



National Information and Communications Technology Authority

**Final Response Report on Public Consultation Discussion Paper
Licensing for the Provision of Non-geostationary Orbit (LEO/MEO)
Satellite Services in Papua New Guinea**

TABLE OF CONTENTS

NO.	PARTICULAR:	PAGE #:
1.0	Introduction	2
2.0	Discussions and Observations for consideration	2
3.0	Questions for Consideration – Submissions	3
	3.1 Question 1	3
	3.2 Question 2	4
	3.3 Question 3	5
	3.4 Question 4	6
	3.5 Question 5	7
4.0	Conclusions for NICTA	8

Final Response Report on Public Consultation Discussion Paper

Licensing for the Provision of Non-Geostationary Orbit (LEO/MEO) Satellite Services in Papua New Guinea

1.0 Introduction

Low-Earth Orbit (LEO) satellite systems, a form of non-geostationary satellite orbit (NGSO) systems, are one of the most promising recent advances in Internet access. These NGSO systems today provide valuable and cost-effective services to people around the world, particularly in remote areas and in areas where existing broadband services are inadequate or uncompetitively priced.

LEO-satellite systems provide valuable services to individual consumers, households, governmental customers, non-profit customers, enterprise customers, and network customers. These include the following services: direct-to-user connectivity; middle-mile connectivity; low-latency services; hybrid network connectivity; redundant connectivity; little or no incremental network cost for incremental customers; and price discipline on other broadband services. However, NGSO systems may also create new challenges which we need to address to ensure these benefits can be fully realised.

In light of this, on 14th August 2023 NICTA prepared a discussion paper, to assist public consultation on the regulatory, and especially licensing, issues that are not only limited to LEO satellite services but also cover the broader non-geostationary satellite systems that may potentially be used in PNC. Where there appears to be value in imposing additional requirements, these requirements were also raised for discussion.

Our consultation closed on 11 September and we received 12 responses from stakeholders. We published the 12 non-confidential responses on our website. Having fully considered stakeholders' responses, this statement sets out our decisions on updating our licensing approach for NGSO systems.

2.0 Discussions and Observations for consideration

Applicability of existing network license conditions and proposed new conditions.

There were a lot of comments about the terms and conditions applying to licensees providing NGSO services, and a general view that although the existing terms and conditions might apply, a lot of the detail needs to be further considered and made specific to satellite operations.

Digicel made the very helpful suggestion that finalisation of satellite-specific terms and conditions should not delay licensing of NGSO services, because, in the meantime, licensing against the existing Schedule 1 should suffice. Digicel also made a very important point that NICTA should avoid any tendency to see the terms and conditions for these services as a subset of the terms and conditions applicable to Public Mobile Services.

Should LEO satellite services be exempted from licensing altogether?

There appeared to be difference in approach to licensing. SpaceX wanted a blanket licence approach. This could mean a class licence. Others wanted a reseller approach, or an approach requiring PNG licensed and incorporated operators only.

Some argued for no exemptions from licensing believing, that NICTA might be intending to give the Starlinks of the world and all of their services open access without conditions and obligations to the PNG market. Others saw exemptions as perhaps appropriate in the case of emergencies or Government networks or private networks.

3.0 Questions for Consideration — Submissions

3.1 Question 1:

- (a) Do you agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act, as other providers of network services are licensed?
- (b) If not, what other authorisation arrangements, if any, should apply?
- (c) Would any form of exemption be appropriate, and under what circumstances?

Stakeholder Respondent	Response
Amazon Kuiper Project	Did not answer the specific questions posed.
APCS (PNC) Limited	Yes — Objects to direct licensing of satellite network providers, wants licensing of local ISPs
DataCo Limited	Yes — Prefers licensed reseller model, but may have licence exceptions for purely private use
Department of (DICT)	Yes — Satellite end-customer should not pay licence fee to NICTA
Digicel PNG Limited	Yes — No exemptions should be contemplated — E.g., on the basis of it being a NGSO satellite system
Digitec (Vodafone)	Yes — Prefers reseller licensing model. Gives examples of exemptions
Kacific	Yes — Agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act.
Lightspeed	Yes - Lightspeed prefers B2B model, by which it means licensing of PNG operators.

Lutheran Church	Yes — Agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act.
Masalai Communications	Yes — Agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act.
SpaceX (Starlink)	Yes — Wants a blanket licence framework — presumably as opposed to licensing individual users or devices, or even individual resellers.
TE PNC Limited	Yes — Agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act.

3.2 Question 2:

Do you agree with NICTA's assessment of the current terms and conditions of individual network licences which should apply to the provision of LEO satellite services? If not, what alternative arrangements should apply?

Stakeholder (Respondent)	Response
Amazon Kuiper Project	Did not answer the specific questions posed.
APCS PNC Limited	Yes, in some respects. mandator coverage
DataCo Limited	Yes — Agrees
Department of DICT	Did not answer the specific questions posed.
Digicel PNG Limited	Finalisation of satellite-specific terms and conditions should not delay licensing of NGSO services, because, in the meantime, licensing against the existing Schedule 1 should suffice. Digicel also made a very important point that NICTA should avoid any tendency to see the terms and conditions for these services as a subset of the terms and conditions applicable to Public Mobile Services. In the interim NICTA might rely on the conditions in Schedule 1 to 2011 Operator Licensing Rule.
Digitec (Vodafone)	Yes; Should require compliance with ITU-R S 524 and for terrestrial components to comply with ITU-R recommendations Mandatory coverage obligations
Kacific	Did not answer the specific questions posed.
Lightspeed	Yes; Lightspeed notes that the current conditions will need review for satellite conditions e.g., drop-out rate, availability, network repair, etc.

Lutheran Church	Lutheran Church agrees. Digicel makes a similar point and suggests that in the interim NICTA might rely on the conditions in Schedule 1 to 2011 Operator Licensing Rule
Masalai Communications	Did not answer the specific questions posed.
SpaceX Starlink	No, need to review
TE PNC Limited	Yes — Agrees

3.3 Question 3:

Do you agree with the addition of a specific section in the 2011 Rule to clarify the terms and conditions of licence where an individual network licensee chooses to provide LEO satellite services, as set out in Attachment 1 to the Discussion Paper? If not, what changes would you recommend?

Stakeholder Respondent	Response
Amazon Kuiper Project	Did not answer the specific questions posed.
APCS PNC Limited	Did not answer the specific questions posed
DataCo Limited	Yes — Agrees
Department of DICT	Yes — Agrees
Digicel PNG Limited	Digicel warns against any tendency of NICTA to treat NGSO satellites services as a subset of Public Cellular Mobile Services
Digitel Vodafone	Yes — Agrees
Kacific	Did not answer the specific questions posed
Lightspeed	Suggests adding a provision on terminal equipment importation
Lutheran Church	Lutheran Church notes that the current conditions will need review for satellite conditions e.g., drop out rate, availability, network repair, etc.
Masalai Communications	Did not answer the specific questions posed
SpaceX (Starlink)	Yes — to promote flexibility
TE PNC Limited	Yes — Agrees

3.4 Question 4:

Do you think that there should be some constraints on where LEO services should be permitted to be located in PNG, such as, for example, only in areas where telecommunications services are non-existent or are inadequate? Please give your reasons.

Stakeholder Respondent	Response
Amazon Kuiper Project	Did not answer the specific questions posed.
APCS (PNG) Limited	Did not answer the specific questions posed.
DataCo Limited	No; There should not be any constraints on where LEO services should be permitted to be located in PNG
Department of (DICT)	No; There should not be any constraints on where LEO services should be permitted to be located in PNG
Digicel PNG Limited	There should not be any constraints on where LEO services should be permitted to be located in PNG
Digitec (Vodafone)	Concerned with location constraints to avoid interference, rather than to limit services to unserved or rural areas, etc
Kacific	No; There should not be any constraints on where LEO services should be permitted to be located in PNG
Lightspeed	Yes; Stress that primary use is for unserved areas
Lutheran Church	There should not be any constraints on where LEO services should be permitted to be located in PNG
Masalai Communications	Did not answer the specific questions posed.
SpaceX (Starlink)	<ul style="list-style-type: none"> There should not be any constraints on where LEO services should be permitted to be located in PNG

TE PNC Limited

There should be some constraints on where LEO services should be permitted to be located in PNG

3.5 Question 5:

Irrespective of the answer to Question 4, should LEO services be structured and managed within the Universal Access and Service (UAS) Scheme administered by NICTA, or be eligible for inclusion in the UAS?

Stakeholder Respondent	Response
Amazon Kuiper Project	Did not answer the specific questions posed.
APCS PNG Limited	No UAS obligations
DataCo Limited	Did not answer the specific questions posed
Department of (DICT)	Yes; Can contribute to UAS Fund
Digicel PNC Limited	Did not answer the specific questions posed
Digitec Vodafone	Eligible for inclusion in the UAS
Kacific	Kacific wants more study on this. It is not clear what aspect of the question of UAS inclusion Kacific is addressing
Lightspeed	No; However, NGSO satellite solutions should be available for use in or as UAS Projects. Seems not to want NGSO Satellites subsidised in UAS
Lutheran Church	Yes; NGSO satellite services should not be managed exclusively through the UAS scheme
Masalai Communications	Did not answer the specific questions posed
SpaceX Starlink	Unsure what this means
TE PNC Limited	

Notes

- Vodafone submission includes case studies of overseas approaches on many of the issues which it considers to be useful and to have lessons for PNG.
- Masalai Communications submission is promoting Starlink usage and proposes new ISP licences — for IOT devices and for LLG communities

4.0 Conclusions for NICTA

With reference to the public consultation discussion paper and the provisions of the *NICT Act 2009* and underlying regulations; here are the concluding remarks from NICTA on the questions for consideration

Question	Position
1	Yes; NICTA agree that providers of LEO satellite services in PNG should be licensed by NICTA under the Act, as other providers of network services are licensed, including the satellite earth station
2	Yes; In principle, but review is needed to ensure fit for NGSO satellite services including the end terminals
3	NICTA agrees with the addition of a specific section in the 2011 Rule to clarify the terms and conditions of licence where an individual network licensee chooses to provide LEO satellite services, as set out in Attachment 1 to the Discussion Paper
4	There should not be any constraints on where LEO services should be permitted to be located in PNG, such as, for example, only in areas where telecommunications services are nonexistent or are inadequate
5	Yes; To allowing use of NGSO solutions in UAS projects and to contributing to UAS Fund

In addition to the specific issues associated with adjusting licence terms and conditions to meet the needs of satellite network licensing, NICTA will need to further consider other issues raised by respondents, in particular, security issues raised by Digicel and DataCo. As noted by Digicel, these may not be a barrier to initial licensing but need to be resolved as soon as possible thereafter.

From the response there is generally no objections to licensing of Starlink in PNG.