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25th September, 2020

Mr. Kila Gulo-Vui
Acting Director, UAS Secretariat
National Information & Communication Technology Authority
P.O Box 8444
BOROKO
N.C.D

Dear Mr. Gulo-Vui,

SUBJECT: SUBMISSION TO NICTA PUBLIC CONSULTATION FOR THE UNIVERSAL ACCESS SERVICE (UAS) PROJECTS FOR 2021

We thank NICTA for the opportunity to comment and submit our proposal for the Universal Access Service (UAS) Projects for 2021 outlined in the Public Consultation Discussion Paper issued on 18th September 2020.

We also thank NICTA for the extension of the due-date for submissions from 15th September 2020 to 25th September 2020.

Telikom's proposal is attached for your positive consideration. This proposal contains 7 Greenfield Proposed Projects under the Mobile Broadband Network Upgrade and Expansion Program that we believe should be considered among the 2021 UAS projects NICTA has outlined in its consultation paper.

Furthermore, refer below are other comments we have about this Program:

1. Greenfield Proposed Projects

Alternative Site Model:

We understand that NICTA is proposing that all UAS Sites under the Greenfield Proposed Projects must be 65m in height and have a tower base area more than 20m x 20m. The cost of deployment for such requirement in remote locations will exceed the allocated budget of K800, 000.00 set by NICTA. Hence, Telikom suggests for K1mil per Greenfield site to be reasonable.

In addition, taking into account no accessibility to electricity in these rural areas and the security of equipment after installation, Telikom would like to propose an alternate solution. This solution consumes less power and is self-sustainable through the use of all solar panel with lithium batteries. Identified issues with this solution would be the coverage footprint and the co-location capacity with other vendors. However, the solution costs about K250, 000.00 and is easy to deploy, hence, Telikom recommends this site model to be used.

2. Upgrade Proposed Projects

Telikom considers that the Upgrade Proposed Projects should benefit all operators and not just a minority. In addition, the number of sites for upgrade should increase from 10 to 20 to benefit all regions and provinces. The current upgrade proposed projects has sites in 8 provinces only. Therefore, Telikom suggests that 2 sites from Pomio District and 1 from Madang should be removed and replaced with the preferred sites below:

i.   Remove Central Inland LLG, Pomio District for Higaturu Rural LLG, Sohe District, ORO.
ii.   Remove Melkoi LLG, Pomio District for Lower Mendi Rural, Mendi/Munihu District, SHP.
iii.   Remove Yawar Rural LLG for Yabim Mape Rural in the Finschafen District, MOR.

Furthermore, Telikom suggests the following recommendations to improve the Program:

- The cost of upgrade for projects should increase to K120, 000.00 as K50, 000.00 is too low.
- Import duty tax for this program only should be removed.
- The number of location selection for MNO should increase but the number of allocated sites per bidders (MNO) be limited.
- Only licensed MNO should bid for these projects.

Finally, we would also like to highlight our continued concern on the UAS levies imposed on ICT licensed operators. Telikom is willing to fulfil the Government's Policy in ensuring that the majority of PNG's rural population are serviced with ICT services. However, we continue to find that the levies imposed every year are cumbersome. Telikom has very high fixed costs like all other operators. Moreover, it is costly to operate the previously funded UAS projects, yet the imposed levies are still very costly to bear.

In addition, we believe the industry is still concerned about how these levies are determined and whether that can be reviewed as we understand that there is no finalized UAS Regulation to date. Therefore, we seek NICTA's attention to address this concern.

We would be happy for further discussions where necessary.

We thank you once again and look forward to the report on the UAS Projects for 2021.

Yours sincerely,

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Mr. Noel Kera
KTHL Group Head of Legal & Regulatory Services

Universal Access and Service Projects for 2021

Date of Submission: September 2020

Project Proposal Form – FORM 002

(All project proposals submitted MUST follow this format and sequence. Projects proposals which do not follow this format and sequence may not be considered. All questions must be answered)

Applicant Information

Name	Denmark Wilson	
Organization Telikom PNG Limited		**Type of Organization:** ☐ Community/Village/Education Institution ☐ Government ☐ Private ☐ NGO ☑ Other - SOE
Position	Manager – Mobile & Wireless Planning	
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Project Information

Project Title	**UAS 2021 Rural Communication**
Project Location	
Province	Hela, West Sepik, Manus, West New Britain & Bougainville
District	Komo/Magarima, Green River, Manus, Kandrian/Gloucester, North Bougainville, South Bougainville
LLG	Hulia Rural, Green River Rural, Aua Wuvulu Rural, Nigoherm Rural, Kove Kaliai Rural, Nissan Rural, Buin Rural
Ward	Yangome, Yabru, Auna 2, Lau Island, Akivilik, Tungol, Baubake

Project summary

Please describe this summary within about 20 lines here. As for the detail, please fill in the Annex 1

Project Cost	Requested Amount	Own funding
K 8,400,000.00	K 8,400,000.00	K 0

Duration of the Project: 14 months

From January 2021 To February 2022

(The project is to be concluded within 12 months from the date of announcement of selection by the NICTA (UAS Secretariat)

Contact Point Information   (If contact point is different from the applicant, please fill in as follows)

Name	
Organization	
Address	
Position	

Telephone		Fax	

Email	

	Date	25 September 2020

Signature

Project Details

Please describe outline of the pilot project	
Objectives	To construct & commission seven (7) greenfield mobile sites in Hela, West Sepik, Manus, West New Britain and Bougainville within 12 months
Purpose of Project	To provide mobile broadband service to rural areas in PNG without mobile coverage
Outline of pilot project	This project is a mobile rollout of 3G UMTS service at 7 identified locations in PNG. Below is the outline of tasks for this project: 1. Site Survey & Soil Test (1 month) 2. Site Development & Equipment Installation (10 months) 3. Commissioning & Acceptance (1 month)
Appropriateness of the Project	Currently these project locations do not have any form of telephony or internet service. The main of this project is to enable rural population to have access to mobile broadband internet and ability to use telephony services via 3G UMTS. By implementing this project, 35000 people will have access to affordable and reliable telecommunications service. Development of initiative such as e-health, e-education, and e-agriculture initiative can now be made possible through this medium.
Number of Persons benefiting from the project	Over 35,000 people will have access to 3G UMTS mobile services. During the construction of these mobile sites, the communities near the project site will be informed of these activities and some selected members of the community will be engaged in the project. As this service will give advantage to the community, we will inform the community members of the benefits of this service.
Project Benefits	The project benefits are 35,000 people will have access to mobile broadband service. This will also address MTDP goals in reaching 80% coverage of total population
Partner organizations/institutions (if any)	NIL
Milestone(significant phases of the project)	1. Completion of Site Survey & Soil Tests (February 2021) 2. Completion of 7 mobile sites (December 2021) 3. Acceptance & Commissioning of 7 sites (January 2022)
Expected output	Complete all 7 sites within budget of K8,400,000 in 12 months
Project Risks	What are the risks to the Project? How will they be overcome or managed? (See management table)

Risk -List all possible risks you can think of	Consequence 4 – Extreme 3 – High 2 – Medium 1 -Low	Probability 4 – Almost certain 3 – Likely 2 – Positive 1 - Unlikely	Risk Management/Mitigation plan
Lack of political or administrative support	2 - High	3 - Likely	Involve local level government in the initiation process of project and identify point of contact
Land not	3 - High	4 – Almost certain	Involve local level

	secured			government especially ward councilors, village court officials during site survey
	Security	4- Extreme	4 – Almost certain	Avoid conflict areas for survey and involve ward councilors during site acquisition
	Project Equipment Personalized	2 - Medium	1-Positive	Avoid conflict areas for survey and involve ward councilors during site acquisition
	Lack of community support	1 - Low	2 - Positive	Avoid conflict areas for site survey. Community awareness is vital
	Maintenance & recurrent costs	3 - High	3 - Likely	Use self-sustaining power systems such as solar hybrid solutions. Securely equipment with proper fencing
	Funding Availability	2 - Medium	1- Unlikely	Delay in funds mean delay in project schedule and execution and may lead to additional costs. Communicate funding schedule and payment guidelines before project initiation
	Forex Issues	3-High	4-Almost Certain	Due to current economical state, there may be issues with Forex. Suggest NICTA to make special arrangement with BPNG.
Reporting Procedure	A weekly status report will be used to keep the team and all stakeholders informed and manage expectations as the project progresses. This report will highlight: - Completed tasks - Scheduled Tasks - Budget updates - Action items - Project risks and issues This will be communicated via e-mail as scheduled.			
Linkage to existing Government development policies	According to the government's MTDP, 80% of the total population must be covered by 2030. By addressing these lack of mobile service through the UAS, this project will help and eventually reach this target.			

Financial Support	This project will be funded fully by the UAS project. The total cost of K8.4 million will be used for the deployment of the entire project. Once project is closed, all operating and maintenance cost will be funded by the Telikom.
Sustainability of Project	Once project is closed, all operating and maintenance cost will be funded by the Telikom.

Please describe project implementation plan (schedule) in detail. (Date, period, place, mission, etc.)

Date	Place	Task	Period
January 2021	Komo/Magarima	Site Survey & Soil Test	5 days
January 2021	Green River	Site Survey & Soil Test	5 days
January 2021	Manus	Site Survey & Soil Test	6 days
January 2021	Kandrian/Gloucester	Site Survey & Soil Test	5 days
January 2021	North Bougainville	Site Survey & Soil Test	3 days
January 2021	South Bougainville	Site Survey & Soil Test	3 days
Feb – Mar 21	Komo/Magarima	Site Deployment & Construction	1.5 month
Mar – Apr 21	Green River	Site Deployment & Construction	1.5 month
Apr – Jul 21	Manus	Site Deployment & Construction	3 month
Jul – Aug 21	Kandrian/Gloucester	Site Deployment & Construction	1.5 month
Aug – Sep21	North Bougainville	Site Deployment & Construction	1.5 month
Sep – Nov 21	South Bougainville	Site Deployment & Construction	1.5 month
December 2021	Komo/Magarima	Commissioning & Acceptance	5 days
December 2021	Green River	Commissioning & Acceptance	5 days
December 2021	Manus	Commissioning & Acceptance	5 days
December 2021	Kandrian/Gloucester	Commissioning & Acceptance	5 days
December 2021	North Bougainville	Commissioning & Acceptance	5 days
December 2021	South Bougainville	Commissioning & Acceptance	5 days

Types of Projects That May Be Proposed

Program 01: Mobile Broadband Expansion and Upgrade

Under this program, the type of project that can be proposed are;

- Extension of broadband mobile services to unserved and underserved areas
- Upgrade of 2G network (voice + data) to 3G/4G network and
- Increase network backhaul capacity to cater for the increase traffic due to expansions and upgrades

Program 02: Community and Institutional Broadband Networks

The type of project that can be proposed are;

1) Broadband Network Access and Service
- Expansion of national backbone network infrastructure:
- Establishment of local broadband access network connections
- Provision of public broadband communication services

2) Institutional Connectivity – Education, Health Facilities, Local Government Offices, Agriculture Centers

3) Community Information and Communications Technology Centers (CICs)

- CIC construction, equipment, installation:
- CIC operation and management:

Program 03: ICT for Future Growth

Type of projects that can be proposed are;

1) ICT Applications and Content
- Original and translated web sites and other materials presented in local, indigenous languages, highlighting information of greatest interest to populations who speak these languages.
- Information content made specifically for and by local community users, sharing local knowledge, history, and culture, as well as business and government information, ideally developed by local users themselves.
- Projects focused on graphic interface, audio-video, and other non-written content aimed at engaging and assisting non-literate users; similar applications and content for disabled or uneducated users.
- Entrepreneurial ventures focusing on creating innovative applications for mobile and smart phones, tablets, and other new devices.

2) Digital Literacy
- Training classes and workshops
- Public relations and awareness building programs
- Entrepreneurial assistance and incubation initiatives
- ICT applications and content development programs
- Community-based technical support resources
- Public administration training and application development

Program 04: Expansion and Upgrade of Broadcasting Network Coverage

Type of projects that can be proposed are;

- Expansion of free to view Digital Broadcasting (TV) Services to unserved areas
- Upgrade from analogue free to air broadcasting services to free to view Digital broadcasting services (TV)
- Expansion of free to air Radio broadcasting services to the unserved areas

Indicative Project Areas

Program 01: Mobile Broadband Expansion and Upgrade.

- Indicative project areas for 4G greenfield and Upgrade from 2G are prioritized from the maximum unserved population to minimum unserved served

- **For Greenfield**

Region	Province	Uncovered Population	% Uncovered Population
Momase	Morobe	141,349	20.95%
Momase	East Sepik	118,238	26.24%
Southern	Milne Bay	94,946	34.34%
Momase	Madang	90,542	18.33%
Highlands	Eastern Highlands	89,936	15.51%
Highlands	Southern Highlands	85,300	16.72%
Momase	West Sepik	83,487	33.61%
Highlands	Enga	79,803	18.47%
Southern	Western	72,464	35.99%
Southern	Central	58,412	21.65%
Highlands	Hela	55,413	22.21%
Southern	Gulf	54,846	34.67%
Islands	East New Britain	52,257	15.91%
Islands	West New Britain	51,129	19.35%
Islands	Bougainville	48,644	19.51%
Highlands	Chimbu	44,576	11.84%
Southern	Oro	36,802	19.75%
Highlands	Western Highlands	35,232	9.71%
Highlands	Jiwaka	33,615	9.77%
Islands	New Ireland	29,314	15.11%
Islands	Manus	10,797	17.85%
Southern	National Capital District	878	0.24%

- **For Upgrade**

Region	Province	3G Upgrade Uncovered Population	% 3G Upgrade Uncovered Population
Highlands	Eastern Highlands	291,003	50.19%
Momase	Morobe	240,062	35.57%
Momase	Madang	223,138	45.18%
Momase	East Sepik	148,575	32.98%
Highlands	Chimbu	139,066	36.94%
Highlands	Enga	122,332	28.31%
Southern	Milne Bay	113,122	40.91%
Islands	Bougainville	112,430	45.09%
Momase	West Sepik	91,195	36.71%
Islands	New Ireland	85,574	44.10%
Southern	Central	78,045	28.93%
Highlands	Southern Highlands	76,121	14.92%
Southern	Western	72,357	35.94%
Southern	Oro	71,628	38.45%
Highlands	Hela	70,872	28.41%
Islands	West New Britain	58,639	22.19%
Southern	Gulf	56,184	35.52%
Islands	East New Britain	54,012	16.45%
Highlands	Jiwaka	49,730	14.46%

Islands	Manus	27,966	46.24%
Highlands	Western Highlands	14,066	3.88%
Southern	NCD	0	0.00%

Program 02: Community and Institutional Broadband Networks

- The target project areas are learning institutions, local government institutions, local healthcare facilities and community base set ups who are ICT ready such as;
  - ✓ Universities
  - ✓ Colleges
  - ✓ Technical and Vocational Schools
  - ✓ National High Schools
  - ✓ Primary and Secondary Schools
  - ✓ Private/public setups
  - ✓ Villages/communities

ICT readiness refers to the basic infrastructure that the institution must have such as reliable power, ICT teachers, funding to help sustain, rooms for computers among others.

Program 03: ICT for Future Growth

- Target project areas include;
  - ✓ Universities with content creation programs/projects
  - ✓ Technical Colleges with content creation programs/projects
  - ✓ Local entrepreneurs with content creation programs/projects

Program 04: Expansion and Upgrade of Broadcasting Network Coverage

- The target project areas include;
  - ✓ Unserved free to view (Digital Television) services areas in PNG;
  - ✓ Unserved free air Radio Broadcasting Services in PNG