**CONSULTANCY - TERMS OF REFERENCE**

**Assessment of the Global Connectivity Solutions Market for School Connectivity, Giga**

*Division: Supply Division (Market, Supply and Financing Centre) & Office of Innovation (Giga)*

*Duration: 6 months*

*Duty Station: Remote*

**Advertising summary**

We are seeking an experienced, talented **Connectivity Solutions Market Expert** to support Giga and the Market, Supply and Financing Centre (MSFC) to conduct a comprehensive analysis of the current global connectivity solutions market, with a special focus in the African market and areas within the continent that are not currently covered by existing commercial services. The analysis should identify key trends in connectivity technologies, dominant players, supplier landscape, regulations and licensing frameworks, impact of emerging technologies in bridging the digital divide to provide affordable, sustainable, and high-quality connectivity for schools. The expert will help identify and assess the technical, regulatory, and geographic challenges to school connectivity using information from Giga and the ITU, and in collaboration with the Giga team, the expert will refine the target service profile for school connectivity, integrating the use of satellite connectivity solutions, emerging connectivity technologies, and exploring other potential solutions that can help accelerate the efforts to connect all schools in the world by 2030. Ultimately, the expert will offer informed, unbiased solutions to address market failures in providing quality school connectivity, integrating predictions on potentially transformative emerging technologies.

**Child Safeguarding**

Is this project/assignment considered as “Elevated Risk Role” from a child safeguarding perspective? ☐ YES X NO

If YES, check all that apply:

Direct contact role ☐ YES X NO

If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

Child data role ☐ YES X NO

If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

**For every child...**

UNICEF has a 75-year history of innovating for children. We believe that new approaches, partnerships, and technologies that support realizing children’s rights are critical to improving their lives.

UNICEF and ITU have launched “Giga”, a new initiative to connect every school to the internet, and every young person to information, opportunity, and choice.

1.3 billion school going children have no access to the internet at home and only around half of the world’s schools are online. This digital exclusion particularly affects the poorest communities, girls, and those with disabilities; causing learners to miss out on digital resources and services, the option to learn remotely (e.g., during pandemics or instability), and the opportunity to develop digital skills. UNICEF and ITU have therefore joined forces to create Giga, an initiative to connect every school in the world to the internet by 2030 and address this new form of inequality.

**What Giga does?**

Giga supports **high-level engagement and governance** around school connectivity, it helps change conversations around connectivity by bringing key stakeholders under a common agenda and through meaningful advocacy. The initiative provides technical assistance to **map** schools’ internet access. No one knows how many schools there are in total in the world (estimate: 6-7 million) and how many are connected. Giga’s [Project Connect](https://projectconnect.unicef.org/map) map provides a real-time display of school access to connectivity and lack thereof, for funders, governments, and other stakeholders. Giga has mapped over 2.2 million schools in 138 countries; it provides real-time connectivity data for connected schools, through Giga’s [Daily Check App](https://projectconnect.unicef.org/daily-check-app); and builds tools for governments to identify gaps in infrastructure helping to **model** efficient solutions to enable connectivity. Leveraging UNICEF’s Supply Division expertise, Giga supports governments in **contracting** for connectivity. Giga helps governments design competitive and technically robust procurement processes to connect schools. Giga has helped to connect more than 5,700 schools and 2.2 million children across 19 countries. Leveraging UNICEF’s expertise in promoting healthy markets to deliver essential supplies for children, Giga will support the implementation of strategic measures designed to improve market information and transparency, reduce transaction costs, balance supplier and buyer risks, and overall incentivize industry players to drive increased access to affordable, sustainable, and quality school connectivity at the global level.

**Understanding the connectivity solutions market**

The connectivity solutions market, which encompasses a variety of service providers (telecommunication companies, satellite service providers, mobile network operators, among others), has significant challenges to achieve universal, affordable, sustainable, and quality internet access for all schools in the world. Geographical obstacles often make infrastructural development difficult, particularly in remote areas, and economic barriers can make existing services unaffordable, even when available. Unappropriate regulatory and licensing frameworks, lack of competition due to market concentration, and inconsistent definitions of what constitutes adequate school connectivity further complicate the issue. Even when broadband connectivity is accessible, the quality of service might be insufficient for effective digital learning. To tackle these challenges, a comprehensive approach is necessary, involving strategies to help markets deliver increased access to Internet services, regulatory reviews, and the potential use of emerging connectivity technologies, all aimed at creating an environment conducive to the provision of affordable, quality school connectivity.

Emulating the successful approach of *Gavi, The Vaccine Alliance*, Giga utilizes UNICEF’s expertise in enhancing market access to essential products for children. The aim is to make connectivity more affordable and accessible, thereby expanding reach to schools and, ultimately, every child. Over decades UNICEF has utilized market enhancement strategies to promote access to essential commodities and services for children, particularly in the health and nutrition sectors. Examples of these interventions include a diversified supplier base, pooled procurement, transparent information, and market intelligence, as well as financing and contractual approaches—implemented in collaboration with partners—to balance risks between suppliers and buyers.

**Purpose of the consultancy**

To move forward with a market enhancement strategy predicated on actionable insights, and before approaching the actors in the market for consultation, it is vital to accurately understand the state of the market, existing and emerging connectivity technologies especially for backhaul and last-mile, parallel investments, and probable future investments. Although Giga’s mission is to connect schools, the broader national, regional, and global internet connectivity ecosystem, and the associated technological and investment trends, will provide valuable insights into market optimization strategies and the likely outcomes of a market ‘ask’ at a supranational level.

This consultancy will focus on the technologies and technological aspects rather than the market actors and market dynamics themselves. However, insights gleaned during the consultancy period about different private and public sector actors in the supply chain for connectivity will aid in enhancing transparency for the consultations needed to discuss ambitions for pooled procurement, pricing transparency and variability, diversification of the supply base, and financial and economic bottlenecks on the market actor side.

**Objectives:**

* Utilizing Giga’s information as well as ITU policy and regulatory studies and external data, baseline the technological, operational, legal, and regulatory barriers to school internet connectivity, with a special emphasis in backhaul and last mile; noting the situations where connectivity has been achieved and in what ways.
* Working with the Giga team, solidify the technical service that is being purchased for schools through a ‘target service profile/solution’ and/or other technically critical criteria to achieve a common standard for the market to solve for.
* Through key informant interviews and pre-existing networks, identify the connectivity technologies that can achieve breakthroughs in access, what dependencies these technologies have on existing networks, and where (in respect of geographical or economic density archetypes) the different market technologies are likely to play a part.
* Consider what technological or other (e.g., geopolitical/security/economic/financial/operational, sustainability) barriers may play a part in limiting options that are technically possible.
* Recommend ways forward based on a thorough and impartial understanding of both current and emerging connectivity technologies. This understanding should include forming a hypothesis on how current and emerging solutions could substantially address the persistent failure of the market to provide affordable, high-quality internet access in schools worldwide. This issue is especially prevalent in remote, rural, and disadvantaged schools, with a critical focus on the African continent. When considering these recommendations, it is essential to evaluate the sustainability aspect of the connectivity solutions. Any such hypothesis should be based on a clear methodology and rooted in a deep, insightful analysis.

**Deliverables:**

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|  | **Activities** | **Deliverable(s)** | **Timeline** | **Payment** |
| 1 | Support the development of an in-depth market assessment of the African connectivity solutions regional market. | 1. Support the Giga and MSFC teams to narrow down the scope of the in-depth market assessment to be implemented in African countries. 2. Develop the Terms of Reference for the in-depth market assessment. | **Month 1** | **16%** |
| 2 | Assess barriers to school connectivity and identify where affordable connectivity has been achieved and how. | 1. Publishable document with a brief assessment (10-15 pages) on the technological, operational, legal and regulatory barriers to affordable school connectivity (globally and with an emphasis in Africa), and insights on how these have been addressed by markets in successful cases. 2. Power point presentation with key insights. | **Month 2** | **17%** |
| 3 | Solidify the technical service that is being purchased for schools through a ‘target service profile/solution’ and/or other technically critical criteria to achieve a common standard for the market to solve for. | 1. Document with the target service profile/solution for school connectivity validated through interviews and consultations with key informants, industry experts, and Giga’s pre-existing networks. 2. Technical annexes & criteria for standardization of the target service profile with inputs from interviews and consultations. | **Month 3** | **16%** |
| 4 | Identify the connectivity technologies that can achieve breakthroughs in internet access and specify what market outcomes would be required for the delivery of affordable & sustainable high-quality connectivity services for schools. | 1. Publishable document (10-15 pages) reporting breakthroughs in connectivity solutions, technologies, dependencies, regulatory and licensing needs, and their geographic & economic applicability. 2. Annexes with insights from industry players and key informant interviews. | **Month 4** | **17%** |
| 5 | Recommend ways forward based on understanding of technologies (global approach). | 1. Final report with the recommendations and hypothesis on current and emerging connectivity technologies, (including those identified in deliverable 4), market trends, and regulatory and licensing changes that might be required to unlock the potential of these technologies to bridge the digital divide. | **Month 5** | **17%** |
| 6 | Recommend ways forward based on understanding of technologies (for the African regional market and with a special analysis on satellite connectivity solutions, emerging connectivity technologies and exploring other potential solutions). | 1. Final report analyzing the connectivity technologies available and trends in the African regional connectivity solutions market, with a deep dive in satellite connectivity solutions. | **Month 6** | **17%** |

**Minimum qualifications and experience:**

**Education:**

* Bachelor’s degree in Business, Economics, Computer Science, Network Engineering, Telecommunications, or a related field.
* Master's degree or MBA with a focus on Market Strategy, Telecommunications, or a similar field is highly desirable.

**Work Experience:**

* A minimum of 15 years of progressive experience in the telecommunications sector, preferably with a focus on connectivity solutions.
* A strong, active network within the telecommunications and Connectivity Solutions Market is essential. The candidate should be able to leverage these industry contacts effectively for market consultations, trend forecasting, and strategic partnerships. The candidate's network should span a diverse range of stakeholders in the sector including, but not limited to, key decision-makers, manufacturers, service providers, and regulatory bodies.
* Proven experience in strategic planning, the ability to foster effective industry relationships, engaging in productive dialogue to influence key industry trends. The ideal candidate will have a history of collaborative work with industry associations, regulatory bodies, and key market influencers to shape the connectivity solutions landscape and influence policy direction.
* Demonstrable experience in market analysis, competitive intelligence, and forecasting.
* Prior experience working with governments, technology providers, and non-profit organizations in the connectivity sector is a plus.
* Experience in developing and implementing robust monitoring and evaluation mechanisms.

**Skills and Competencies:**

* Excellent understanding of the global telecommunications market, including key players, trends, and regulatory environment.
* Strong strategic thinking, analytical, and problem-solving skills.
* Excellent knowledge of emerging technologies and their potential impacts on the connectivity solutions market.
* Outstanding stakeholder engagement and negotiation skills.
* Proficiency in using market research tools and software.
* Excellent presentation and communication skills, both written and verbal.
* Ability to work effectively in a dynamic, complex, and fast-paced environment.
* Proficiency in English; knowledge of another official UN languages (Arabic, Chinese, French, Russian or Spanish) or a local language would be an asset.

**Payment details and further considerations**

* Payment of professional fees will be based on the submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant.
* Consultant is responsible for his/her own health and travel insurance
* Consultant is responsible to arrange his/her own travel, including visa

**How to apply:**

* Interest applicant is required to submit a financial proposal with all-inclusive fee.
* Financial proposal must include travel costs (economy class) and daily subsistence allowance, if travel is required as per TOR and any other estimated costs: visa, travel/health insurance
* **Applications without a financial proposal will not be considered.**

**For every Child, you demonstrate…**

UNICEF's values of Care, Respect, Integrity, Trust, Accountability, and Sustainability ([CRITAS](https://uni.cf/UNICEFValues)).

To view our competency framework, please visit [here](https://www.unicef.org/careers/media/1041/file/UNICEF%27s_Competency_Framework.pdf).

UNICEF is here to serve the world’s most disadvantaged children and our global workforce must reflect the diversity of those children. The UNICEF family is committed to include everyone, irrespective of their race/ethnicity, age, disability, gender identity, sexual orientation, religion, nationality, socio-economic background, or any other personal characteristic.

UNICEF offers reasonable accommodation for consultants/individual contractors with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.

UNICEF has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNICEF, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination. UNICEF also adheres to strict child safeguarding principles. All selected candidates will be expected to adhere to these standards and principles and will therefore undergo rigorous reference and background checks. Background checks will include the verification of academic credential(s) and employment history. Selected candidates may be required to provide additional information to conduct a background check.

**Remarks:**

Only shortlisted candidates will be contacted and advance to the next stage of the selection process.

Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations and UNICEF’s policies and procedures and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

The selected candidate is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.