with optimised Size, Weight, Power and Cost (SWaP-C), capable of serving Maritime, Fixed, SatCom on the Pause (SOTP), SatCom on the Move (SOTM) and Aeronautical use cases. For each use-case, the terminal Size Weight and Power (SWaP) shall be detailed.
REQ-03	Virtualised architectures interoperable with multi-vendor terminal platforms for network management are expected. Terminals (a.k.a. VSATs) shall incorporate electronic and/or mechanical beam-steering RF antennas, be based on Application-Specific Integrated Circuits (ASICs) and/or Field-Programmable Gate Arrays (FPGAs) for baseband and RF signal processing, and support standard industry interfaces including but not limited to: [Wi-Fi, Ethernet, L-band, EIA-530 (RS 422), EIA-612/613 (HSSI) etc.].
REQ-04	Terminals shall be capable of high spectral efficiency while ensuring state-of-the-art anti-jamming techniques for Communications Security (COMSEC), including Transmission Security (TRANSEC). Electronic and/or mechanical beamforming (digital and/or analog) and/or beam steering shall be considered. Exemplary terminal capabilities include but are not limited to Low Probability of Detection/Low Probability of Interception (LPD/LPI), spread spectrum, Very Low Signal-to-Noise Ratio (VL-SNR) operation, Frequency Hopping Spread Spectrum (FHSS), and antenna nulling/notching for jamming resistance. Terminals shall be capable of transmitting and receiving in half- and/or full-duplex modes in the time and/or frequency domains.
REQ-05	Terminals shall be capable of high spectral efficiency while ensuring state-of-the-art Network Security (NETSEC) for protection against cyber-attacks, including encryption, firewalls, Virtual Private Networks (VPNs), and Intrusion Prevention/Detection Systems (IPS/IDS).
REQ-06	Terminals shall be standards-based, following terrestrial and Non-Terrestrial Network (NTN) evolutions (3GPP Release 18 and beyond). Adherence to well-established satcom standards including, but not limited to, DVB-S2(X) and DVB-RCS2, as well as military-specific standards in the STANAG and MIL-STD families and future-proof compatibility with the European Protected Waveform (EPW), is also expected. Equipment shall adhere to pertinent 3GPP standards for the Physical Layer (PHY), Medium Access Control (MAC), Radio Link Control (RLC), Packet Data Convergence Protocol (PDCP), Service Data Adaptation Protocol (SDAP), Radio Resource Control (RRC), and Non-Access Stratum (NAS).
REQ-07	Terminals shall support physical authentication mechanisms, namely Physical Subscriber Identity Module (SIM) and/or embedded SIM (eSIM). Other industry-standard features that guarantee multi-vendor equipment compatibility are highly valued, including but not limited to Enhanced Common Public Radio Interface (eCPRI), Digital Intermediate Frequency Interoperability (DIFI) Consortium standards, Open Antenna Modem Interface Protocol (OpenAMIP), and Open BUC Modem Interface Protocol (OpenBMIP). Backwards compatibility with legacy standards (DVB-S2/RCS) and multiple vendor mobility platforms (Hubs) is highly desirable.
REQ-08	Terminals shall be capable of seamless intra-orbit satellite handovers. Specifically, proposals shall include methods to enable handover between two satellites of the same orbit without interruption of real-time or near-real-time services. Handover may be executed at the physical layer or at higher layers. The GEO-to-GEO handover use case, as emanated from [6], shall be considered, including service continuity across different networks of the same system (e.g. GOVSATCOM Sharing and Pooling). Typical MEO-to-MEO Make-Before-Break (MBB) and LEO-to-LEO MBB or Break-Before-Make (BBM) handovers shall also be considered. In dual-RF-chain scenarios, exploitation of the

	secondary chain during standby (before and after handover) via diversity combining is considered an asset. The present RFI also explores terminal-level resilience concepts, including simultaneous multi-GEO connectivity, rapid beam switching, and continuity-of-service mechanisms under interference conditions.
REQ-09	Terminals shall be capable of seamless inter-orbit handovers. All methods and orbit types referenced in REQ-08 are applicable, while also addressing the challenges of latency variations and delay jitter in end-to-end communications.
REQ-10	Respondents shall demonstrate adequate manufacturing capability. Ideally, respondents shall demonstrate the means to establish production lines capable of manufacturing and supplying an excess of 150 terminals by 2030, with a view to scaling towards a total production capacity of several hundreds of terminals, in support of national and European demand across multiple mission types (IRIS^2, GEO telecommunications, and commercial LEO constellations).

2.3. National Technology Development

The development of technology elements relevant to the user segment by national industry is strongly encouraged. Examples include, but are not limited to, Printed Circuit Boards (PCBs), standards-based virtual modems (5G NTN, DIFI, OpenAMIP, DVB-S2(X), DVB-RCS2, EPW, PTW, STANAG, MIL-STD), and SWaP-C-optimised electrically and/or mechanically steerable broadband antennas (encompassing analogue/digital beamforming, phase shifting, true-time-delay compensation, and related technologies). Industry is encouraged to propose solutions beyond what is currently available commercially.

The responders are expected to provide a rough order of magnitude (ROM) price of non-recuring and recurring engineering (NRE and RE) costs versus the production scales (i.e. dependent on the number of terminals), as well as brief roadmap (including timelines), development and industrialization plans and risk assessment.

3. RISK SHARING AND SYNERGIES

The project carries risks associated with the timely development and delivery of the user ground segment. Proposals shall devote a dedicated section to an analysis of these risks, to the mitigating actions that the company will undertake, and to any actions expected from the General Secretariat to support risk mitigation.

Should a company wish to enter into a partnership with any national or foreign entity for the execution of the project, or to engage ESA or EUSPA expertise, this should be described in a dedicated section of the submission.

4. INDUSTRIAL ORGANISATION

Submissions shall provide information on the companies and their capabilities identified for the development of each element of the user segment, including existing products, ongoing developments or roadmaps. The promotion of national industry development and the utilisation of national assets (e.g. infrastructure, laboratories, ground stations) shall be clearly highlighted. The percentage of Greek industrial engagement shall be explicitly stated; this is expected to exceed 50%. It is underlined that the Ministry of Digital Governance may impose additional conditions in the future regarding the companies responsible for the development and production of PRS receivers, including requirements relating to security clearances, facility accreditation, and supply chain integrity. This element will play an important role in decisions taken on the implementation of any subsequent activity.

5. SUBMISSION OF RESPONSES

5.1. General

Responses to this RFI shall be submitted to ggtt@mindigital.gr no later than 17/4/2026.

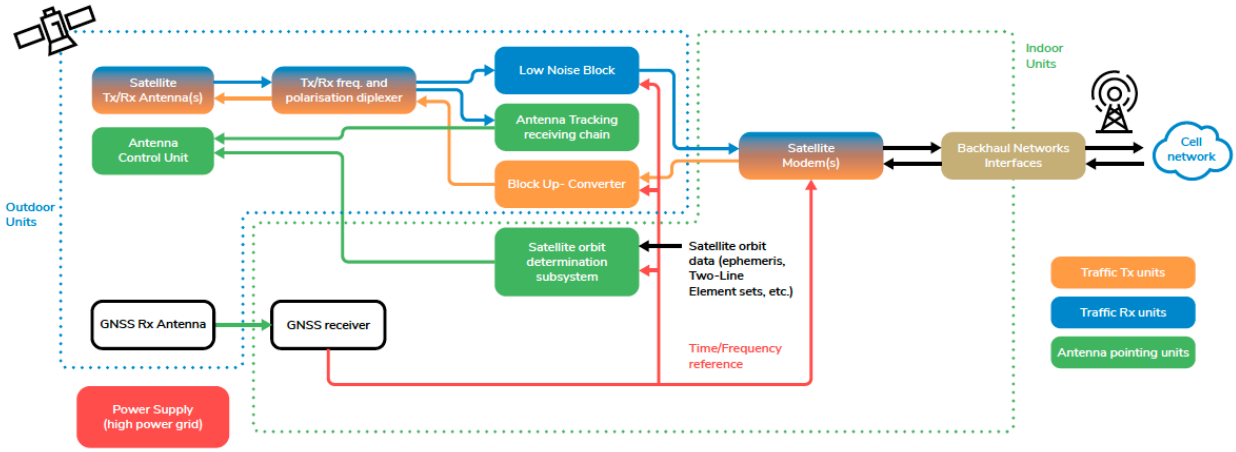
Respondents are requested to use standard templates. Proprietary or classified information submitted in response to this RFI shall be clearly marked as such and handled in accordance with applicable national and EU security regulations.

Responses shall not exceed 20 pages. Additional information on the company or on references may be provided as an annex. Proposals will be shared with other Ministries as appropriate.

REFERENCES

[1]. EU Space Regulation. EC, Jun.2018 (link)
[2]. GOVSATCOM Impact Assessment. EC, Jun. 2018 (link)
[3]. High Level Civil Military User Needs for Governmental Satellite Communications (GOVSATCOM), European External Action Service (EEAS), Mar. 2017 (link)
[4]. Millitary Communications Satellite Request for Information, Mindigital.gr, Jul. 2024 (link).
[5]. Secure SatCom User Technology Report, EUSPA, Feb. 2025 (link).
[6]. GOVSATCOM (link).

APPENDIX A: Summary Response Template



Terminal Generic Modules	Characteristics	GR based Vendor	EU based Vendor	Non-EU based Vendor	Comments
(1-3) Antenna	Electronically Steerable				Please detail Integrated Chips (ASIC/FPGA) associated technologies/capabilities
	Mechanically Steerable				
	Single Beam				
	Multi-beam				
	Antenna Control Unit (ACU, incl. TLE, Tracking etc)				
	Low Noise Block (LNB)				
	Block Up Converter (BUC)				
(4) Modem	Standards				As above
	single / dual RF Chains				
	MBB				
	BBM				
	anti-jamming				
	GNSS				
(5-7) Terminal Platform (Hub) Interoperability for user management (incl. OSS/BSS, terminal provisioning and management etc.)					Please indicate compatible COTS hubs that shall be interoperable with the proposed terminal