CONSULTATION PAPER

Proposed Universal Access and Service Levy for 2018, UAS Strategic Plan (2018-2022), and Projects and Operating Plan 2018

Issued on 8 December 2017

Introduction

NICTA has had considerable and extended discussions with operator licensees about the introduction of a Universal Access and Service (UAS) levy in recent years. The current paper concerns the UAS levy for 2018 only. The Consultation also addresses the UAS Strategic Plan (2018-2022), and Projects and Operational Plan for 2018.

Legislative Requirements

Section 107 of the *National Information and Communications Technology Act, 2009* sets out the procedure that NICTA must follow in levying charges on operator licensees for the Universal Access and Service (UAS) Fund.

NICTA is required under subsection (2) to set the levy as a percentage of the net revenues of each operator licensee at a level, to be determined annually, to apply from the beginning of each fiscal year –

>   (a) to achieve the desired level of funding for the Fund for that year as advised to NICTA by the UAS Board, less any amounts paid by NICTA in the previous year; and

>   (b) not exceeding a maximum percentage as prescribed by the regulations.

There is no requirement in the Act for NICTA to consult with operator licensees or other parties in setting the percentage levy for any particular year under Subsection 107(2). However, in past discussions with operator licensees potentially subject to a levy under Section 107, NICTA has made it clear that, as a regulatory practice, it would have consultations before implementing levies. The current consultation is in furtherance of that approach.

The process to date

The process that sets the basis for the determination of a levy is set out in Section 108 of the Act.

To date the UAS Board has engaged with NICTA to undertake the following tasks as set out in Subsection 108(1) of the Act:

(a) identify, develop and estimate the indicative cost of UAS Projects for 2018

(b) seek and receive stakeholder submissions on proposals for UAS Projects – identifying in the process ongoing multi-year projects that would carry over into 2018

(c) undertake public consultation

(d) estimate the proposed aggregate budget for all UAS Projects to be undertaken for the relevant period identified by the UAS Board

(e) rank the UAS Projects in order of priority having regard to the criteria in paragraph 108(1)(d)

(f) prepare for consideration by the UAS Board a report summarising the UAS Projects under consideration, their respective indicative costing, their proposed ranking and the proposed aggregate budget.

These processes have been undertaken.

Recommendations determined by UAS Board for UAS Projects in 2018

The UAS Board has approved a report under Section 108(2) of the Act which proposed the UAS Projects for 2018 which are set out in the draft UAS Strategic Plan, 2018-2022 (which forms Attachment A to this Consultation Paper) and which are described with greater particularity in the draft Report and UAS Operational Plan, 2018 (which forms Attachment B to this Consultation Paper).

In summary, the cost of the Projects recommended for 2018 is K 25 million, made up of:

Project	PGK (million)
Mobile Broadband Network Upgrade and Expansion	20.0
Community and Institutional Broadband Networks	2.5
ICT Platform for Future Growth	0.5
Extension of broadcasting network coverage	2.0
Total	**25.0**

UAS Levy

NICTA has considered the draft UAS Levy Determination enclosed as Attachment C, and is inviting comments and inputs from interested parties and operators. This levy should yield the budget recommended by the UAS Board for 2018. At an estimated 1.75% of net revenue of operator licensees it is less than the maximum percentage of 2%, and takes account of any known surpluses that may arise in the Fund from 2017.

Consultation

NICTA invites operator licensees and other stakeholders to consider and comment on the Draft UAS Levy Determination and the draft plans enclosed at Attachments A, B and C to this paper. Written submissions should be submitted via email to **consultation.submission@nicta.gov.pg** and must be received by **4.30 pm on Monday, 15 January, 2018**.

Copies of all submissions received will be published on NICTA's Public Register, notwithstanding that consultation is not required by the Act in this case. Additional procedural information is set out in the *Guidelines on the submission of written comments to public consultations and public inquiries*, which are available on NICTA's Public Register.

Contact

If you have any enquiries relating to this consultation please address them to the above email address or kgulovui@nicta.gov.pg in the first instance.

Attachments

Attachment 'A':　　　　Draft UAS Strategic Plan, 2018- 2022

Attachment 'B':　　　　Draft Report and UAS Operational Plan, 2018

Attachment 'C':　　　　Draft UAS Levy Determination 2018

ATTACHMENT A

Draft UAS Strategic Plan, 2018- 2022

National Information and Communications Technology Authority

UAS Strategic Plan, 2018-2022

December 2017

– D R AF T –

Contents

2

1 INTRODUCTION

This report contains the draft Universal and Access Service Strategic Plan, for the five-year period from 2018 to 2022, which, subject to consideration of the views of stakeholders, NICTA proposes for adoption.

2 UAS MISSION AND VISION

The following represent NITCA's Mission Statement and Vision for the utilization of the UAS Fund and development of the telecommunications sector in Papua New Guinea. To fulfill this mission and achieve the overall vision, NICTA proposes to adopt this Strategic Plan for the period 2018-2022.

2.1 NICTA UAS Fund Mission Statement

NICTA will utilize the UAS Fund to support investments in the telecommunications and ICT sector in Papua New Guinea, to promote universal access to and utilization of modern, beneficial services throughout the country. UAS Fund resources may be employed to subsidize the costs of infrastructure, networks, facilities, services, equipment, applications, content, and human resource development. The Fund will be utilized to underwrite investments and costs for market segments that would not otherwise be commercially viable. NICTA will strive to manage the Fund in an equitable, cost-effective, transparent, and competitively neutral manner.

2.2 NICTA Vision for PNG Telecommunications Development

NICTA's vision for the medium-term development of the telecommunications sector in Papua New Guinea encompasses the following goals:

- Universal access to coverage of broadband mobile telecommunications networks and services for all PNG citizens and communities;
- Wide access to advanced, high quality, broadband telecommunications networks and services, and increasing utilization of these services throughout society;
- Expansion of access to free over-the-air radio and television broadcast signals;
- Development and adoption of a broad array of useful and valuable ICT applications and content for all segments of the population;
- Increasing awareness, capacity, and contribution by all citizens in ICT-based activities, business and employment, and public services;

- Growing contribution of advanced and innovative ICTs to support inclusive socio-economic development and opportunity.

This vision is closely aligned with both the Papua New Guinea Development Strategic Plan (DSP) 2010-2030, and the Papua New Guinea Vision 2050. The DSP 2010-2030 defined one of its priority goals as: "A modern and affordable information and communications technology that reaches all parts of the country." It also identified several specific targets for ICT growth, including 800 mobile subscribers per 1000 population, 70% using the Internet, and100% access to radio and television The targets for this UAS Strategy would meet or exceed those objectives. Also, the Vision 2050 includes a range of Strategic Focus Areas for PNG development, which will be enabled and reinforced by expansion of access to high quality ICT services. These include, among others, Human Capital Development, Gender, Youth and People Empowerment, Institutional Development and Service Delivery, and Spiritual, Cultural and Community Development.

3   MARKET AND ACCESS GAP ANALYSIS

3.1   Overview

NICTA and its consultants have conducted an extensive statistical analysis and modelling exercise of the PNG telecommunications market, which seeks to present a reasonable estimation of the dynamics of market development. The primary focus is on the market for mobile communications, with emphasis on mobile broadband (3G+) services, while also examining prospective conditions for other segments. The purpose of the analysis is to provide NICTA and the UAS Fund with a baseline understanding of the scope of infrastructure and services, the costs of expansion, and the likely levels of subsidy required to increase access on a province-by-province, and district-by-district, basis. This exercise is not meant to be precise, nor to substitute for the necessary due diligence required for specific UAS Fund project design. But it offers a valuable starting point for identifying options and priorities for resource allocation as part of the strategic planning process.

3.2   Approach and Assumptions

The statistical model that supports the market analysis involves an extensive set of formulas, calculations, data inputs, and assumptions, which in combination produce a variety of useful estimations of telecommunications market conditions in PNG. While the model itself is proprietary, its main parameters and key assumptions can be summarized as follows:

- <u>Market Data Inputs</u>: Data from NICTA and operators regarding locations of existing network facilities, degree of geographic coverage of signals. Also data on provincial and district geographic size and populations, and numbers of LLGs.

- <u>Network Buildout Requirements</u>: Assumptions regarding the architecture and configuration of mobile network infrastructure and facilities required to provide service within typical geographic areas: backhaul distance and technology, tower distribution, signal coverage, etc.

- <u>CapEx and OpEx</u>: Estimated average unit capital investment costs for various network components, such as microwave, fiber, cell towers, BTS, etc. Also estimated operating expenses associated with operating and maintaining the network, and providing each type of service, including interconnection and customer service as a percentage of gross customer revenues.

- <u>Revenue Forecasts</u>: Estimated average revenues to be generated by new service customers, based on overall average incomes and spending levels on telecom services by existing customers, adjusted conservatively to account for lower incomes and less favourable market conditions.

- <u>Net Revenues and Subsidy Requirements</u>: The total net revenue/cost results for each location, indicating the level of estimated profit or loss arising from all relevant investment and operating costs and the associated revenues that the services would generate. Areas with positive net revenue results (profits) are considered to be commercially viable, while those with negative net revenues (i.e., net costs/loss) are not viable. The amount of subsidy required is given as the total net economic cost for such non-viable locations.

All estimates and assumptions are based on data obtained from NICTA and industry sources, combined with experience from other, comparable markets. The model relies on very generalized, high-level, and average estimates for most economic assumptions, which can be adjusted for sensitivity analysis and to reflect changing data. This analysis is valid as a strategic planning tool, to guide general budget planning and allocation discussions.

In addition to the primary focus on mobile broadband markets, the model also includes additional inputs and estimates for TV and FM broadcasting, to assess the approximate range of capital costs for installing antennae (on existing available towers) to expand broadcast signals into unserved areas.

3.3 Findings for Mobile Broadband

Following from the above assumptions and data, the analysis has calculated the approximate market conditions for mobile broadband network and service expansion in each province and district of PNG. The calculations yield the following parameters for each geographic area:

- Current 3G Access: The % of the total PNG population that is currently within 3G network coverage areas.
- 3G Upgrade Market Frontier: The % of total population that currently receives only 2G service, but is expected to be upgraded by the market, without need for any subsidy.
- 3G Upgrade Access Gap: The % of total population that currently receives only 2G service, and would not be upgraded by the market without some amount of subsidy.
- New 3G Network Market Frontier: The % of total population that currently is not covered by any mobile service, but where market conditions should lead to establishment of new 3G network service, without need for any subsidy.
- New 3G Network Access Gap: The % of total population that currently is not covered by any mobile service, and would not be likely to receive 3G mobile service without some amount of subsidy.

Together, these components add up to 100% of any given market. For the country as a whole, the estimated findings are represented in the following graph:
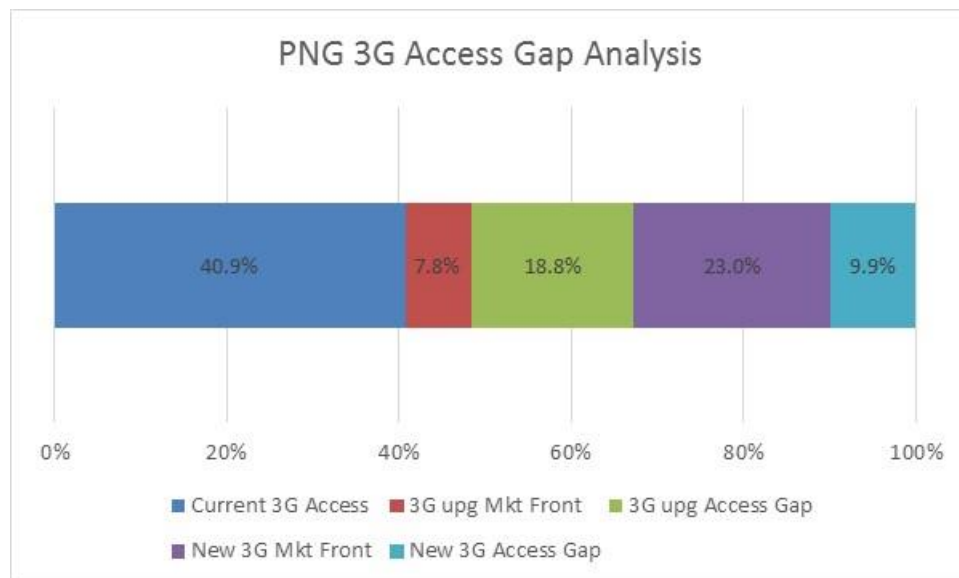
These results indicate that some 40.9% of the PNG population already has access to 3G mobile broadband services, while an additional 26.6% have 2G-only access, for a total level of current access to one or the other service of about 67.5%.   Within the 2G-only areas, only about 7.8% of the national market is likely to be upgraded by operators on their own business initiative, and the other 18.8% is expected to need at least some subsidy to support 3G+ upgrades. For the remaining 32.5% of the population that does not currently have access to any mobile service, about 23.0% of those are within districts that appear to be commercially viable, and these should ultimately receive 3G+ service without a need for subsidy. The remaining 9.9% of the market will potentially require UAS subsidy to construct and operate 3G network services.

Again, note that these are high-level estimates which may deviate from true market conditions in any given location to some degree. But they demonstrate a reasonable set of results as to the current and anticipated state of the market for planning purposes.

The net estimated costs and related subsidy requirements associated with these gaps are also approximations, and are likely to vary significantly over time and geography, as conditions and technology continue to change. Note that, because the estimation model employs bottom-up calculations, it can also provide a range of estimates for subsidy levels needed at the provincial and even district levels. These subsidy estimation figures are considered proprietary and are not included with this public report, but they can help support NICTA's annual operational and project planning, to be supplemented by location-specific due diligence and operator consultations during project design.

4   UAS OBJECTIVES AND TARGETS

Consistent with the above guiding principles, NICTA has identified the following priority Objectives for the use and operation of the UAS Fund during this period, and the associated targets and priorities.

4.1   Universal Access to Broadband Mobile Service

1. Facilitate the expansion of broadband mobile telephone network coverage throughout all unserved areas of PNG, toward the goal of Universal Service in broadband mobile telephony.

NICTA will provide support through the UAS Fund for expansion of high speed (3G/HSPA+ or 4G/LTE) mobile telephone network coverage into geographic areas that are currently not

within range of wireless signals, or where only low-speed (2G, voice-text) service access is available, and where signals are poor and inadequate. True Universal Service in modern mobile telecommunications will be achieved only when all PNG households and businesses are fully covered by advanced network signals, and when these communication services are available and affordable for all citizens.

Achieving this objective will involve two sets of related programs, as described in section 5.1 below: (i) to upgrade any BTS locations where only 2G service is currently available, and (ii) to establish new infrastructure and facilities in areas with no network, which will be capable of offering high-speed services. The targets and priorities for this objective are defined accordingly:

- Targets: 100% of PNG's population covered by reliable advanced wireless mobile telecommunications network signals (at least 3G+ quality).

- Priorities: Establishing advanced mobile network coverage in all unserved local population centers (LLGs) with at least 20,000 inhabitants.

4.2   Public Community Broadband

2. Support the introduction and expansion of public high-speed Broadband Internet connections and in local PNG communities, including connectivity for public institutions and public access facilities, to help increase broadband Internet access and utilization.

NICTA will support the expansion of access to (fixed) high-speed broadband Internet connectivity for selected communities, to bring connections to priority local institutions as well as public access for local citizens. Target public institutions include universities and schools, hospitals and health clinics, agricultural centers, local government offices, and other key public locations. In addition, this objective envisions providing public access via Community Information Centers and/or public WiFi signals, allowing citizens to obtain affordable broadband services as well as training and technical support. The initial goal will be to establish Community Broadband network access and facilities in a limited number of pilot locations in larger population centers, with longer term plans to continue expansion of such services nationwide.

NICTA will collaborate with local officials and national Ministries to coordinate planning and operation of institutional broadband connections and facilities, to ensure that broadband network development projects deliver needed capacity, services, and other ICT resources to all qualified locations.

- Targets: Approximately 40 sites over 5 years.

- Priorities: Provincial and District Capitals.

4.3   Support for ICT Utilization and Demand

3. Support for ICT utilization and demand initiatives, including content and applications, digital literacy, and affordable devices, to ensure that all PNG citizen can take advantage of and benefit from modern communications technologies and services.

PNG will realize the full potential benefits of ICTs only when all citizens and segments of society have the opportunity, capacity, and awareness to take advantage of the limitless possibilities of these technologies. NICTA will devote a portion of UAS Fund resources toward supporting the needs of users, from individuals to households to small businesses and community groups, to be able to afford, utilize, and understand the options for embracing ICTs in their daily lives. It will accomplish this through support for development of valuable applications and content, by helping to make devices such as computers, tablets, and smart phones more affordable, by working with government agencies to deliver helpful e-government services, and by assisting with public ICT education, capacity building, and awareness campaigns.

- Targets: National penetration of broadband Internet subscribers and users (mobile and/or fixed) will increase to at least 25% of total population by 2022.

- Priorities: Initial projects will concentrate on increasing ICT awareness, capacity, and demand in selected rural and underserved areas where new network access connections or upgrades are provided.

4.4   Expansion of Broadcasting Network Coverage

4. Facilitate efforts to increase the coverage of broadcasting signals to all populated areas of PNG, allowing all citizens to receive radio and television broadcasts.

Traditional free over-the-air radio and television broadcasting remains an important component of the ICT sector, and of citizens' access to information sources. NICTA will work with national broadcasting operators to identify gaps in access to radio and TV broadcast transmissions, and to develop projects that will provide financial support from the UAS Fund to eliminate these gaps where commercially necessary. NICTA will also seek to help offset the costs of digital broadcast reception for lower income users by subsidizing discounts for set-top boxes.

- <u>Targets</u>: 100% coverage of population centers by broadcast signals, and 100% accessibility in PNG households.

- <u>Priorities</u>: Expand TV and radio signal coverage in parallel with mobile network rollout, starting with all unserved local population centers (LLGs) with at least 20,000 inhabitants.

5   UAS PROGRAMS

This section describes in more detail the Strategic Programs that NICTA will implement under the UAS Fund during the five-year planning period. In general, the Programs will be implemented through a series of Projects, which NICTA will design in consultation with relevant stakeholders and officials. Where appropriate, projects may combine elements of multiple programs within certain geographic areas. All projects, and overall UAS Fund operating plans, will take account of available Fund financial, technical, and human resources.

The descriptions that follow provide the main features and parameters of each program and of the projects to be implemented.

5.1   Mobile Broadband Network Upgrade and Expansion

The purpose of this program is to extend the coverage of advanced broadband wireless mobile communications services (at least 3G/HSPA+ or 4G/LTE) as far as possible into all areas of the country. The goal is to deliver reliable, high quality access to Internet and "smart" mobile applications and capabilities to as many PNG citizens as possible, where access to such services is not adequately available, and where existing licensed operators have proven unwilling or unable to expand their networks, due to commercial or other constraints. The ultimate objective of this program is to achieve virtually 100% mobile broadband service coverage throughout PNG, and to increase mobile broadband subscribership to as many citizens as possible.

These goals will be accomplished under the Fund through support for projects that invest in advanced mobile network infrastructure and service expansion by licensed mobile operators. UAS Fund projects under this program will provide financial support for build-out of local broadband mobile network coverage into unserved and underserved areas, to fill identified gaps and ensure signal access for all target communities.

There will be two types of projects undertaken through this program: (1) new BTS sites in areas currently with no mobile service, and (2) upgrades to existing 2G BTS sites.

Implementing contractors/operators will be responsible for installing and operating wireless voice and broadband data/Internet telecommunications networks and services within specified locations where such service is not currently available. Priority locations for each separate project will be selected by NICTA, based on market analysis and stakeholder consultations. In general, new sites or 2G BTS upgrades must be located at least 15 km from existing 3G base stations.

The projects will also support establishment of adequate electrical power supply as needed for the required base stations, with emphasis on utilizing the most economically efficient as well as environmentally friendly solutions. The network and service technology configurations should also take advantage to the greatest extent of lower cost, rural-focused innovations to ensure affordable service for low income customers. Project implementation may also seek to address other possible constraints to network development, such as rights of way and access fees, among other matters.

After receiving a one-time UAS Fund subsidy, the selected contractors will be required to operate the required broadband mobile services on a commercial basis, in accordance with the terms of their licenses. Also, project contracts may require operators to promote and stimulate demand for broadband wireless data/Internet services, and to achieve a minimum level of customer take-up, to ensure adequate utilization of the services.

The general parameters of projects to be supported under both components of this program include the following:

- Scope of services: (1) Voice telephony service that allow for subscribers to place and receive voice and SMS text calls both within the network and, through interconnection arrangements, to all other telephone networks in Papua New Guinea. (2) Mobile data/Internet service that meets defined minimum specifications for transmission speed, local and backhaul capacity, and that interconnects with national and international data networks.

- Service availability and quality specifications: The facilities and services must meet all NICTA quality and availability requirements, as for all other licensed public mobile telecommunications services.

- Geographic coverage: The network signals must cover the full geographic area designated in the project scope, with adequate quality and reliability. Specific locations and coverage areas may be subject to negotiation, but must be outside of areas already covered by 3G+ network service. NICTA will determine the balance of new mobile broadband BTS sites versus 2G upgrades to be included within each project.

- <u>Minimum customer take-up requirement</u>: At its discretion, NICTA may require that a subsidized operator must achieve a minimum level of active subscribership and utilization ("customer take-up") of the mobile broadband services within the defined service coverage area, over a specified period of time.

As indicated, the two sub-components of the program are as follows:

5.1.1 Upgrade of Existing 2G Sites

NICTA will identify locations where 2G mobile (voice/text) service is operational, but where the consensus among operators and NICTA's analysis indicate that the net cost of upgrading those sites to 3G+ mobile broadband would not be commercially viable in the foreseeable near future. NICTA will design UAS Fund projects to provide necessary subsidies for licensed operators to upgrade service in such locations. Each project will define the scope and requirements for the projects, including the above mandatory components, and specific details such as:

- Upgrade and enhance tower and BTS transmission facilities and related equipment as necessary to provide 3G+ signal and capacity;
- Expand and increase capacity of backhaul links, potentially upgrading from microwave to fiber where necessary to ensure high quality service;
- Introduce and support high-capacity mobile data services, features, and applications for all local customers
- Provide customer support and marketing required to stimulate and sustain demand among advanced mobile broadband service customers.

5.1.2 New Mobile Broadband Infrastructure and Service

In locations where no mobile network or service is currently available, UAS Fund supported operators will be required to construct and operate all necessary new network infrastructure and facilities to deliver 3G+ signal coverage and services to the designated population centres. Elements of each project design will typically include:

- Construct transmission towers and all related support infrastructure needed to establish a network presence within designated unserved population centers;
- Construct and install a base station and all related facilities to enable provision of 3G+ mobile service to all customers within the designated population centers;
- Install adequate power, backup, supporting structures, and other necessary equipment;

- Install backhaul transmission network links to all sites, with sufficient capacity to support the full level of anticipated usage demand with high quality connectivity;
- Launch and operate the 3G+ mobile service for the designated districts, with all standard features, functions, and capabilities of such services elsewhere in the country, and with tariff pricing options that are no more costly than for customers in other parts of the country.

5.2 Community and Institutional Broadband Networks

The purpose of this program is to help deliver high-speed, full-service fixed broadband Internet connections to selected communities, with services and capacity widely available to public institutions as well as local businesses and households, on an affordable basis throughout each designated local service area. To achieve these outcomes, the Community Broadband Program will support comprehensive implementation projects in a limited number of designated locations, which will consist of three integrated components:

- Broadband Network Access and Service: Extending network links into areas unserved by high capacity signals, to allow for community-wide broadband access. Establishing publicly available retail broadband communication services within each community, both fixed and mobile, for purchase and use by local citizens, enterprises, and other customers.

- Institutional Connectivity: Providing broadband connections directly to identified local public institutions, including schools, health facilities, local government offices, and community centres. In addition to these public institutions, where demand exists, broadband connections will also be provided to churches, mosques and other community resources centres that can help facilitate ICT access by all members of the community.

- Community ICT Centres (CICs): Establishment of public access CICs within each designated community, connected to the broadband network, making Internet access, computers, ICT services, and training available to all local citizens.

This combination of infrastructure development and service delivery will ensure that all communities selected for this program will receive the benefits of full broadband ICT access, equivalent to that which is available in urban and higher income areas. The program will aim to establish these services on a commercially sustainable basis, by encouraging investment cost-sharing and revenue and demand stimulation. Public-private partnership arrangements will be important for developing the envisaged services and infrastructures, and for the sustained commercial management of the services.

To achieve the multiple, inter-related goals of this program, projects will be designed to require implementing partners and contractors/operators to provide the full range of specified outputs simultaneously within each defined service area. The scope of these program outputs may differ in details for each project and location as appropriate, but in general they should consist of the key elements summarized below.

5.2.1 Broadband Network Infrastructure and Service

There are three sub-elements to this program component:

- Expansion of national backbone network infrastructure:

This element involves support for extending fiber optic backbone network capacity to the districts included in the program, where such capacity is not available. If other projects or initiatives are already actively developing backbone network infrastructure that will link to a given district, the UAS Fund may collaborate with such projects, to ensure the needed capacity is available in a timely manner to the designated locations. The backbone network should deliver two-way data transport capacity sufficient to allow district-wide retail broadband services in each location, commensurate with near-term and expected future demand.

The network contractor will operate and maintain all network links and ensure continuous service to all locations, with adequate provisions for redundancy, service quality, fault repair, and security.

- Establishment of local broadband access network connections:

This element involves extension of fixed broadband network access directly into the designated communities, establishing a broadband point of presence or network node within each identified local area, linking to the national backbone network infrastructure. Each local access point should deliver sufficient two-way data transmission capacity to allow widespread connection of broadband quality services throughout the community.

In particular, the Broadband Network Access connections must be capable of direct connectivity and adequate service delivery to all community and institutional access locations designated within the project scope. The local broadband access connection requirement will be technology-neutral, and maybe implemented via any authorized architecture, wireline or wireless, through a single integrated network or via multiple networks to different designated locations within a project, so long as the resulting capacity and access are verifiably achieved. The local access network must also incorporate an

electricity power source of sufficient energy to support continuous operation, as well as adequate backup energy supply.

- Provision of public broadband communication services:

This element will require the implementing contractor, either directly or through an affiliated or subcontracted operator, to provide public commercial fixed broadband communication services to each target community covered under this program. Such services should be available throughout the community, to allow connection of households, businesses, and other locations to broadband quality data (and voice) transmissions. Implementation of these public broadband services may be accomplished over time, according to an agreed rollout plan and appropriate sustainable business parameters, but there should be milestones for significant and steady progress in retail consumer broadband access in all target communities.

The required broadband services may be delivered over any technology platform or architecture, as long as they offer the minimum service quality and capacity specified for each project location. All mandatory regulatory standards and service features must be available to all end users, including all functions necessary to ensure full utilization of Internet services and applications. Services to the general public may be provided over the same local network as that delivering service to mandatory public institutions, or may be differentiated from those required dedicated connections.

The public broadband services will be provided on a commercial basis, at prices to be determined by the market. However, project TORs may specify mandatory minimum subscription targets for each location, which the implementing contractor must achieve over given time periods. The UAS Fund subsidy for the project will take account of any below-cost discounts, incentives, or other valid expenses required to achieve the minimum subscriptions and maintain a viable business environment, while yielding long-term sustainable market growth.

5.2.2 Institutional Connectivity

Under this component of the program, the implementing contractor will be required to install broadband access connections at specified institutional locations within each target community, linking to each local broadband access network node. The required locations will be identified during each project's planning phase, and will typically include all qualified local government and other public offices, as indicated below.

Connections to each institution must provide adequate bandwidth to allow for the minimum level of projected network usage in each location. The implementing contractor will be responsible for determining the most appropriate access technology and configurations. The contractor may also be required to install specified internal facilities and equipment at each location (e.g., local area network, server, firewall, etc.), depending on the scope of project terms. The contractor or its affiliate will then also be responsible for providing ongoing service delivery to all connected institutions, according to agreed pricing, terms, and conditions (to be negotiated as part of project planning and implementation).

The priority public institutions that will be connected through projects under this program component are identified below. Other public community buildings or facilities, such as libraries and post offices, may also be required in specific project terms, as agreed by NICTA and local and national authorities. Ongoing payments for the services provided through these connections will generally be the responsibility of the subscribing institutions, although these may be subject to mandatory discounts or other subsidies, as part of project negotiations and funding decisions.

Priority public institution connections include:

- Educational: All local public schools, university campuses, teacher's colleges, as well as administrative offices. Specific requirements for internal networks, facilities, and equipment should be determined in collaboration with the Ministry of Education.

- Health facilities: All local hospitals and health clinics within the community. Technical equipment and facilities to enable these organizations to utilize their broadband connections should be provided in collaboration with the Ministry of Health.

- Local government offices: Local government office buildings and annexes, including security agencies such as police, fire, and emergency. Locations may also include premises of local community organizations, as well as shared facilities that may house relevant public administration activities. NICTA will work with local officials in the designated districts to identify the required locations.

- Agricultural centres: Facilities to support local farmers and community agricultural development.

5.2.3 Community Information and Communications Technology Centres (CICs)

This program component involves establishment of public access Community ICT Centres (CICs) within the designated community broadband project areas, to provide community-wide access to full-service ICTs at publicly available locations.

A Community ICT Centre is a public location that provides a combination of facilities and services, which may include access to Internet-enabled computers, software based on local information needs (including local content), other technical equipment such as fax and photocopying, and training in basic computer skills, entrepreneurship and business services for small and medium enterprises.

In addition, CICs can provide public Internet access through external WiFi signals from transmitters based in the CIC and/or linked to other locations, allowing users with WiFi-enabled devices to access broadband signals in public places.

Under the Community Broadband program, the selected contractor (and/or affiliates) will be responsible for both construction and operation of a CIC in each designated community. The key features of each of these elements are as follows.

- CIC construction, equipment, installation:

This element involves the physical creation of the CIC, including procurement and installation of necessary equipment, configuration and other technical setup, connection to the local broadband access network, and any other start-up requirements. This stage may be undertaken by a technical supply firm, which may also be contracted to construct and install the institutional connections under a master Community Broadband contract.

Each CIC should have a minimum required configuration of available technology, including computers, broadband network connections, servers and routers, software platforms and applications, and related equipment and capabilities, specified in detail for each mandatory service location within each project's TORs. The size and scope of CIC installations may vary by the locations in which they are established, according to population, demographics, geography, or other factors. In each case, however, the facility must be adequate to allow robust access to broadband ICTs for the local community.

The location and housing for the CIC must be decided by NICTA and local officials, ensuring a publicly accessible and secure facility, and to ensure ownership and stability. Project financing may cover the costs of building and/or renovating the appropriate space, as needed.

The broadband connections to the CIC will be linked to the network access point established within each community, and may be co-located with this access point/network node. The capacity of the connection within the CIC must be sufficient to allow for simultaneous peak use of all its stations, while retaining adequate extra capacity for outside connections as well.

- <u>CIC operation and management</u>:

This element involves support for ongoing operation and management of CICs in Community Broadband project locations, following their construction and start-up stage. The purpose of this operations-oriented stage of the program is to ensure that the public services to be provided through CICs are delivered in the most effective and appropriate manner, by organizations that are most capable of managing such services. Management of the CICs, which will be established with principles of public private partnerships, should be concentrated among local community personnel, with an emphasis on outreach, customer service, training, entrepreneurship, and sustainable business practices. The projects under this program will thus aim to establish effective business models for operation and maintenance of the CICs within target communities, following the construction and installation phase.

The CIC operations and management requirements in a UAS Fund contract will typically include the following:

- Management, operation, and maintenance of the CIC, by designated staff engaged or arranged by the contractor under its agreement with NICTA. These staff will be be responsible for assisting customers, managing finances and accounts, maintaining hardware and software, and overseeing all other CIC operations.

- Availability of a required set of basic CIC services, including public Internet access (internal and external WiFi), computer use, telephone calling, e-mail, access to e-Government services and other applications and information sites, and more as specified in project TORs.

- Comprehensive ICT training classes and resources, available to various categories of users, offering appropriate knowledge sharing and capacity building, on an affordable basis.

- Full ISP services for local users, customized to local demand; these should typically include Internet account subscription and management, web site and e mail server hosting, web design assistance, e-commerce, applications and content development

support, weblog and social media services, and other specialized Internet capabilities, expanding as demand merits.

- Technical assistance and support for users, both within the CIC and in the local community (for cost-based fees), assisting with system use, equipment support, anti-virus and anti-spam software, trouble-shooting, and other basic ICT technical needs.

- Other related and demanded services that can help make the CIC self-sustaining, while providing value to the community: printing, copying, mobile phonecards, even coffee and snacks, etc., as the CIC operator finds worthwhile for customers.

- Marketing and customer/community awareness initiatives, to spread knowledge of the CIC's activities and benefits, reinforce the brand name, and encourage demand for ICTs in general within the community.

5.3   ICT Platform for Future Growth

This program focuses on the demand side of ICT development objectives, to ensure that citizens and communities are able to gain the most benefits from the installation and availability of advanced broadband ICT networks and services. Different groups of users will find value in different types of ICT applications, functions, devices, and services, but there will in all cases be a wide scope of potential uses for individuals, families, small businesses, and others to improve their livelihood through the use of advanced ICTs.

The purpose of this program is therefore to help develop a platform for the future, long-term development of ICT utilization and opportunities across Papua New Guinea society. Projects in this area will support the development of creative, innovative, and high value ICT activities within communities across PNG, which will tap into the resources and knowledge of the local populations.

There are two main components to this program, which can be implemented through independent projects or in combination with other Fund programs. These are (1) ICT Applications and Content, and (2) Digital Literacy projects. Specific individual projects will be designed by NICTA and the UAS Board, in consultation with appropriate public officials and other stakeholders. Key features of each program component are summarized below.

5.3.1   ICT Applications and Content

This component focuses on support for the development of relevant electronic information content and applications of value to PNG citizens, as a key input to the national ICT

ecosystem. The main goal is to create and reinforce a robust enabling environment for software programmers, applications developers, information services, media organizations, and any public and private entities interested in sharing knowledge via electronic means.

Projects under this component should typically be jointly developed together with partner organizations and agencies. There should ideally be a diversity of projects, in terms of size and scope, type of products, target users, and institutional partners. A goal should be to help launch new applications and content services, which should become self-sustaining over time. The subject matter of content initiatives should ultimately be of interest and relevance to the primary target user populations in PNG.

Examples of the type of ICT content projects and outputs that this program could support include:

- 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.

5.3.2 Digital Literacy

The goal of this component is to promote increased utilization of ICTs by all PNG citizens, as well as small enterprises and public offices, to achieve a broader contribution of ICTs to social and economic development. Projects under this component will be designed to help enhance public awareness, capacity, understanding, and experience in relation to ICT services and applications, and the opportunities that these technologies can present in people's daily lives.

Under this program, NICTA will define a set of goals, targets, and mechanisms to support widespread digital literacy, especially among disadvantaged, rural, low income, and

excluded population groups. Projects will be developed in collaboration with public, private, and civil service organizations. Representative projects may include the following:

- 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

It is anticipated that projects will be implemented through different partner organizations, such as technical training organizations and consultants, University programs, local community institutions, and government agencies. For each project, key implementation steps will generally include:

- Planning, procurement, and start-up
- Initial trials, tests
- Broader roll-out
- Monitoring and evaluation

5.4 Expansion of Broadcasting Network Coverage

This program addresses the objective of extending coverage of radio and television broadcasting to all citizens and communities in PNG. NICTA aims to support growth of the broadcasting sector through targeted use of Fund resources to close gaps and assist low income consumers where the broadcasting market may not reach. This activity will focus on support for infrastructure expansion, primarily through enhancement or installation of broadcast antennae on existing or new towers, in close coordination with the rollout of mobile telecommunications infrastructure under Program 1, as well as potential assistance for low-income households with the costs of the digital broadcasting transition, via discounts on set-top boxes.

5.4.1 Broadcasting Infrastructure Expansion

This component focuses on providing financial support for enhancement of transmission towers and installation of antennae and related equipment required to extend the reach of radio and television broadcast signals into unserved and underserved areas. NICTA will work with broadcasting entities to identify gaps in signal coverage, and develop investment plans to expand broadcast networks into all populated areas. Projects will generally be

designed to coordinate with mobile network infrastructure rollout, so that tower construction and equipment installation can be aligned in the most cost-effective manner.

5.4.2 Affordable Digital Transition: Set-Top Boxes

This component will address the requirement that broadcast television viewers must have access to digital reception under the new digital broadcasting standards. For those without access to digital-ready television sets, this requires obtaining TV converter devices (set-top boxes) to allow their sets to receive the new digital signals. The consequence of this policy, which is beneficial to the entire broadcasting industry, could pose financial hardships upon low income households.

NICTA will therefore develop a subsidy project to support the cost of digital TV set-top boxes for lower income users. This project will aim to ensure that all households in the country which require digital converters will obtain them in a timely manner, at low, affordable prices, with a minimum of delay or confusion. NICTA will conduct an analysis of the levels of need and costs, and will prepare a project plan that provides the most affordable solutions possible.

6 BUDGET PLANNING

This section identifies the estimated UAS Fund budget for the period 2018 to 2022, and the preliminary proposed allocation of Fund resources among Programs as defined above. These estimates are for initial planning purposes, and will be subject to ongoing review and updating by the UAS Board and NICTA on an annual basis. The specific projects to be undertaken will be defined and elaborated as part of the development of the Fund's annual Operational Plans.

6.1 Budget Forecast

Based on initial estimates of expected mandatory UAS Fund contributions, NICTA forecasts the following approximate levels of Fund income over the planning period from 2018 to 2022. These are conservative estimates, and don't take account of possible other sources of Fund contributions, or higher industry revenue growth. These figures are the basis for the program budget allocations in the next section.

Year	2018	2019	2020	2021	2022	Total
Estimated Fund income (PGK)	25.0 M	27.0 M	30.0 M	33.0 M	35.0 M	150.0 M

6.2   Summary Annual Budget and Project Plans

The following table provides the estimated annual budget allocation for each program in each year. Specific budget allocations for projects under each Program will be determined in the development of annual Operational Plans, following these guidelines.

Program	2018	2019	2020	2021	2022	Totals
1) Mobile Broadband Network Upgrade and Expansion	20.0 M	20.0 M	21.0 M	22.0 M	22.0 M	105.0 M
2) Public Community Broadband	2.5 M	3.0 M	5.0 M	6.5 M	8.0 M	25.0 M
3) ICT Platform for Future Growth	0.5 M	2.0 M	2.0 M	2.5 M	3.0 M	10.0 M
4) Expansion of Broadcasting Network Coverage	2.0 M	2.0 M	2.0 M	2.0 M	2.0 M	10.0 M
Totals	25.0 M	27.0 M	30.0 M	33.0 M	35.0 M	150.0 M

ATTACHMENT B

Draft Report and UAS Operational Plan, 2018

UAS PROJECTS AND FUND OPERATIONAL PLAN 2018

High-Level Draft for Consultation

Introduction

This Draft Projects and UAS Fund Operating Plan 2018 provides NICTA's preliminary plan for implementing the UAS Fund Strategic Plan for the year 2018, released for public and stakeholder consultation.

This draft Projects and Operating Plan identifies the proposed allocation of UAS Fund resources across the four core Projects and Programs, the target outcomes to be achieved under each program, and the number and scope of projects that will be funded under the available budgets. For each Program, this Plan also describes the approach to implementation and procurement that NICTA will follow, including the general requirements for bidding by prospective contractors. Specific details of each procurement will be defined in the bidding documents in each case, which will be developed in consultation with key stakeholders. A proposed implementation timetable is also identified for each Program.

This draft has been prepared for public consultation, to solicit comments and suggestions from stakeholders and the public. In general, NICTA would appreciate input regarding at least the following topics for each program and project:

- Are the overall objectives and targets for 2018 appropriate?
- Are the proposed budget allocations reasonable?
- What further details on the scope of potential projects should be considered?
- What potential locations should be considered for the 2018 projects?
- What criteria should apply in selecting candidate project locations?
- Are the proposed procurement strategies appropriate?
- Are the timetables for each project realistic?

The following sections describe the preliminary plans for projects to be initiated by the Fund under each program during 2018.

Program 1: Mobile Broadband Network Upgrade and Expansion

Summary of program

The purpose of this program is to extend the coverage of advanced broadband wireless mobile communications services (at least 3G/HSPA+ or 4G/LTE) as far as possible into all areas of the country. The goal is to deliver reliable, high quality access to Internet and "smart" mobile applications and capabilities to as many PNG citizens as possible, where access to such services is not adequately available, and where existing licensed operators have proven unwilling or unable to expand their networks, due to commercial or other constraints. The ultimate objective of this program is to achieve virtually 100% mobile broadband service coverage throughout PNG, and to increase mobile broadband subscribership to as many citizens as possible.

These goals will be accomplished under the Fund through support for projects that invest in advanced mobile network infrastructure and service expansion by licensed mobile operators. UAS Fund projects under this program will provide financial support for build-out of local broadband mobile network coverage into unserved and underserved areas, to fill identified gaps and ensure signal access for all target communities.

There are two types of projects under this program: (1) new BTS sites in areas currently with no mobile service, and (2) upgrades to existing 2G BTS sites. Implementing contractors/operators will be responsible for installing and operating wireless voice and broadband data/Internet telecommunications networks and services within specified locations where such service is not currently available. Priority locations for each separate project will be selected by NICTA, based on market analysis and stakeholder consultations.

For 2018, NICTA will develop a relatively small number of initial projects, to begin the process and test the procedures, costs, and market response. Following recent pilot projects that NICTA has successfully implemented, it will design 2-3 new 3G upgrade as well as 2-3 new 3G network projects, in selected priority locations. These projects will be developed and bids solicited in two stages during the course of the year, to allow all parties to focus resources on a limited number of bidding processes at one time.

Budget and targets for 2018

- Budget allocation = 20 million PGK
- Target outcomes:
  - 3G Upgrade: Approx. 400,000 population newly covered by 3G+ service
  - New 3G service: Approx. 250,000 population newly covered by 3G+ service

Implementation approach

- Procurement strategy:
  - Licensed operators will be invited to bid to provide 3G+ service upgrade or new service within the identified areas, for a fixed subsidy per project. Bidders will be selected based on qualification and minimum subsidy proposed to cover the required areas.

- Main requirements:
  - Project RFPs will identify location boundaries and minimum service requirements. These will generally include construction of backhaul infrastructure and network connectivity, installation or upgrade of Base Stations, establishment of local electrical power and all other necessary facilities, and operation of broadband mobile services on a commercial basis

within the identified areas. There may also be mandates for minimum customer take-up of the services.

- Bidding parameters:
  - Bidders must be licensed mobile telecom operators, with qualification and capability to provide the services, including existing presence in locations to be upgraded. Bids must include detail on proposed network deployment to ensure minimum coverage. Contracts will be awarded to the operator proposing the least total subsidy bid per project.

Projects to be funded

- Number of projects:
  - 3G Upgrade = 2-4 projects
  - New 3G service = 2-4 projects

- Size, scope:
  - 3G Upgrade projects: Approx. 4-5 LLGs within 2-4 Districts for each project
  - New 3G service projects: Approx. 2-3 LLGs within 1-2 Districts for each project

- Locations:
  - Specific locations (districts, LLGs) to be determined through consultations with the public, operators, and local officials.

Timetable of key milestones:

Projects to be rolled out in two groups during 2018

Initial project design	April, Sept
Public consultations	May, Oct
RFP release	June, Nov
Bid submission, evaluation of bids	Aug, Dec
Contract award, project launch	Sept, Jan '19
Program implementation, M&E	2019-2020

Program 2: Community and Institutional Broadband Networks

Summary of program

The purpose of this program is to help deliver high-speed, full-service fixed broadband Internet connections to selected communities, with services and capacity widely available to public institutions as well as local businesses and households, on an affordable basis throughout each designated local service area. To achieve these outcomes, the Community Broadband Program will support comprehensive implementation projects in a limited number of designated locations, which will consist of three integrated components:

- Broadband Network Access and Service: Extending broadband network links into unserved areas;
- Institutional Connectivity: Providing broadband connections directly to identified local public institutions, including schools, health facilities, local government offices, and community centers.
- Community ICT Centers (CICs): Establishment of public access CICs within each designated community.

To achieve the multiple, inter-related goals of this program, projects will be designed to require implementing partners and contractors/operators to provide the full range of specified outputs simultaneously within each defined service area.

For the first year, NICTA will identify 3 to 4 pilot locations across 2 distinct projects, and invite project design and operation proposals from operators for an identified budget.

Budget and targets for 2018

- Budget allocation = 2.5 million PGK
- Target outcomes:
    - Launch of broadband community networks and services in 3-4 pilot locations, connecting major public institutions, and providing public community access points.

Implementation approach

- Procurement strategy:
    - For each project, NICTA will issue a request for proposals from qualified licensed telecom operators, identifying the locations and scope of facilities and services required, and the available subsidy amounts. Bidders will propose the range of infrastructure, network configuration, technologies, and other features to be offered for the available budget. NICTA will select the most responsive proposals that will deliver the broadest and most cost-effective services.

- Main requirements:
    - At a minimum, contractors must establish broadband (fiber) access network links into the designated communities, and connections to identified public institutions (schools, government offices). They must also establish some form of public broadband ICT access facility (community ICT center, public WiFi, or equivalent). The contractor must ensure continuous operation of public Internet service at these locations. Options for other services, including fixed and wireless broadband, may also be included.

- Bidding parameters:

- Bidders will define in their proposals the specific scope and configuration of infrastructure and services to be provided in the designated locations, and all other required and optional features. The amount of subsidy available will be disclosed to bidders, who must design their projects to meet this budget. NICTA will select the qualified bids that best meet the requirements, and that provide greatest value for the communities.

Projects to be funded

- Number of projects:
  - 2 projects (separate procurements)

- Size, scope:
  - Pilot deployments of community broadband connections in 1-2 locations (LLGs) per project. Connections and broadband service to major public institutions, plus public ICT access facilities in each location.

- Locations:
  - Specific locations (districts, LLGs) to be determined through consultations with the public, operators, and local officials.

Timetable of key milestones:

2018:

Initial project design	May
Public consultations	June
RFP release	July
Bid submission, evaluation of bids	Sept
Contract award, project launch	Oct
Program implementation, M&E	2019

Program 3: ICT Platform for Future Growth

<u>Summary of program</u>

The purpose of this program is therefore to help develop a platform for future, long-term development of ICT utilization and opportunities across Papua New Guinea society. Projects in this area will support the development of creative, innovative, and high value ICT activities within PNG communities, which will tap into the resources and knowledge of the local populations.

There are two main components to this program, which can be implemented through independent projects or in combination with other Fund programs. These are (1) ICT Applications and Content, and (2) Digital Literacy projects. Specific individual projects will be designed by NICTA and the UAS Board, in consultation with appropriate public officials and other stakeholders.

For the first year's preliminary implementation of this program, NICTA will invite interested partner organizations to submit proposals for innovative projects under each category, to be developed and piloted with the available Fund budget (together with other resources). NICTA will enter into agreements with selected organizations to define and implement the projects deemed most appropriate, cost-effective, and valuable.

<u>Budget and targets for 2018</u>

- Budget allocation = 0.5 million PGK
- Target outcomes:
  - o Initial pilot projects, reaching target populations with useful content and valuable digital literacy training, while providing helpful lessons for scaling up similar projects, and developing further partnerships.

<u>Implementation approach</u>

- Procurement strategy:
  - o The first year implementation will involve two modest-scale pilot projects, aimed at identifying options for further expansion. NICTA will consult with potential partners and solicit proposals for introductory ICT content and digital literacy projects, which can be scaled up where appropriate.

- Main requirements:
  - o ICT content project: Design of a preliminary plan and implementation strategy to encourage development of locally relevant ICT content.
  - o Digital literacy project: Design of a preliminary plan and implementation strategy to support wide improvement in digital literacy among disadvantaged population groups.

- Bidding parameters:
  - o NICTA will solicit ideas and proposals from potential partner organizations that are interested and qualified to offer the needed resources. These may include universities, local governments, small entrepreneurs, social service organizations, training institutes, and community groups. Such partners will be invited to propose projects within the general parameters and budgets defined by NICTA. Proposals will be selected for innovation, cost-effectiveness, and capability and resources of the partners.

<u>Projects to be funded</u>

- Number of projects:
  - ○ ICT content = 1 pilot project
  - ○ Digital literacy = 1 pilot project

- Size, scope:
  - ○ Each project will be supported by approx. 250,000 PGK from the Fund.

- Locations:
  - ○ Specific locations and target beneficiaries of the pilot projects will be determined by NICTA together with the selected partners, and through consultations with other key stakeholders.

Timetable of key milestones:

2018:

Initial project proposal solicitations	July
Preliminary selection of partners	August
Negotiations	September
Detailed project design, planning	Oct-Nov
Contract award, project launch	Dec
Program implementation, M&E	2019

Program 4: Extension of broadcasting network coverage

<u>Summary of program</u>

This program addresses the objective of extending coverage of radio and television broadcasting to all citizens and communities in PNG. NICTA aims to support growth of the broadcasting sector through targeted use of Fund resources to close gaps and assist low income consumers where the broadcasting market may not reach. This activity will focus on support for infrastructure expansion, primarily through enhancement or installation of broadcast antennae on existing or new towers, as well as potential assistance for low-income households with the costs of the digital broadcasting transition, via discounts on set-top boxes.

The first year project under this program is intended to serve as an initial planning and pilot exercise, while also delivering expanded broadcast coverage to a selected set of districts. NICTA will solicit bids from qualified contractors for a single, integrated project to be rolled out within one target province initially. The project planning, negotiations, and implementation will help define the parameters of future projects under this program.

<u>Budget and targets for 2018</u>

- Budget allocation = 2.0 million PGK
- Target outcomes:
    - Expanded coverage of broadcast signals throughout selected province/districts

<u>Implementation approach</u>

- Procurement strategy:
    - NICTA will solicit bids from qualified contractors to construct and install the necessary infrastructure, facilities, and equipment to expand broadcast signals within the designated areas. Contractors do not have to be licensed operators, but must have the capability to provide all necessary planning, equipment, and resources. NICTA will identify the required locations, and contractors will propose how best to build and install the needed facilities. In addition, NICTA will make available limited subsidies for digital set-top boxes on a preliminary trial basis, which will be offered to qualified low-income users through the selected contractor.

- Main requirements:
    - Survey existing infrastructure and transmission network, determine scope of needs. Install broadcast antennae and related equipment and facilities to link to existing radio and TV broadcast networks. Wherever possible, use available towers and similar structures that are capable of supporting broadcast antennae. Prepare plan for discounted set-top-boxes for qualified customers.

- Bidding parameters:
    - Bidders will be asked to propose the technical approach and requirements for expanding broadcast coverage within the designated areas. Contractors need not be licensed operators/broadcasters, but must demonstrate capability to construct the necessary facilities and link them to existing broadcast networks. The amount of available subsidy will be disclosed by NICTA, and bidders will identify the maximum scope of coverage they can achieve for that budget. The qualified contractor proposing the widest population coverage for the

available budget will be awarded each project. Bidders must also propose a plan for distributing subsidized set-top-boxes to low-income households.

Projects to be funded

- Number of projects:
    - 1 pilot project

- Size, scope:
    - 3-4 districts within a selected province, where broadcast signals are not sufficiently available, to reach all unserved LLGs within the defined area

- Locations:
    - Specific locations (districts, LLGs) to be determined through consultations with the public, operators, and local officials.

Timetable of key milestones:

2018:

Initial project design	June
Public consultations	July
RFP release	Sept
Bid submission, evaluation of bids	Nov
Contract award, project launch	Dec
Program implementation, M&E	2019

ATTACHMENT C

Draft UAS Levy Determination 2018

DRAFT DETERMINATION: 2018 UNIVERSAL ACCESS AND SERVICE LEVY

I.   EXECUTIVE SUMMARY

1. Part 5 of the National Information and Communications Technology Act, 2009 ("the Act") provides for the implementation of a "Universal Access and Service Regime".

2. The UAS Regime includes a "Universal Access and Service Fund" with the purpose of promoting "the long-term economic and social development of Papua New Guinea by funding approved UAS Projects".

3. UAS Projects generally provide telecommunications or other ICT services to communities or areas that are unserved or under-served.

4. The Universal Access and Service Fund ("UASF) may be funded from various sources, including an annual "Universal Access and Service Levy" ("UAS Levy") paid by operator licensees.

5. In this Draft Determination, NICTA proposes that the 2018 UAS Levy be set at 1.75% of the net revenues of operator licensees, and seeks written submissions, comments and relevant documents or information from operators on this Draft Determination by 15 January, 2018.

6. A levy of 1.75% of net revenues of operator licensees has been proposed having regard to the UAS projects proposed for 2018, the estimated cost of which is 25 million Kina.

7. This Draft Determination does not involve any binding or other decision by NICTA on any matter, or any other action by NICTA that is subject to appeal or judicial review. NICTA will make its decision relating to a 2018 UAS Levy only after the close of the comment period referred to above, and consideration of submissions received.

8. NICTA also advises that submissions or comments should be made with adequate substantiation or evidentiary support. Contentions made without such support may not be given significant weight, or be accepted by, NICTA.

II.   Key Background Information

      A. Summary of Legal Framework

9. In preparing this Draft Determination for comment by interested parties, NICTA has considered the relevant provisions of the Act, which include, but are not limited to, the following:

Section 90(1), which states: "The objective of Universal Access and Service Fund is to promote long-term economic development by funding approved Universal Access Service Projects."

Sections 102 – 104, which provide for the establishment of a Universal Access and Service Fund Trust ("Fund") and trust account, for NICTA to be the Fund Manager, and that the responsibilities of NICTA, as Fund Manager, include:

(a) receiving funds collected from operator licensees as Universal Access and Service Levies imposed pursuant to Section 107; and

(b) directing the disbursement of funds from the Universal Access and Service Fund in accordance with Section 107; and

(c) collaborating with the UAS Board to determine-

(i) the amount of annual revenue required to ensure that the Universal Access and Service Fund remains fiscally sound; and

(ii) the calculation of the rate of assessment for the Universal Access and Service Levy imposed pursuant to Section 107."

Section 101(2), which provides that payment or contributions to the Fund are tax deductible.

Section 105(1), which provides that NICTA, as Fund Manager, **"**may establish reserves from surpluses resulting from the Universal Access and Service Levy or other sources of funding for the purpose of funding UAS projects in future years."

Section 107, which relates to NICTA's setting of a UAS Levy. It provides:

(1) "Subject to Subsection (2), NICTA may levy charges on operator licensees for the Universal Access and Service Fund, to be known as the Universal Access and Service Levy;

(2) NICTA shall set the Universal Access and Service Levy as a percentage of the net revenues of each operator licensee at a level, to be determined annually, to apply from the beginning of each fiscal year –

a. to achieve the desired level of funding for the UASF for that year as advised to NICTA by the UAS Board, less any amount paid by NICTA in the previous year under Section 32(2)(a); and

b. not exceeding the maximum percentage as prescribed in the regulations;

(3) Each operator licensee shall fully co-operate with NICTA, including through the provision of relevant information requested by NICTA, in order to enable NICTA to make the calculation identified in Subsection (2);

(4) Upon receiving notification of the amount owed as its Universal Access Service Levy, an operator licensee shall submit payment of the Universal Access Service Levy to the Universal Access Service Trust Fund Account;

(5) The Universal Access Service Levy is a debt owed to the State and may, in addition to other avenues, be recovered in a court of competent jurisdiction;

(6) Without limiting any other action or remedy available to it if an operator licensee fails to pay an amount owing in accordance with Subsection (4) NICTA may recover the outstanding amount of the Universal Access and Service Levy from funds otherwise payable under Section 115;

(7) Subject to Subsection (8), any regulations made under s32(4) may determine the timing for payment of the Universal Access and Service Levy and the manner of calculation of any late payment charges; and

(8) No Universal Access and Service Levy may be charged prior to 1 January 2011."

Section 108, which provides, among other things, for NICTA to report to the Universal Access and Service Board ("the UAS Board") as to proposed UAS Projects, for the UAS Board to provide the Minister with a report recommending and ranking proposed UAS Projects, and for the Minister (under Section 108(5)(b)), to determine which of the proposed projects will be carried out within the proposed aggregate budget.

Section 109, which provides, among other things, that NICTA "shall develop and carry out a competitive selection process, in order to select a successful bidder for each UAS Project determined by the Minister under Section 108(5)(b)"; and

Section 115, which provides for NICTA to enter into 'Project Agreements" with successful bidders for the implementation of UAS Projects.

10. NICTA also has had regard to the National Information and Communications Technology (Operator Licensing) Regulation, 2010, including Section 22 which states:

"For the purposes of Section 107(2)(b) of the Act, the Universal Access and Service Levy shall be set by NICTA at a level that does not exceed 2 percent of net revenues."

II.   Proposed UAS Levy For 2018 - considerations

11. NICTA collaborated with and received advice from the UAS Board as to 2018 UAS Projects and the amount of any 2018 UAS Levy.   In this respect, the UAS Board has advised NICTA that:

    a. the desired level of funding in the Universal Access and Service Fund for 2018 is an amount at or approximately at the estimated cost of 2018 proposed projects (K 25 million), which includes a modest and prudent contingency for cost variations or overruns; and

    b. the percentage amount or rate of assessment for a UAS Levy for 2018 should be sufficient to provide the desired level of funding referred to in Paragraph 3, after reductions for any other funding sources obtained for the 2018 Year.

12. Having considered this advice and other relevant circumstances NICTA considers that the 2018 UAS Levy should be set at 1.75% of operator net revenues.

13. The supporting considerations for this include that:

    a. This amount should allow implementation of the 2018 Projects proposed by the UAS Board, which are currently the subject of industry consultation;

    b. NICTA considers that it is feasible to tender, award and substantially implement these projects and budget during 2018;

    c. To the extent such projects and budget were not fully implemented in 2018, this UAS Levy amount would provide a prudent but modest level of reserve, contingency or surplus for continuation of these projects in;

    d. The amount of the proposed 2018 UAS Levy (1.75%) is less than the maximum percentage of 2% provided in NICTA's regulations, and

    e. Operator licensees have known since the enactment of the Act in 2009 that, from January 2011, they will be subject to an annual UAS Levy, from at least late 2014, NICTA advised operators that it believed there was a large access gap and expected for one or more years to impose the maximum 2% annual levy to seek to close that gap, no levies were imposed prior to 2016, and the major operators have opposed, and never paid, any UAS Levy.