Financing Opportunities for 4G/5G Investment in Africa

27 November 2023 London

Report by the Advocacy Task Force of the Working Group on 21st Century Financing Models

A REPORT TO:

ITU/UNESCO BROADBAND COMMISSION
For Sustainable Development

SAMENA TELECOMMUNICATIONS COUNCIL
BUILDING DIGITAL ECONOMIES

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Introduction

This report provides a summary of the discussions held and outcome achieved at the Meeting on “Financing Opportunities for 4G/5G Investment – Universal Framework for Global Connectivity Financing”, which took place on 27 November 2023 at the Vodafone UK Offices in London. The meeting brought together ICT ministers, ICT industry leaders, financial analysts, telecom operators, investors, and regulators, showcasing a unified front in tackling digital divides.

Background and Context

Meeting in September 2023 in New York, the Commissioners of the ITU/UNESCO Broadband Commission for Sustainable Development discussed how to accelerate connectivity in Africa and build on the the recommendations of the Working Group for 21st Century Financing Models for Bridging Broadband Connectivity Gaps, notably the concept of broadening the base of financial contributors to broadband networks. Stakeholders were invited to join a special meeting on this topic, which became the 27 November London event.

In 2016, the Broadband Commission estimated a global requirement of US$ 450 billion for connecting the unconnected. Subsequently, in 2019, the Broadband Commission Working Group “A Moonshot for Africa” approximated a need of US$ 108 billion for Africa alone. Furthermore, in 2020, the ITU projected that almost US$ 430 billion is needed to reach universal access to broadband connectivity by 2030 on a global scale. A 2023 IMF Report concluded US$ 418 billion is required to provide universal broadband. Notably, the OECD and UNDP have calculated an annual funding shortfall of over US$ 3.7 trillion for attaining the Sustainable Development Goals (SDGs).

At the national level, each country must develop a network tailored to its geographical, economic, and social requirements. Governments and operators alike must devise connectivity plans that align with their national needs and economic considerations.

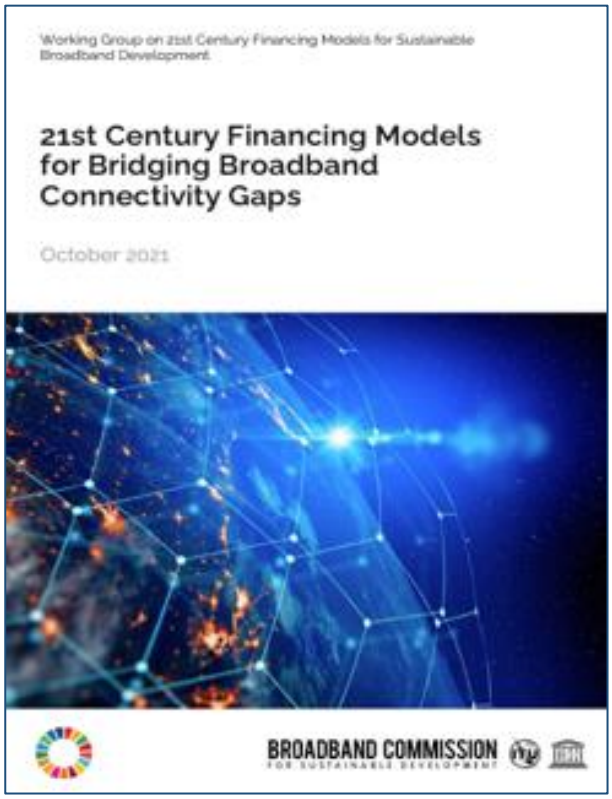
As traditional business models and financing methods have proven unable to close the gap, new and creative investment models that take account of changed market realities and that bring together private and public stakeholders are needed to deliver access to those most in need.

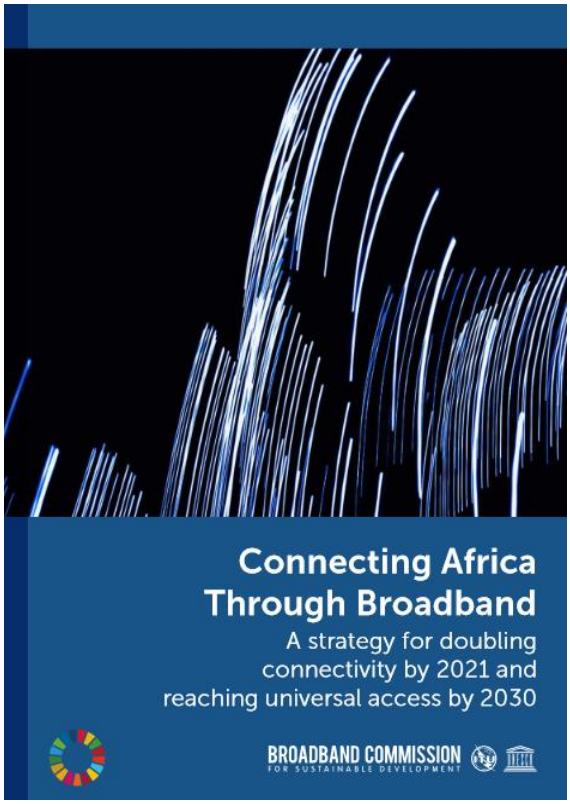
Meeting Objective and Outcome

The meeting explored different global approaches for financing broadband networks, focusing on expanding the contributor base to network costs in both unserved and underserved areas. A significant outcome was the agreement on foundational elements for an innovative Universal Broadband Financing Framework.

This initiative, poised for initial implementation in Nigeria and Rwanda, marks a significant step towards enhancing worldwide connectivity and serves as a model for future expansion across different regions. The event was a clear demonstration of collective determination to bridge existing connectivity gaps, bringing together a diverse group of stakeholders including ICT ministers, industry leaders, financiers, telecom operators, financial bodies, and regulators, united in their effort to overcome digital disparities.

The new Framework advances the recommendations of the Broadband Commission's Working Group on 21st Century Financing Models for Bridging Connectivity Gaps, which were published in 2021. The Framework's approach is multifaceted, encompassing the expansion of the base of contributors and contributions in a sustainable, predictable and institutionalized manner, harnessing a portion of the ICT sector's revenues for broadband development projects, and exploring locally adaptable, innovative financial and operational solutions, including the potential establishment of an International Fund to foster broadband proliferation.





High-Level Meeting Summary

The meeting discussed various models and approaches for financing broadband infrastructure, focusing on challenges and potential solutions in Africa and other regions as follows:

1. Broadband Financing Challenge in Africa:

- Mobile operators bear the cost of building and running broadband networks, while OTT (Over-The-Top) providers use these networks but contribute little to no access fees.
- The economic and social multiplier effect of internet adoption in Africa is significant, but OTT providers benefit, mainly through advertising and services, without contributing to network costs.
- Africa's digital economies are growing rapidly, raising questions about investment in broadband networks and how much value will be reinvested in infrastructure.

2. Examples of Broadband Financing Approaches:

- **Peru (Internet para Todos):** An OTT (Facebook/Meta) co-invests in equity in a company (Internet para Todos) that owns and operates broadband infrastructure in remote areas. This is an example of an OTT voluntarily investing in infrastructure to gain both service users and dividends.
- **South Korea:** Legislation obliges large content providers to negotiate network usage fees with broadband providers. Fees are privately determined. This approach has led to commercial arrangements between Netflix and other OTTs with broadband network operators.
- **European Union:** Considering a "fair contribution" mechanism that would oblige “large traffic generators” to negotiate with network operators, like Australia's News Media and Digital Platforms Mandatory Bargaining Code.
- **United States:** The proposed Lowering Broadband Costs for Consumers Act of 2023 would require OTTs with significant traffic and revenue to contribute to the USF (Universal Service Fund), which supports broadband deployment and vouchers for low-income families.

3. Investor Perspectives and Additional Approaches:

- Investors seek profitable models, especially for projects beyond urban areas.
- Incentivizing OTTs is crucial for them to contribute to infrastructure financing.
- Separating infrastructure and making it open access to all operators is seen as an optimal financing model.
- Governments can mitigate investment risks to attract financing.

4. Role of Governments and International Financial Institutions:

- Governments can champion network rollouts by providing incentives and partnerships with OTTs.
- Africa should leverage access to its unconnected citizens (who are of interest to OTTs) to secure OTT contributions to infrastructure costs.
- Governments leading dialogue and efforts to secure OTT contributions to infrastructure costs is more likely to be productive. OTTs resist negotiations with network operators, as they perceive contributions to network costs as a value transfer to network operators rather than a contribution to infrastructure from which they benefit.

- International financial institutions like the IFC and the European Investment Bank offer funding and investment in digital infrastructure, often through PPPs (Public-Private Partnerships) and blended financing models.

Detailed Report summary

A special meeting convened by the Advocacy Group of the Report on 21st Century Financing Models for Bridging Broadband Connectivity Gaps was held in London on 27th November 2023.

The Advocacy Group, Chaired by Mr. Bocar Ba of Samena Council, and led by Mr. Denis O'Brien Chairman of the Digicel Group and Mr. Lacina Koné, Director General of Smart Africa.

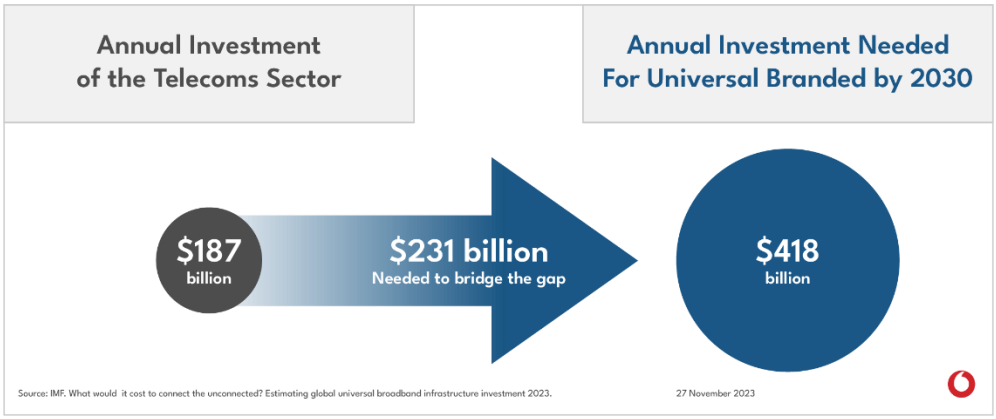
Introduction – Bocar Ba, Samena

Following discussions of the Broadband Commission at its September 2023 Fall Meeting at the United Nations in New York, the Advocacy Group invited representatives of the financial community and relevant stakeholders to a meeting to agree concrete measures to solve the connectivity gap in Africa by 2030.

The figures make clear how much work there is to be done. Sixty percent of persons remain offline in Africa and in 2019 the Broadband Commission Report on a Digitial Infrastructure Moonshot for Africa estimated that US$ 109 billion will be required to connect the continent. While individual countries must assess their own financial requirements and plan networks according to its own geographic, economic and social needs, what is required is access to capital.

It was agreed to take forward the key recommendations of the Report on 21st Century Financing Models for Bridging Broadband Connectivity Gaps, namely; (1) broadening the base of contributors to the cost of broadband networks; (2) earmarking a percentage of the proceeds of ICT taxes; (3) reforming USF Funds; and (4) international funds which can provide low capital cost/long amortization loans. The aim is to create a high level framework under which more digital ecosystem stakeholders can be involved in financing and investing in broadband infrastructure.

The objectives of the meeting were to review the salient financial models to build infrastructure in rural Africa, describe the methods of broadening the base of financial contribution, collect feedback from investors on how to execute such models, and to define a roadmap for implementation.



Dr. Bosun Tijani, Minister of Communications, Innovation and Digital Economy, Nigeria

“The Africa we should be dreaming about is the Africa of 5- or 10-years’ time.”

Joakim Reiter, Vodafone

“Telecommunications is a great business model but access to capital is a key problem. This meeting is important to try to find innovative solutions to close the Broadband gap.”

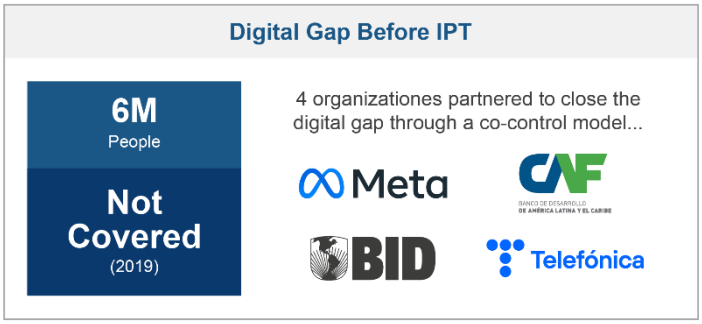
H.E. Dr. Amani Abou-Zeid, Commissioner for Infrastructure and Energy at the African Union Commission

“We need to work much more and much faster to close the connectivity gap. The digitization of Africa must be accelerated and the African Union is working to ensure development finance is extended to Africa on much better terms as this is essential to meet the climate challenge.”

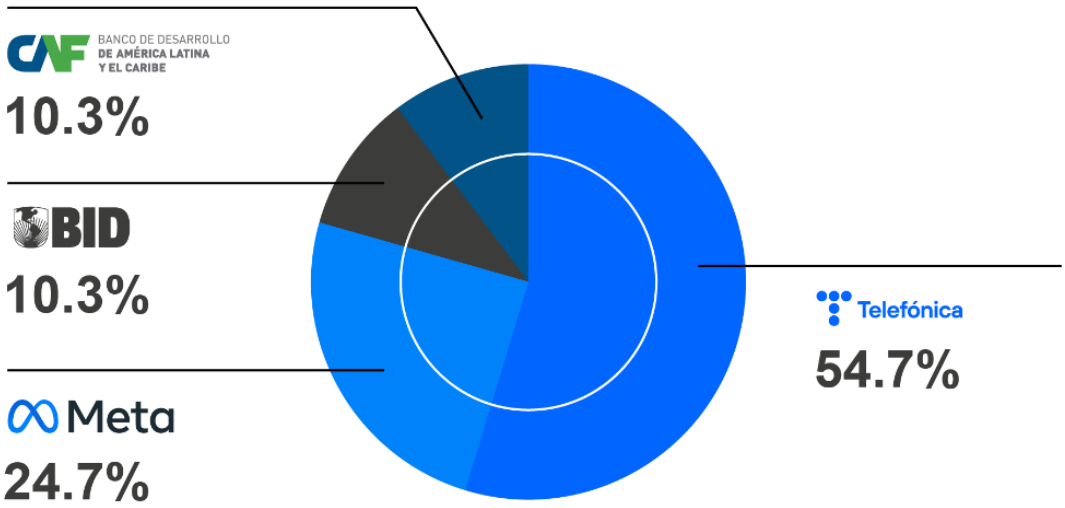
Broadening the Base with Big Tech: Internet Para Todos

Internet para Todos is an innovative approach to close the digital divide through a collaborative and sustainable model for equity amongst the partners implemented in Peru and slated for rollout in other South American countries.

Facebook, IDB Invest, CAF (Development Bank of Latin America and the Caribbean or Corporacion Andina de Fomento) and Telefonica became shareholders in a new company, Internet para Todos, which built a 4G network in rural Peru.



It took just nine months to agree investment terms between September 2018 and May 2019. The investors contributed US$ 150 million proportionately in cash (Telefonica contributed some assets also) in exchange for equity holdings in the company (Telefonica 54.7%, Meta (Facebook) 24.7%, IDB Invest 10.3%, CAF 10.3%).



An advantage of the equity structure is that it gave ownership to the participants. IDB Invest viewed Facebook's involvement as critical to enabling the business case to be funded by higher-risk equity financing rather than debt financing.

The Internet para Todos network operates as a wholesale network and leases network capacity to Peruvian mobile operators which in turn provide access services to customers in the rural areas covered by the network.

Internet para Todos generates revenues through the wholesale fees received from mobile operators, which in turn are linked to data usage. These fees are sufficient to covers its costs, including the costs of maintaining and operating the network, staff costs and overheads, network expansion, to build up cash reserves and pay dividends to the equity shareholders.

For Telefonica it was essential that the business model was financially sustainable and did not depend on subsidies or extraordinary contributions, and was able to generate sufficient recurring income to support its operations.

While no Government funding or subsidies were utilised, regulatory incentives played an important role, as the Peruvian regulatory framework reduces spectrum fees to incentivise investment in rural areas. The network also enjoys access to the national telecommunications backbone network.

The concept of co-control is central to the governance and decision-making model. The company is governed by a shareholders' agreement and is overseen by a board of management appointed by the four investors which meets monthly. Day-to-day operations are run by a management team and full-time staff who are all experienced telecommunications personnel.

The project exceeded expectations and by October 2023, 2,233 4G sites had been rolled out covering a population of 3.4 million, 2.8 million of whom previously had no mobile coverage of any kind. Average data usage also far exceeded expectations as end users engaged with OTTs, online health, banking, etc.

In addition to its equity investment, Facebook brought innovative approaches of network technology, design, and Artificial Intelligence (AI) to optimize consumer usage.

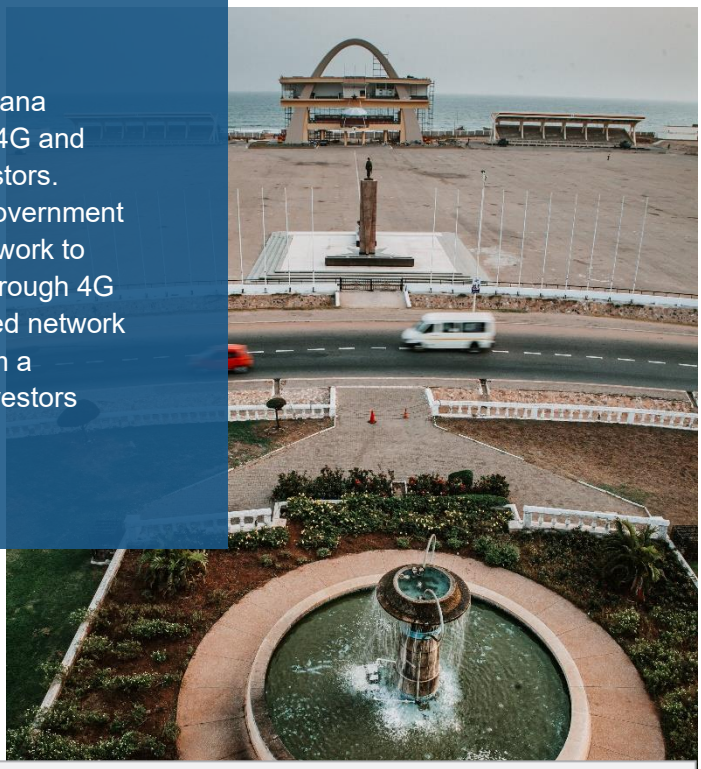
Internet para Todos demonstrates how OTTs, Mobile Network Operators and Development Banks can successfully collaborate to build a Broadband network in an unserved rural area.

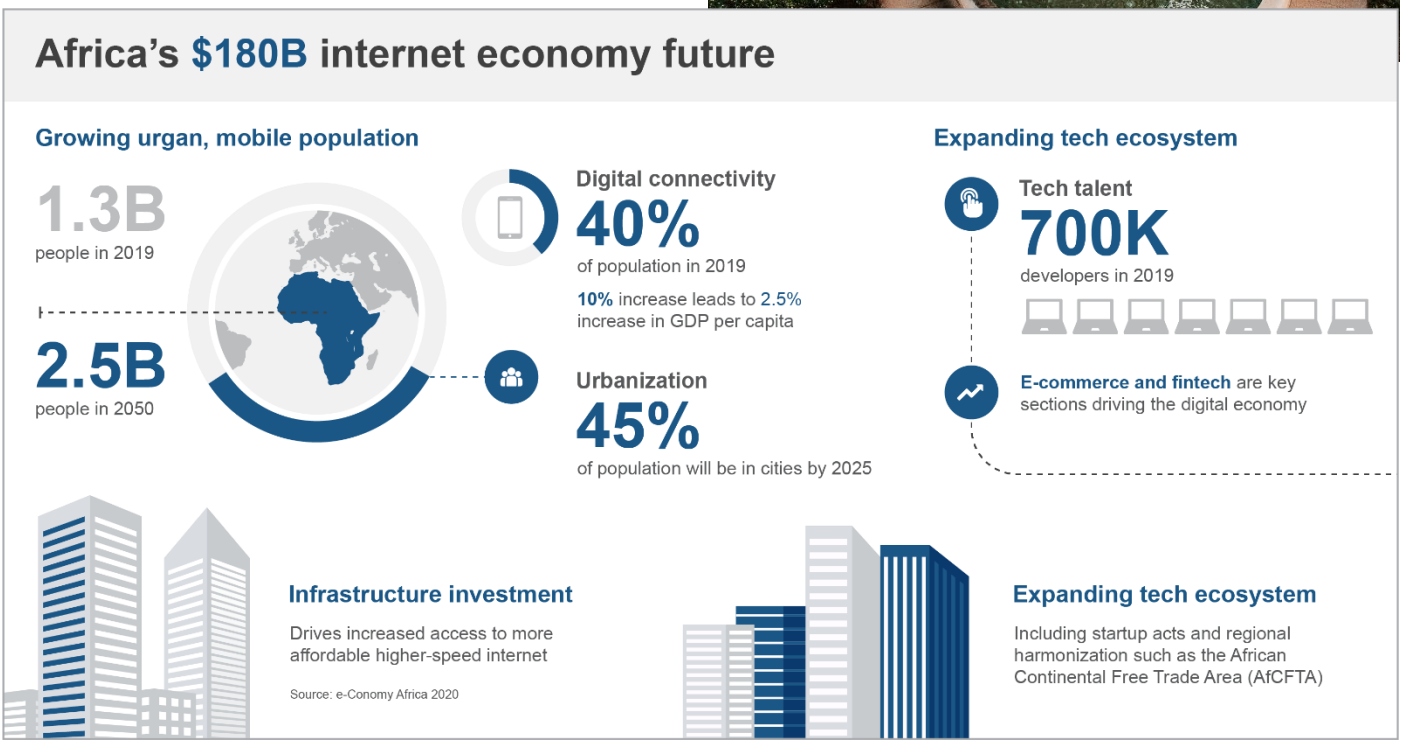
Telefonica

The only way to ensure technological evolution of rural networks is to develop financially sustainable business models that do not depend on subsidies or extraordinary contributions, but are instead able to generate recurring income, either provided by end customers or by other agents interested in the provision of the service.

Example: Ghana

On August 25, 2023, the Government of Ghana announced that it plans to a build a shared 4G and 5G network with operators and private investors. Rather than auctioning 5G spectrum, the Government instead plans to set up a neutral shared network to enable mobile services that are delivered through 4G and 5G spectrum. It is hoped that the shared network company will be funded by investments from a consortium of network operators, private investors and investment from the USF Fund.





Africa iGDP Potential			
Year	iGDP (billions)	iGDP as % of GDP	GDP (billions)
2019	$100	3.9%	$2,580
2020	$115	4.5%	$2,554
2025	$180	5.2%	$3,446
2050	$712	8.5%	$8,342

Source: Accenture, "Africa iGDP Forecast, Africa," September 2020.

Which Model Works for Africa – Dr. Roslyn Layton, Strand Consult

Mobile operators build and run broadband networks and bear infrastructure costs. OTT providers use broadband networks to deliver their services but pay little to no access fees. End users in Africa have limited income to pay for broadband subscriptions, however their adoption of the internet has an economic and social multiplier effect. Notably OTTs benefit through advertising and services, but they do not contribute financially to the underlying broadband network cost. Hence broadening the base of financial contribution is critical to close the gap for network investment, and indeed is a key recommendation of the Report on 21st Century Financing Models for Bridging Broadband Connectivity Gaps.

Africa's digital economy is growing and has enormous potential. It is already larger than Europe's. By some estimates, it will be valued at US$180 billion by 2025 and US$700 billion by 2050. Just half of Africa's population is online today. There will be sufficient value to underpin investment in broadband networks but the question is how much of this additional value will go into networks?

OTT revenue in Africa is already significant. While the large OTT companies do not publish their earnings by country, it is estimated that the largest platforms (Meta, Google, TikTok, Netflix, Amazon Prime, and Apple) earn at least of US$10 billion in the continent, for an annual revenue per user as high as $38. As the digital economy grows in Africa, the value of each user will grow.

As more people are able to connect to the internet in Africa, the financial opportunity for OTTs also grows.

Every additional African user brings a long-term revenue stream to a digital company. Firms in every industry are willing to invest in order to acquire new users whenit adds value. Digital markets are no different. The Nobel prize winning work of Dr. Jean Tirole suggests that firms running two-sided market platforms will invest to acquire new users, and indeed, that different price points will bring more users aboard. However, some OTTs have used market power to avoid negotiation for the contracts to enable this two-sided access and usage, expecting a free ride for their data and service. This lack of participation by the largest OTTs has likely slowed internet adoption in Africa.

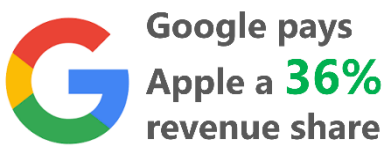
Meanwhile telecom operators face an 'Innovator's dilemma' when they upgrade their networks from 2G/3G to 4G/5G. Serving their existing customers is more profitable that expanding to the lower end of the market cedteris paribus.

While improved network throughput is valuable to certain OTTs which provide video (YouTube, Netflix, TikTok etc.), mobile providers cannot necessarily increase prices sufficiently to cover the upgrade cost. Indeed, video

services are frequently advertising supported, so while YouTube and TikTok profit (after all they have limited to no rollout cost to add the next user), the mobile operator often does not break even, let alone profit.

Sub-Saharan Africa needs investment in 4G and 5G networks to close the gaps in broadband coverage. Broadening the contribution base to include not only end-consumers but also content providers, preferably on negotiated commercial terms, would be expected to produce a socially optimal outcome.

Apple provides a good example of how negotiated terms on two-sided markets optimise outcomes. It was revealed in a US court that Google and Apple agreed terms for Google to access the end users of Apple's platform. Google negotiated access to the end users of Apple's platform by having its apps pre-installed on the iPhone. Google pays Apple a 36% share of the revenues earned from iPhone users accessing YouTube and Google's Search, Drive, Maps, and TV. This revenue share amounts to a payment of approximately US$18 billion annually by Google to Apple.

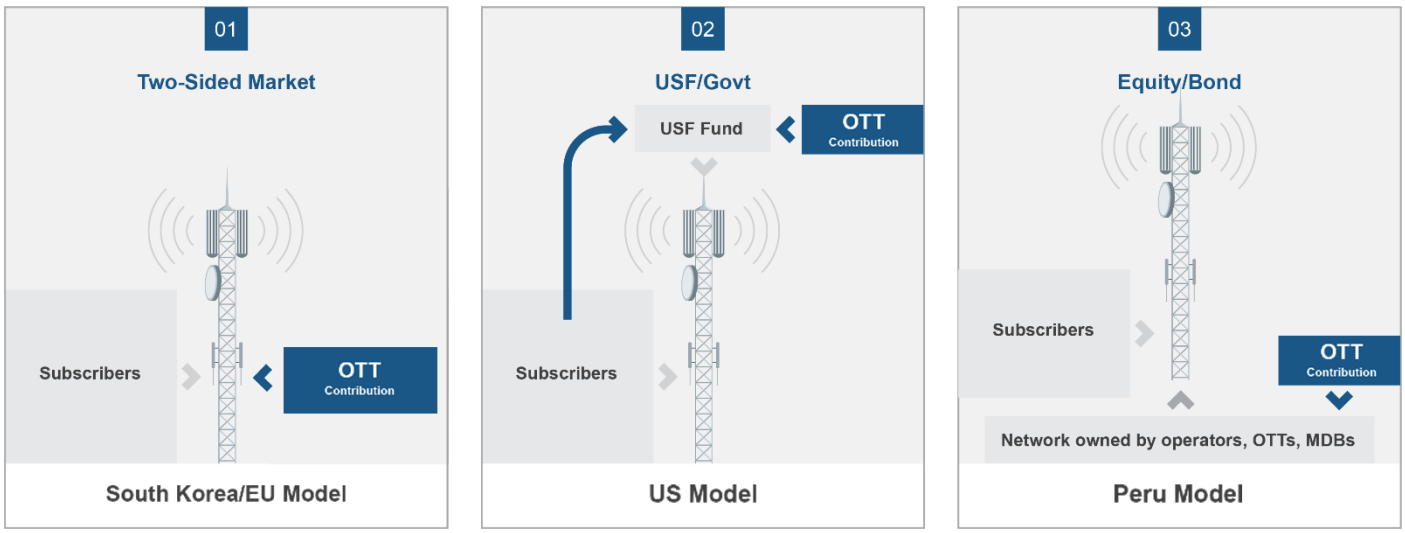


Telecommunications networks are also two-sided markets. However, unlike the Apple example, OTTs are less willing to negotiate similar fee-sharing arrangements with telecommunications providers. This is the case even where it would be to their own long-term benefit, for example in Africa where the opportunity to add additional end users is clear.

OTTs are willing to pay to access each other's platforms as the Apple/Google example demonstrates. A regulatory framework could help ensure that OTTs come to the table to negotiate and participate financially in broadband network costs.

Which Model for Africa?

Other regions have introduced innovations to broaden the base. There are three different models which either (1) oblige OTTs to negotiate commercial terms with operators, or (2) require OTTs to contribute to universal service funds (USFs) which are then used for infrastructure, or (3) incentivise direct investments in infrastructure by OTTs.



OTT Contributions to Networks: Two Different Approaches to Facilitate Direct Negotiations

In South Korea, legislation obliges content providers above a certain size to negotiate with broadband providers for "network usage fees". To facilitate negotiation, the Korean Information Society Development Institute (KISDI), publishes traffic data periodically to demonstrate those firms which comprise a minimum of 1 percent of the nation's traffic and provide an OTT service to 1 million users or more. It is reported that Netflix and several other foreign OTTs (and some local OTTs) have now agreed commercial arrangements with network operators in South Korea.

Note that Korean content providers have paid for network access for years; this has not deterred their growth, as they compete directly with Google, Meta, Netflix, Amazon, etc. Today South Korea is the world's 7th largest content market, and it is launching a secondary video gaming platform following the success of AfreecaTV. South Korea policymakers have not wanted to be mere consumers of digital goods and services from the US and China; rather they have forged meaningful technology leadership to create local content, applications and services in South Korea for both domestic and international markets.

The European Union is considering the introduction of a "fair contribution" mechanism which would impose an obligation on the largest digital platforms to enter good faith negotiation with network operators, with recourse to an imposed solution by an arbitrator in the event of a failure to agree. This follows the model provided by the Australian 'News Media and Digital Platforms Mandatory Bargaining Code' which succeeded in facilitating contributions by Big Tech to the media industry in Australia. Canada also introduced a similar framework for fair negotiations through its 'Online News Act'.

OTT contributions to USF Funds

The United States Senate has proposed the Lowering Broadband Costs for Consumers Act of 2023 precisely to broaden the base of contributions. The bill empowers the Federal Communications Commission (FCC) to assess OTTs above 3 percent of total US traffic and with $5 billion or more in annual US revenue to contribute the USF. Under this Act the FCC would determine the method of assessment, collect the fees, and distribute them to schools, libraries, hospitals, people of low income, and eligible rural broadband providers.

The Report on 21st Century Financing Models for Bridging Broadband Connectivity Gaps also recommends retaining a portion of the taxation contributions from ICT players and recommends that where new digital taxes are imposed on OTTs, a portion of any such tax revenue is earmarked to finance digital infrastructure development and broadband adoption. To the extent that this is new taxation revenue not previously available it could be considered to be a broadening of the base.

Facilitating Investment in Infrastructure: Equity or Debt Instruments

Internet para Todos provides a model whereby an OTT company co-invests in equity in a company that it will co-control and that will own and operate broadband infrastructure in remote areas. This was an investment made on a voluntary basis by a Big Tech company. The investing company (Facebook/Meta) benefitted both through additional end users of its services and dividends from the company in respect of its equity investment.

Ghana also provides an example of a company that will own and operate broadband infrastructure in remote areas. The possibility of equity investment is also available to private investors beyond telecommunications operators. An opportunity to broaden the base with an equity investment by a Big Tech firm therefore exists. However, it is understood that to date no OTT firm has supported this project.

A 'Pay or Play' choice could be offered to Big Tech platforms between either (a) making a mandatory contribution to the USF Fund or (b) making a voluntary investment in broadband infrastructure project using equity (or potentially also debt) instruments or concluding a contribution agreement with the project. The Report on 21st Century Financing Models for Bridging Broadband Connectivity Gaps observes that 'Pay or Play' has been used successfully in countries including Argentina, Ghana and Morocco and could incentivize Big Tech to support projects.

Investor perspectives on broadening the base - Discussion led by Mr. Denis O'Brien, Digicel

Participants: German Cufre, Head of TMT and Creative Industries, International Finance Corporation, World Bank; Erik Arveshoug, Global Head of Technology, Media and Telecommunications, Citi Corporate Bank; Maurice Patrick, Managing Director, Barclays Telecom Research; Sidhanth Hota, Head of Treasury, Airtel Africa; Benoit Denis, Loan Officer, European Investment Bank.

Key Points:

Equity investors assess initiatives to close connectivity gaps from a returns perspective regardless of the location of the project: "Unless the business case works, don't do it." Investors want to see very profitable models in particular when investments beyond key urban areas are proposed. Getting OTTs to the table early is the key as otherwise they will continue to freeride on top of networks.

Incentivising OTTs is key: OTTs will not act unless incentives are aligned and they are interested in gaining access to more users viewing advertising.

Operators could potentially offer preferential access to networks provided this is consistent with relevant net neutrality norms. Countries could also approach OTTs with package deals. For example, OTTs invest in sub-sea cables in order to save the cost of leasing capacity on third-party cables, but are having difficulties landing these cables. African countries could act together to offer attractive landing rights in exchange for assistance with financing broadband networks.

To engage the OTTs, Africa should speak with one voice. The EU approach should be avoided as this resulted in a huge fragmentation of views which enabled the OTTs to engage on the basis of divide and conquer. Approaches to incentivise engagement could include:

(a) Regulation. Tax could be an element.

(**b)** Brand image of the OTTs: identification of best practices with the ESG/SDG goals of the OTTs.

Benchmarking each OTT against best practice to 'shame' underperformers into action.

Dialogue with OTTs by governments could be more productive than discussions directly with operators as this would avoid a perception of my win = your loss.

Africa should find a way to leverage access to its unconnected citizens as these are of interest to the OTTs. The development of the digital economy in Africa is also a key goal of the European Union's efforts to reduce inward migration and more pressure for the use of EU public funds could be applied.

Separating infrastructure and making this open access to all operators, as in the example of Internet para Todos, optimises financing. From a banking standpoint financing open access networks means the lender gets more certainty of repayment as it is taking on the risk of the market as a whole rather than exposure to the performance of an individual operator. High predictability of cashflow allows the lender to apply the cheapest source of funding. i.e. to maximise the amount of debt.

Telcos could be permitted to invest in equity in the infrastructure company and should have a say in how assets are optimised as they are the subject matter experts. This leadership would be critical for the credibility of a project.

Governments can help reduce the cost of financing by mitigating risk for investors, for example risks associated with currency convertibility or devaluation, guarantees against nationalisation or other unexpected interventions by government. This enables long term financing at the cheapest possible cost uncorrelated to the performance of the underlying infrastructure. Sweet & sour transactions could be used to maximise bank capacity with DFIs adding another layer, ECAs supporting and potentially adding an IFC wrapper for those risks that require mitigation. Projects must be for-profit as nobody likes to lose money. With EBIDTA of 50-60% projects should be able to support a leverage ratio of 60% or more.

Given the scale of the investment required, by some estimates 250,000 towers will be required at a cost of US$ 100 billion, accessing the debt markets is necessary as it will not be possible to fund this through equity alone.

Contribution by the UAE

Governments must champion network rollouts by providing free access such as rights of way, spectrum access, and remove licence fees and taxation, and exchange set clear coverage KPIs for network rollout.

Important to build a partnership strategy with OTTs for investment in mobile sites and to examine how OTTs can contribute to affordability of handsets.

Examples of Partnerships

Provided off balance sheet funding for a PPP in Africa.

European Investment Bank

- Invested $18 million in Nuran Network as a Service in 2023. This enables third party MNO access to markets.
- Blended financing available to upgrade networks to 4G.

African Stakeholders Perspectives

High level discussion on creating a new financing and disbursement Framework/Blueprint for closing the connectivity gap - led by Mr. Lacina Koné, Smart Africa

Key Points:

The group reviewed the principles, scope, and financial models and then discussed potential pilot countries.

The key outcome of the meeting was the development of Blueprint Framework for Financial Contribution and Disbursement for Broadband Financing based on the findings and recommendations of the Broadband Commission's Working Group report on 21st Century Financing Models for Bridging Connectivity Gaps.

Moving forward, Smart Africa shall lead and coordinate among stakeholders in the development and implementation of the Blueprint Framework.

Next steps

It was agreed that the next steps would include a pilot of the Framework in two African countries, under consideration are Rwanda and Nigeria. Further information on this will be provided by Smart Africa during MWC Barcelona 2024 as part of the Ministerial Programme.

ANNEX: Outline Framework Agreed at London Meeting	
1	Infrastructure company must be a for Profit Entity: Objectives - 60% leverage or more with export credit agency. → Who provides equity - MNO's, OTTs, Developmennt Banks (WB/IFC/Africa Dev. Bank/IDB/EIB) • Key that it is a for profit entity (financially sustainable) to guarantee that it has incentives to manage resources, to keep the network updated and so that it does not depend on political decisions and subsidies that may not be maintained in medium or long term. • Innovative model that allows different agents to participate in the project. It is important that regulation supports public-private partnerships and provides legal certainty. Temporary or permanent tax benefits can also be relevant to facilitate this type of model. Participation of national, regional or local entities in the projects. Relevance of multilaterals to provide funding. Possibility of using Universal Service Funds resources to finance these projects.
2	Cases where **Nobody** has towers to put into infrastructure company (whereas Internet Para Todos did) – New coverage networks in rural Africa. • Operations that can be started from scratch with a specific focus on rural areas. Deployment of 4G networks as they allow for good quality internet and low-cost devices. It is important to have a model which is based on shared infrastructure, avoiding overlapping networks and allowing for an efficient use of available resources. • Possibility of an agreement with other infrastructure projects (electricity, roads) that can facilitate basic infrastructure access (ducts and poles) that are very relevant in these projects, especially for backhaul and backbone. • An operator focused on rural areas can develop specific capabilities that address the challenges of rural areas which gives it an advantage, whereas it is difficult for a rural project to compete directly for resources with a project from urban areas (which are a lot more profitable). • Unlock USF to support rural coverage. • Favourable licence KPIs to incentivise/encourage MNOs to roll-out infrastructure in rural areas.
3	The same funding philosophy for Backhaul Fibre backbone/Towers with solar battery is required. • In the case of Latin America, there are Fibre transport networks (backbone) that have been deployed with USF resources. For these networks, agreement with other infrastructure projects (electricity, roads) can be very important to save on logistics and costs. Possibility of using satellite transport only if low-cost satellite services are available or as a transitory solution while fibre transport networks are deployed. • Consideration by Policymakers to review definitions for services supported by UFS and incorporate energy as a service to be supported by USF.

4	Agile regulation to allow this structure to happen. Avoid time-consuming law changes where possible! • Enabling regulatory frameworks, which allow for innovative solutions. Differential regulation, light touch regulation, for rural areas. Regulation should be a facilitator of new business models in rural areas. Regulatory sandboxes to facilitate these innovative models. Avoid over regulation. • Allow for infrastructure and spectrum sharing, under freely negotiated conditions. • Consider allowing operators to cover future spectrum costs through coverage expansion obligations, such as along routes or to rural areas/villages. • No regulatory fees if Infrastructure company builds towers/spectrum costs for 5-10 years (UAE example). • OTT platforms to contribute directly or to the USF, which will provide additional resources that can be applied to implement demand subsidies, for both services and devices. • Specific tax and tariffs exemptions for low cost 4G devices, to reduce end price of these devices and remove access barriers for internet services. • Spectrum pooling and sharing. • Competition law framework to recognise and enable proposed model. Consider reforms to anti-trust / competition regulations to enable coverage and infrastructure sharing. • Regulatory Parity (MNOs and OTTs) and recognition of existing investment by MNO's. • A rebate or incentive that also recognises existing infrastructural investment (spectrum, fibre etc.). • Regulators to expedite regulations supporting rapid deployment of infrastructure, eliminating red tape. • Update regulatory regimes to align with industry trends and developments.
5	Infrastructure company will need equity + debt. • Could IFI/WB/IDB/EIB put money on deposit with local bank, which could lend in local currency? • Use of innovative financial instruments.
6	Role of U.S.F – Provide equity? In Infrastructure company. Example Peru. • In Peru, an OTT invested equity; the USF did not provide equity to IPT. • Possible to use USF to invest equity in an infrastructure company - IPT model. (e.g. Ghana). However, the base is not broadened unless contribution base to USF is broadened. • Consider covering spectrum costs through coverage expansion obligations in rural areas. Possibility to cut regulatory fees entirely for rural operators, or for existing operators for their ventures in rural areas. • Push for a sharp reduction on spectrum costs, or even no cost for rural operators, to improve viability of rural expansion. Move away from state fundraising focus of spectrum auctions towards connectivity goals, articulating that the benefits of connectivity and digitalization on society are much greater for the long-term impact on GDP than the immediate returns for governments from spectrum auctions. Too high spectrum costs along with low returns from rural areas mean much less impactful connectivity results. • Who contributes to USF? All digital actors including OTTs?

7	Use precedent documents to accelerate projects: legal + shareholder docs from IPT.
8	How do we put a team in to start in 2 countries? • Smart Africa to work with Pilot Countries.
9	How do we get OTTs to participate? • Need to invite them for a discussion. • Voluntary equity investment to take a shareholding in infrastructure company (e.g. as Meta did in IPT) or voluntary agreement between OTTs and infrastructure company for revenue share. • Explore new USF models that include contributions from technology / platform players. • Pay or Play model: OTTs invest in infrastructure OR pay fees to MNOs or into USF (incentivize investment by OTTs). • Regulation to oblige contributions similar to South Korea or to oblige OTTs to enter negotiations similar to the Australian 'News Media and Digital Platforms Mandatory Bargaining Code' (under consideration in the European Union). • Remind OTTs of success of IPT. Meta may no longer have a connectivity lab but may still have interests in projects such as IPT. These contributions are not to USFs or direct contributions to operators like OTT Fair Share but instead are attractive ventures with the possibility of long-term returns. • For OTTs (like Meta, Google), participating in these projects can be attractive as greater connectivity can also help boost user adoption of their platforms. • African countries can leverage access to their markets/consumers to force OTTs to the table. Use landing permits, licensing as leverage.
10	Focus on Coverage of population + schools (USAID, UNICEF, Giga and others). • Coverage of population needs to be tied to other measures such as education and digital skills that foster the closing of the usage gap for full benefits of coverage and digitalization to be realised. Opportunity to tie coverage expansion to education or social programmes from international organizations (UNICEF, OMS, UNESCO) and local and international NGOs, to facilitate viability of projects to extend coverage in rural areas. IPT in Peru has worked a lot in these type of agreements with different NGOs and obtains additional sources of revenues which are very relevant for the financially sustainability of the business model.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