SKYNET Transition and Transformation Project (SK T&T):

Next Generation Land Terminal (NGLT)

Request for Information (RFI)

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Contents

1. Introduction 2
1a. Engagement Approach 2
1b. RFI Security Information 2
2. The NGLT Requirement 3
3. How to respond to this RFI ..... **Error! Bookmark not defined.**

1. Introduction

1. The Ministry of Defence (MOD) is currently developing a requirement to replace the existing military Satellite Communication (SatCom) land terminals through the Next Generation Land Terminal (NGLT) project. The MOD is seeking industry's views on aspects of the procurement, design and manufacture of military SatCom land terminals to help inform its technical options and programme planning. Therefore, the MOD would like to invite participants in this RFI to provide feedback on the questions in the attached response template.
2. The objective of this RFI is to solicit information and contributions towards achieving the following:
    a. Confirming the MOD's understanding of the market with the aim of becoming an intelligent customer
    b. Gaining a deeper understanding of the technical specifications of existing military off-the-shelf land terminals
    c. Gaining an understanding of the possibilities, trade-offs and constraints involved in providing particular technical specifications

1a. Engagement Approach

3. A separate template has been provided for participants to respond to this RFI. Responses to the questions will be treated as commercially sensitive. Only Official or Official-Sensitive responses should be sent to the email address specified on page 5.
4. The MOD may wish to invite respondents of this RFI to one-to-one sessions to discuss further details. The content of individual responses (or lack of response) will not be in any way prejudicial to future procurement processes and is for MOD information only.
5. The description of the NGLT project and other aspects of the SKYNET programme provided in this document are subject to change without notice or consultation. The MOD will not be held liable for any decisions or investments made based on the information contained in, or inferred from, this document.
6. Please note that it is the responsibility of the respondent to ensure that appropriate rights of distribution are in place for all information shared in response to this RFI.

1b. RFI Security Information

7. The following security information should be read and understood before responding to this RFI:
    a. The security classification of this RFI is UK OFFICIAL.
    b. The security of the anticipated future procurement for NGLT is of critical national importance. The Official Secrets Act and other relevant legislation will inherently apply to the SKYNET programme. Effective security will need to be designed, implemented, and assured throughout the life of the programme. The security must cover the system itself, the impact of connected systems, and the programmatic aspect of security.

2. The NGLT Requirement

8. The full range of the MOD's SatCom systems and services are currently delivered under several contracts and memoranda of understanding, with the bulk of services provided under the SKYNET Contract for Implementation and Service Delivery (CISD), awarded in October 2003 under a Private Finance Initiative (PFI). That PFI is with Airbus Defence & Space (ADS) and expires on 31 August 2022.

9. After this date, the MOD will transform towards becoming an "Intelligent Owner" and take on responsibility for maintaining all SatCom assets, services and capabilities under the SKYNET Programme. This includes the procurement of multiple suppliers to support the service wrap and replenish obsolete assets in order to de-risk capability and maintain service delivery whilst the SKYNET Programme transitions from the PFI.

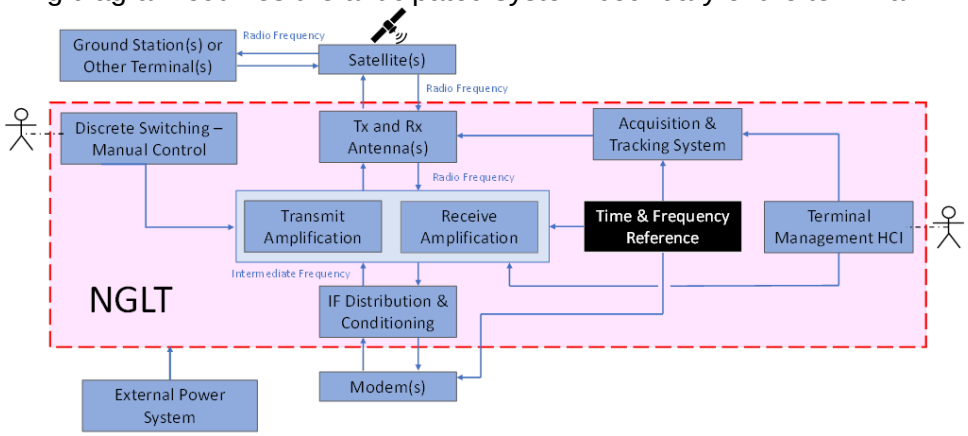
10. Deployed forces in the Land and Littoral environments are currently provided with SatCom land terminals to provide a robust, resilient, and adaptive communications capability. These terminals are now over 15 years old, suffering from system obsolescence and reaching end-of-life, therefore lacking the ability to meet current and future Information Exchange Requirements (IERs). The focus of this Early Market Engagement Activity is the replacement of these land terminals, which have a planning assumption for service entry from 2025. A new Next Generation Land Terminal (NGLT) "family" will be required that can operate with the MOD's current (SK5) and future (SK6) satellites, and those of our Allies, to continue to provide SatCom capabilities to Land and Littoral Force Elements. The NGLT family is expected to comprise small, medium and large variants, based on sizes of antenna (approximate diameter 1.2m, 2.4m, 4.8m), but encompassing the Size, Weight and Power (SWAP) of the Terminal more generally.

11. The anticipated system boundary of the Next Generation Land Terminal will comprise the transmission elements of the system that receive and transmit Radio Frequency (RF) signals to and from a satellite and convert signals between RF and Intermediate Frequency (IF) to interface with the modem. The Next Generation Land Terminal will accept modulated Intermediate Frequency (IF) inputs from the Modem segment at L-band, up-convert to the relevant SatCom band for the uplink path, and vice versa for the downlink path. The system boundary will not include the generators to supply power to the terminals, or the vehicles to transport the terminals. However, the boundary will include ancillaries such as:

    a. Equipment to provide the terminal its location and heading so the antenna can point in the correct directions

    b. A management application to provide a User Interface as well as Service Provision and Service Assurance interfaces

12. The following diagram outlines the anticipated system boundary of the terminal:



13. The current assumption is that the NGLT is bounded as the diagram above and does not contain baseband or modem elements. However, if any of the terminals proposed or described in response to this RFI contain existing modem and baseband elements, they should be described and presented.

3. How to respond to this RFI

14. Please use the response template provided to fill out the information. Respondents may answer as many or as few of the questions as they wish.

    In the first tab "Section 1- Specifications", we are requesting the specifications of your off-the-shelf military SatCom land terminals. Please fill out the table as succinctly as possible, as if it were a product data sheet. If possible, please include a range of small, medium and large terminals, based on sizes of antenna (approximate diameter 1.2m, 2.4m, 4.8m). These diameters are based on parabolic systems, but we are not precluding phased arrays.

15. These are some guideline minimum requirements for the terminals we are requesting specifications for in Section 1:

    a. Capability to support X-band and military Ka-band as a minimum

    b. A minimum polarisation requirement for X-band to receive in LHCP and transmit on RHCP. However, we are interested in the terminal supporting both LHCP and RHCP at transmit and receive.

    c. A minimum polarisation requirement for Ka-band to support both LHCP and RHCP at transmit and receive

    d. Support for L-band IF bandwidths of 950 to 2000MHz (mandated) and 950 to 2150MHz as a target, to interface with the modem

    e. Approximate EIRP and G/T values as follows:

	1.2m - X-Band	1.2m - Ka-Band	2.4m - X-Band	2.4m - Ka-Band	4.8m - X-Band	4.8m - Ka-Band
Single Carrier EIRP(dBW)	61	64	67	70	73	76
G/T at 5deg Elevation(dB/K)	16	21	22	27	28	33

16. The information requested in "Section 1- Specifications" covers the following topics:

- Size & weight
- Frequency bands
- EIRP
- G/T
- Switchable/dual polarisation
- Power supply
- Software
- Modems
- Beacon receivers
- Estimated costs
- Technology readiness levels

For the question on technology readiness levels, please refer to the attached PDF for definitions of levels 1 to 9. For the ROM cost per unit, please use the anticipated system boundary outlined in paragraphs 11,12 and 13 as guidance.

In the second tab "Section 2- Additional questions", please provide free text responses of no more than 250 words. In this section, we are asking a combination of non-technical and technical questions. The non-technical questions are intended to confirm our understanding of the market, and cover the following topics:

Topic	**Response template questions**
Market trends	2.1
Supply risks	2.2
Social value and sustainability	2.3, 2.4
Pricing structures and contracting models	2.5
Through-life support	2.6
Product assurance	2.7
Procurement timescales	2.8

The technical questions are intended to confirm our understanding of any technical constraints, and cover the following topics:

Topic	**Response template questions**
Approach to dual band capability	2.9
Constraints of switchable/dual polarisation	2.10, 2.11, 2.12
Component interchangeability	2.13
Tracking inclined orbits	2.14
Remote operation	2.15
Certifications	2.16, 2.17, 2.18, 2.19

17. Please be aware that the MOD is not seeking promotional material (sales pitches) for unproven technologies in response to this RFI.
18. **Responses to this RFI should be sent directly to**:
    - **ISSComrcl-Skynet-6A-Mailbox@mod.gov.uk** and
    - **Deborah.field363@mod.gov.uk**
19. **The closing date for RFI responses is:**
    - **3rd February 2022 @ 23.59hrs.**
20. Thank you for your interest in this RFI.