Terms of Reference (TOR) for institutional services for Giga Connectivity Credits Proof of Concepts (PoC)

INTRODUCTION

Giga (www.giga.global) is seeking a company / institution, to rapidly build, document, and pilot a 'minimal viable product' version of the Giga Connectivity Credits system. This system aims to facilitate governments in distributing incentives to internet service providers (ISPs) and mobile network operators (MNOs) for connecting schools to the internet.

The objective of this system is to improve the distribution of existing incentives, such as Universal Service Funds, service obligations, tax breaks, subsidies and priority interest rates. These existing incentives are often hard for governments to monitor and ensure impact, as well as hard for ISPs and MNOs to access. Connectivity Credits enable governments to efficiently distribute incentives, based on verified real-time data automatically reported from the schools that have been connected.

The Giga Connectivity Credit system takes inspiration from carbon credits, by creating a transparent and verifiable standard for quantifying impact, as well as from on-demand marketplaces (such as ride hailing) which have shown the efficiency of automated and data-driven coordination of supply and demand.

An article with context of the Connectivity Credit system is available in Appendix 1. It is recommended to read this first to understand the required scope of work.

This assignment is structured in three workstreams, which will focus on testing various elements of the Connectivity Credits system. Vendors may propose to cover any one, any two, or all three workstreams of the assignment.

The assignment is limited to building a Minimal Viable Product (MVP) of these three workstreams – meaning this is a basic version of the product that has just enough features for a government user to simulate deploying incentives through the system.

While this TOR gives a high-level overview of the requirements for the MVP, Giga will provide detailed requirements for this MVP during the project. This is so that the requirements are fine-tuned to the exact requirements of the users of the MVP in pilots. The Giga Connectivity Credits team will play an advisory role to the vendor, providing a product manager, blockchain developer, and designers who can offer guidance and expertise throughout the project.

BACKGROUND

According to the International Telecommunication Union (ITU), nearly 3.7 billion people remain unconnected from the internet, and by extension, unconnected from digital products and services that could dramatically improve their lives. Approximately 29% of 18-24 year-olds, most of them in Sub-Saharan Africa, do not have digital access (~360m people) and thereby lack access to the same information, opportunity and choice as their more-connected peers. Unless things change, a big part of this rapidly growing group of young people is in danger of being left behind, excluded from the modern digital world.

Giga combines UNICEF's focus on children and education with ITU's experience in connectivity policy, to ensure that every school in the world has access to the internet – and every young person has access to information, opportunity, and choice.

Despite significant advancements in the connectivity space, the digital divide persists. One reason for this is that Internet Service Providers (ISPs) or Mobile Network Operators (MNOs) do not see sufficient business case to invest in infrastructure and services for these areas. There are existing mechanisms and incentives from governments to encourage providers to serve these areas (such as Universal Service Funds, Service Obligations, tax breaks, priority interest rates). However, these existing incentives are often under deployed and challenging to access, particularly for small players.

The Connectivity Credits system aims to provide governments a tool to more efficiently plan which schools to connect, create a faster procurement alternative, monitor the service quality provided by contracted ISPs, and distribute incentives to those ISPs that deliver. (More in Appendix 1).

(Please note that for brevity, this document uses the broadest use of the term 'ISPs' to all types of connectivity providers (MNOs, community networks, etc.).

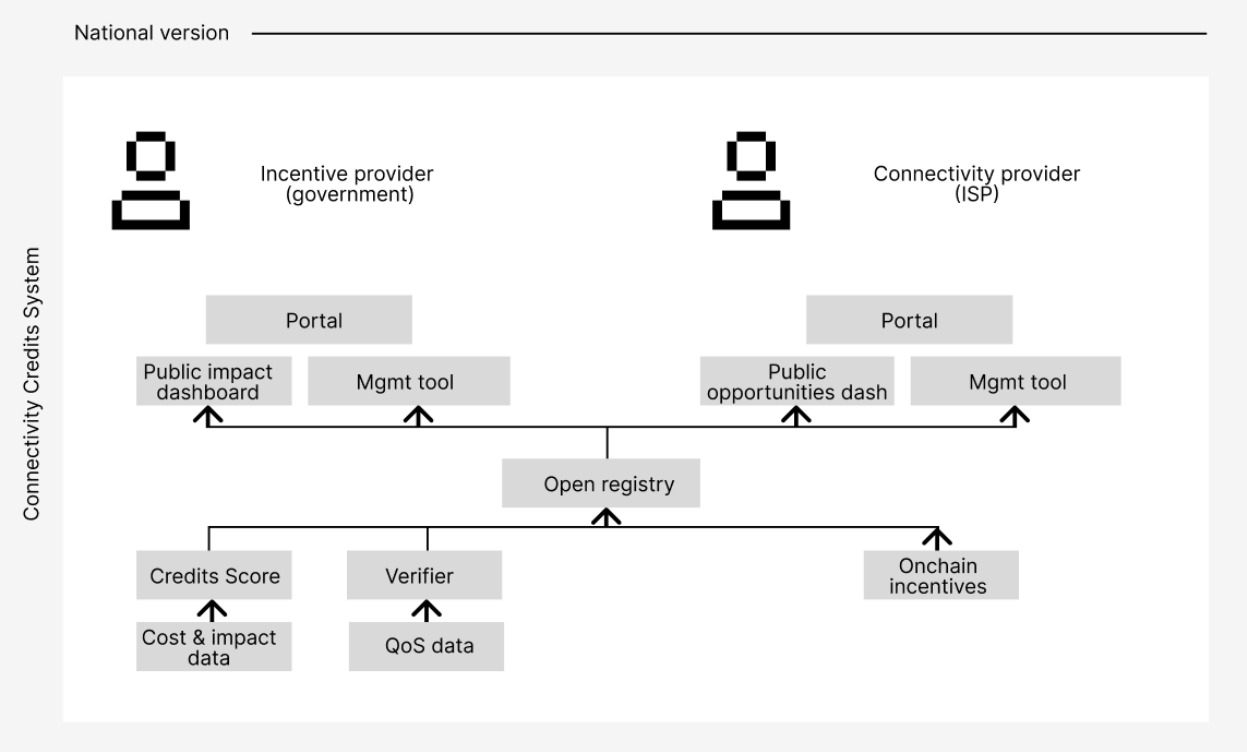
PURPOSE AND MAIN ACTIVITIES

The overall goal of the assignment is to design, prototype, document and launch versions of the Giga Connectivity Credit system in specific countries. The system should enable government users to plan, assign, monitor and distribute Credits as incentives to providers that have connected the unconnected.

This will require the adaptation and improvement of several pre-built components from Giga (such as contract management and monitoring from Giga Counts, quality of service data from the Giga API, and credits scoring from Giga Score), as well as the creation of the core of this new system from scratch (such as smart contracts for Credits to be earned, redeemed,

exchanged; an onchain registry of Credits; simple front-ends for both governments and connectivity providers).

See system diagram below, and more information in Appendix 1:



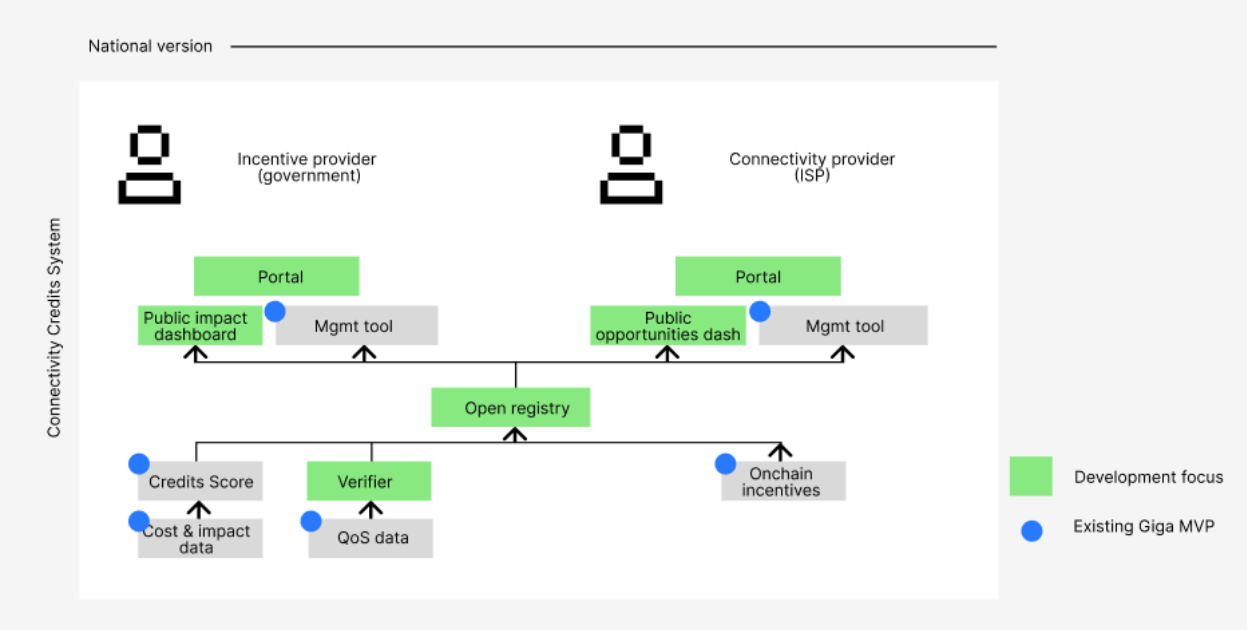
Given the extensive and broad-ranging scope of the Connectivity Credits system, this TOR is structured in three workstreams:

1. **'Standard' MVP –** this version will be built for a national government with a 'standard' use case of Credits, that is likely to be highly replicable for other countries. This is a proof-of-concept technical MVP development workstream, and not expecting pilot project management.
2. **'Power user' MVP –** this version will be built for a national government with more unique country-specific requirements, requiring custom front-end interfaces and compatibility with other government systems. This is a proof-of-concept technical MVP development workstream, and not expecting pilot project management.
3. **Financing proof-of-concept –** instead of building product, this part corresponds to simulating the contracting and making payments to a small group of ISPs to demonstrate the impact the system can have. This is a pilot requiring implementation services planning, rather than an MVP development workstream.

Each part is elaborated in the following section. Vendors can submit a proposal to cover any one, any two, or all three workstreams. The implementation is not necessarily intended to be sequential, since there are no dependencies between the three. Moreover, UNICEF intentionally

defines Standard MVP and Power user MVP to be different, to enable learning from two separate product experiences. Vendors should be able to indicate whether they can deliver any of the workstreams in parallel, since we will be validating it with users (i.e. national governments and other stakeholders) whose timelines may overlap.

1. Workstream 1 - 'Standard' MVP



The Standard MVP will be designed to serve the needs of a government use case which is likely to be highly replicable by Giga in other countries.

The Standard MVP requires the connection of existing Giga MVP components (using APIs) together with a set of new components to be developed, namely:

- A portal with a landing page for the government incentive to be presented
- A public impact dashboard, showing the deployment rate of incentives and how many schools have been connected
- A portal with a landing page for connectivity providers to become interested in opportunities to connect schools
- A public opportunities dashboard, for connectivity providers to identify which schools they could connect that fit their business criteria, and to register interest in connecting them in exchange for rewards
- A smart contract system whereby tokens are automatically sent to connectivity providers which connect a school, based on quality of service data from the Giga API ('verifier') and with all this information made public in an onchain database ('open registry').

In addition, vendors should include in their planned scope of work:

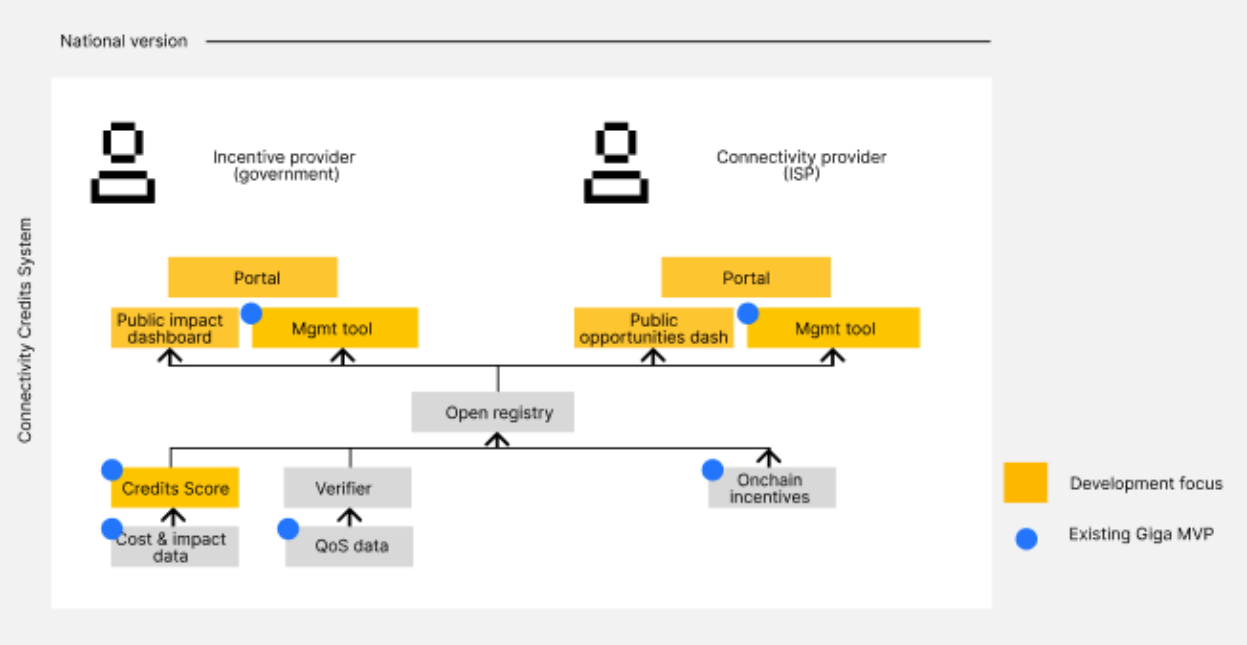
- Ensuring a smooth and consistent end-to-end user experience of a system combining all these components
- Including iterations and improvements based on user feedback
- Smart Contract logic and testing on testnet but with live user interface (UI), and then re-deploying on testnet with an iterated version. (Mainnet deployment is not required). The vendor may propose what they deem to be the most suitable blockchain to work with.

Compared to the 'Power User' MVP, the Standard MVP requires greater emphasis on blockchain expertise (smart contracts and token flows) to make a more generalizable system.

Note that vendors will be expected to use UI components and styling from the Giga design system, which closely follows the IBM Carbon design system, as well as pre-defined branding elements for Connectivity Credits.

The detailed and final requirements for this development will be refined in a 'requirements gathering workshop' upon kick-off of the project. It is expected that exact requirements could change, but this is the approximate scope vendors are expected to budget for. Ultimately, UNICEF is seeking a flexible development partner that can work in close collaboration with the Connectivity Credits team.

2. Workstream 2 - 'Power user' MVP



The Power User MVP will be designed to serve the needs of a government use case which has more demanding and specific requirements that are bespoke for their context.

The Power User MVP requires the development of new components, as well as the improvement and adaptation of existing Giga MVP components, including:

- Enhancing the management tool (Giga Counts) with:
    - An 'Uber style' bidding flow for connectivity contract procurement
    - Integration into one nationally relevant payment system (e.g. Pix in Brazil), complying with the payment systems' security and data privacy requirements.
    - Alerts and notifications
    - App analytics
    - UI improvements to existing components
- A portal with a landing page for the government incentive to be presented
- A public impact dashboard, showing the deployment rate of incentives and how many schools have been connected
- A portal with a landing page for connectivity providers to become interested in opportunities to connect schools
- A public opportunities dashboard, for connectivity providers to identify which schools they could connect that fit their business criteria, and to register interest in connecting them in exchange for rewards
- In lieu of a blockchain based system, a points-based system for earning and redeeming Credits (intended to be replaced with a blockchain based system from other workstreams)

In addition, vendors should include in their planned scope of work:

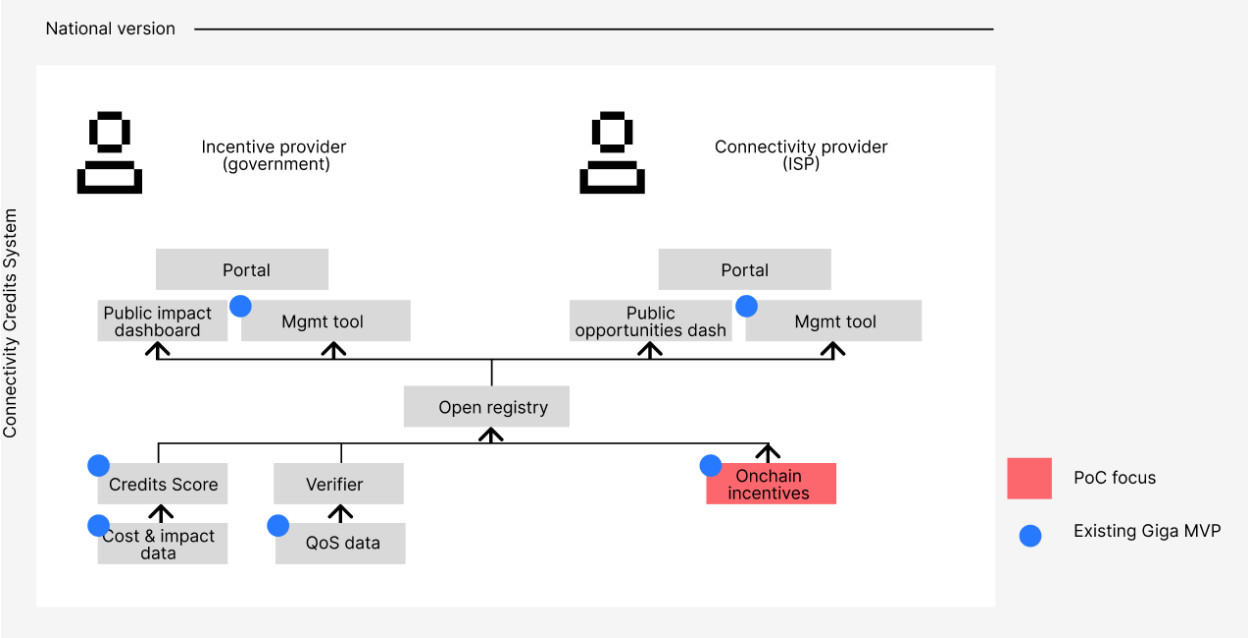
- Ensuring a smooth and consistent end-to-end user experience of a system combining all these components
- Including iterations and improvements based on user feedback

Compared to the 'Standard' MVP, the Power User MVP is less focused on blockchain components, and has a higher requirement for high quality front-end implementation and user experience.

Note that vendors will be expected to use UI components and styling from the Giga design system, which closely follows IBM Carbon design system, as well as pre-defined branding elements for Connectivity Credits.

The detailed and final requirements for this development will be refined in a 'requirements gathering workshop' upon kick-off of the project. It is expected that exact requirements could change, but this is the approximate scope we expect vendors to budget for. Given that vendors are not likely to already be familiar with existing Giga MVPs, proposals based on assumptions are expected to be received, and the exact distribution of the vendor's resources across activities will be aligned in the requirements gathering workshop. Ultimately, UNICEF is seeking a flexible development partner that can work hand-in-hand with the Connectivity Credits team.

3. Workstream 3 - Financing Proof of Concept



The Financing Proof of Concept requires minimal, if any, product development, and is instead focused on validating that Connectivity Credits could be a mechanism for more accessible financing to small ISPs and community networks.

The Connectivity Credits team believes that small players are well placed to bridge the connectivity gap in what industry considers 'low profitability areas', because they can be cheaper and faster due to local knowledge and connections. However, small players are often not able to access existing incentives (government subsidies, Universal Service Funds (USFs), government loans, bank loans) because of

a) heavy bureaucratic processes requiring specialization and time;

b) requirements of collateral;

c) there is a requirement for implementing large volume projects / 'scale'.

This proof of concept seeks a company that can

a) figure out the practicalities of accessible financing to small players in cryptocurrency, and

b) design a future pilot which demonstrates that Connectivity Credits is a mechanism which is:

- **Faster:** the end-to-end process from contracting to connection is faster (compared to existing processes like USFs)
- **Cheaper:** the end-to-end process and costs are lower (compared to existing processes like USFs)
- **Better –** full accountability and transparency of spending, and payments are tied to results.
- **Financial returns:** UNICEF could get money back from the small players once they have implemented and start charging customers (either partial, full, or profit)
- **ISPs love it:** this process attracts significant offer of projects from small ISPs, because it is easier for them.

For this workstream, the vendor is required to research and then define a step-by-step 'simulation' as to how the end-to-end process of financing small players in cryptocurrency (representing Credits in future) would work:

- Pilot design (to be refined with Giga in a requirements gathering workshop), including:
    - How best to structure the financing – for example, as 'no strings attached' financing, as guarantees for projects implemented, or as repayable loans
    - How to make the financing process as easy and accessible for small ISPs and community networks (considering tax reporting, user experience, security, regulatory compliance)
    - How to capture metrics which demonstrate the benefits of the approach (faster, cheaper, ISP engagement, financial returns).
- Research and document how best a Swiss-based company could be a custodian of crypto and distribute it to small ISPs and community networks.
- Identify small ISPs/community networks with eligible projects (based on a simple prioritization that leverages the Giga Score provided by Giga). Projects could include connecting a school, hospital, or could be simplified to putting up a tower in an underserved area.
- Research and document the feasibility of getting crypto paid back (partially or fully) by this segment of small ISPs and community networks

- Validate the concept with small ISPs and community networks (e.g. through user interviews coordinated by the Giga team), capture feedback, and iterate on the concept if necessary.

UNICEF welcomes proposals which define how such a simulation could work, with a preference towards pragmatic and practical simulations (as opposed to 'academic research' approaches).

The Countries (maximum 2) to focus on for the simulation will be provided by Giga, though input and recommendations are welcome from the vendor. Initial prioritization from GIGA team indicates that South Africa or Kenya are the most likely countries to focus this simulation on. Please note that the vendor should be flexible to adjust country scope during the requirements gathering workshop, based on the latest needs from Giga pilot customers.

Preference will be given to vendors that also have the capabilities to carry-out such a pilot in future. Vendors should be registered as legal entities in Switzerland, to best replicate how the Connectivity Credits legal structure will work in future. Vendors may propose whether they believe travel to the country of implementation will bring potential benefits – and in this case, travel expenses should be included in the financial proposal.

WAY OF WORKING

The Giga Connectivity Credits team will play an advisory role to the vendor, providing a product manager, blockchain developer, and designers who can offer guidance and expertise throughout the project. These individuals will be able to 'embed' in vendors team to offer guidance and close collaboration throughout the project.

The three workstreams are expected to follow a similar structure:

Phase 0: Design and Requirements gathering

- Work with UNICEF/Giga's Connectivity Credits team to understand the problem and refine the right solution. The UNICEF Giga team will provide an initial definition of product requirements. This can primarily take place in a requirement gathering workshop at Giga's offices in Geneva.
- Document the requirements and iterate to make sure they are ready to move on to the next phase.

Phase 1: System Design and Solution proposal

- Technical proposal of how the MVP or POC will work, including overall system diagram, user flows and token (Credits) flows, aligned and iterated with the Giga Connectivity Credits team

Phase 2: Implementation and testing

- Development, integration of components, and implementation of MVP or simulation of POC
- QA and end-to-end testing of the system
- User testing and feedback (Giga, UNICEF COs, ISPs, Giga partners and governments that Giga works with)

Phase 3: Fixes and improvements

- Implementation of fixes and improvements (priority requirements identified during the testing phase)

The resulting methodology and software will be open (and open source) and available to the public according to appropriate creative commons or open-source terms.

The company awarded will be responsible for any recurrent hosting / maintenance costs for the MVP/platform for 1 year upon finalization of assignment.

Even if a vendor is proposing to cover several workstreams, project plans should maintain that these projects are decoupled and can be implemented in parallel.

Through the assignment, the team would work fairly independently, with advisory support of UNICEF/ Giga HQ team as well as Giga (and/or UNICEF and ITU leads) in country, and be accountable to Giga leadership for final deliverables.

EXPECTED RESULTS (MEASURABLE RESULTS)

Phase	Deliverables	Acceptance Criteria	Timeline
Phase 0: Design and Requirements gathering	- Documentation regarding understanding of project scope. - Project kick-off meeting summary - *Environment setup confirmation	- Documentation is reviewed and accepted by Giga - *Codebase report provides clear understanding of current architecture	Week 1
Phase 1: Solution proposal	- *System architecture - *UI design	- *System architecture, UI designs and Pilot design are reviewed and accepted by Giga	Weeks 2-4

	- ***Pilot design - Product requirements document - Detailed project plan - Environment setup confirmation	- Product requirements document is aligned with prioritization of Giga team, and outlines dependencies on existing components - Project plan outlines sprints, milestones, risks, and resources - Environment is fully operational for development	
Phase 2: Implementation and testing	- Sprint deliverables (per sprint) - Sprint review meeting notes - Retrospective reports - Testing frameworks and reports - QA reports - UAT results and feedback compilation - **Deployed MVP on testnet - *Codebase and documentation shared via GitHub	- Deliverables meet the sprint goals - Review meeting notes confirm stakeholder agreement - Retrospective reports show continuous improvement actions - Testing reports show issues identified and resolved - QA reports confirm compliance with acceptance criteria - UAT confirms that features behave as expected - *Codebase and documentation approved by UNICEF Giga team	Weeks 5-22
Phase 3: Fixes and updates from pilot feedback	- Sprint deliverables (per sprint) - Sprint review meeting notes - Retrospective reports - Testing frameworks and reports - QA reports - UAT results and feedback compilation - Post-launch review document	- Deliverables meet the sprint goals - Review meeting notes confirm stakeholder agreement - Retrospective reports show continuous improvement actions - Testing reports show issues identified and resolved - QA reports confirm compliance with acceptance criteria	Weeks 22-24

	- ***Feasibility report of repayment by ISPs - ***Custodian report of how Swiss-company could be custodian in future	- UAT confirms that features behave as expected - Post-launch review document identifies learnings from the pilot and recommendations for future developments. - *** Feasibility and custodian report provide clear and simple answers	

* Applies to Standard MVP and Power User MVP workstreams only – not Financing POC workstream

** Applies to Standard MVP workstream only

*** Applies to Financing POC workstream only.

In the case that vendors believe an adjusted timeline would be preferable, they are encouraged to do so as part of their proposal.

KEY SKILLS, TECHNICAL BACKGROUND AND EXPERIENCE REQUIRED

The vendor selected for this project must demonstrate a strong team composition, possessing a broad spectrum of competencies across product development for MVPs and innovation project management for POCs. The applying company must provide a team of personnel that can cover the competencies below (please provide a CV/LinkedIn and Social (Twitter, Instagram, etc.) account for each team member):

- Software Development*: At least 5 years of hands-on experience in developing robust software solutions (a portfolio of previous projects should be provided to demonstrate their capability in delivering high-quality software applications), with specific expertise in:
    - Front-End Development:
        - Proficiency in JavaScript/TypeScript for dynamic interface development.
        - Expertise in the React ecosystem, including state management with Redux, routing with React Router, and server-side rendering with Next.js.
    - Back-End Development:
        - Extensive experience with Node.js for creating scalable server-side logic.
        - Proficiency in Express.js for crafting RESTful APIs.
        - Knowledge in managing databases with PostgreSQL and ORM tools like Sequelize or Mongoose.
    - Blockchain Development:

        - Proficiency in Solidity for smart contract development on the Ethereum platform.
        - Experience with Ethereum development frameworks like Truffle, Hardhat, or Brownie.
        - Familiarity with Web3.js for Ethereum blockchain interactions.
    - DevOps and Deployment:
        - Experience with containerization using Docker.
        - Knowledge of Kubernetes for orchestration and management of containerized applications.
        - Proficiency in CI/CD practices, with experience using GitHub Actions for continuous integration and deployment.
    - Testing:
        - Competency in unit testing with Jest for React and Mocha/Chai for Node.js.
        - Proficiency in end-to-end testing with Cypress or Selenium.
    - Version Control and Collaboration:
        - Strong version control skills with Git, and collaborative development using GitHub.
    - Cloud Platforms:
        - Hands-on experience with cloud services, particularly Azure for hosting, managing applications, and leveraging cloud-native services.
    - Security:
        - In-depth understanding of application security best practices, including OAuth, B2C, JWTs, and familiarity with the OWASP Top 10 to address common web vulnerabilities.
    - Other Technologies:
        - Familiarity with CSS preprocessors like Sass or LESS.
        - Proficiency with build tools such as Webpack and Babel.
- Design*: At least 5 years of experience in UI design and user testing.
- Product Management*: at least 5 years of product management, scrum and agile experience.
- Project Management: at least 5 years of project management, overseeing complex multi-stakeholder projects to tight timelines.
- Blockchain-based pilot management***: the organization is capable of running a crypto payments pilot in future, as demonstrated by experience running blockchain projects or pilots in the past where cryptocurrencies are sent between parties.
- The team will have regular check-in calls with the UNICEF Giga team and should be available to reach within 1 working day for any queries

* Applies to Standard MVP and Power User MVP workstreams only – not Financing POC workstream

** Applies to Standard MVP workstream only

*** Applies to Financing POC workstream only

Proposals should include profiles of real people (while it is understood that substitutions might need to be made). If the bidder is expecting to hire for this role, please indicate so clearly.

ELIGIBLE PROPOSALS WILL BE ASSESSED AGAINST THE FOLLOWING CRITERIA

Proposals will be reviewed following a three-step process:

1. An initial administrative check for completeness and compliance
2. Technical evaluation (80 points)

   Part 1: Desk review (60 points)

   Part 2: Interview (20 points)
3. Financial evaluation (20 points)

The evaluation will be carried out by UNICEF in accordance with UNICEF's regulations, rules, and practices and all determinations are made in UNICEF's sole discretion.

Administrative check for completeness and compliance

Proposals will first be reviewed for their completeness in terms of the information requested in the ToR and their compliance with its requirements. Acceptance of UNICEF GTC will be also considered as a criteria during the administrative evaluation due to the time sensitivity of the project. Only proposals that successfully pass the administrative check will be subject to technical evaluation.

A statutory requirement defined by the funder of this project mandates that their contributions may only be directed to Switzerland based entities. To align with this request, proposal should comply with one of the following options:

- Option 1. Vendor is based in Switzerland and preferably office in Geneva.
- Option 2. Vendor has an affiliate or entity with an established working relationship in Switzerland with whom they can collaborate on this project as part of the statuary requirement.
- Option 3. Vendor has the capacity to establish a collaboration with an entity or institution based in Switzerland.

Technical evaluation: Part 1 with a maximum of 60 points

The technical proposals will be evaluated against criteria as shown in the table below. The total amount of points allocated for the technical review are 60 points.

UNICEF welcomes proposals which provide in-kind support or discounted price. If that is the case, bidders are encouraged to flag this in their financial proposal.

Only proposals that obtain a minimum score of 50 will be considered for the Interview stage and will be invited to an interview panel. All other proposals will be disqualified from further consideration.

Technical Evaluation: Part 2 interview with a maximum of 20 points

Those proposals that pass the minimum score of 50 points in Part 1 will be invited to Part 2. The bidders that qualify for this Phase will be notified by email. The purpose of Phase 2 is to further evaluate the offered services. UNICEF shall not be expected to reimburse any expenses incurred by the bidders with regards to this exercise.

Only proposals that obtain a minimum score of 50 points in Part 1 and 15 points in Part 2 which shall result in a combined minimum score of 65 points will be considered for the financial evaluation. All other proposals will be disqualified from further consideration

Separate Technical and Financial proposals should be submitted for this bid. All the proposals received will be assessed against the technical criteria.

Currently UNICEF is requesting information on environmental and social policies and related documentation with Bids submitted by prospective suppliers. UNICEF is incorporating environmental and social criteria considerations into the evaluation process on social, economic and environmental pillars.

EVALUATION CRITERIA FOR TECHNICAL PROPOSAL

Technical Evaluation – Part 1: Desk Review	**Max points**
Evidence of experience, ability to provide high caliber deliverables and complete assigned project in a timely manner. Complete proposal with concise approach and methodology detailing the interest to undertake the assignment, relevance of their qualification and experience, and time frame	15
Diversity and a minimum of 2 samples of relevant work (e.g. links to open-source GitHub repositories). The institution's relevant experience and qualifications as outlined in the TOR. The range and depth of experience in undertaking similar projects or assignments, at various levels.	5
Team and key personnel. The team should possess key qualifications and experience as indicated above	15
Regional/country experience	10
Provide at least 3 client references with detailed contacts.	5

Sustainable Procurement Criteria (refer Appendix 3)	5
Quality and completeness of the overall proposal. Demonstrate a clear understanding of the assignment.	5
TOTAL POINTS TECHNICAL EVALUATION PART 1	**60**

The Technical Interview Part 2 consists of a presentation of the vendor's proposal and responding to technical questions about it.

Technical Evaluation – Part 2: Interview	**Max points**
Demonstrate collaboration and communication suitability, through clarity of presentation, responsiveness to questions, and willingness to address concerns.	10
Demonstrate the key skills, technical background and experience required through communicating the presentation and responding to technical questions.	5
Demonstrate the ability to project manage effectively, through strong grasp of project plan and deliverables, and comprehensive answers to questions.	5
TOTAL POINTS FOR TECHNICAL INTERVIEW PART 2	20

Financial Evaluation

The bidders should ensure that all pricing information is provided in accordance with the financial proposal template provided with the RFPS document. Bidders are asked to confirm if they agree to fix (in addition to lump-sum quote) resource daily rates to be valid for at least two years (potentially more) for the resources to be deployed in the project, in the case that any further development or subsequent work on the tool is required.

The financial proposals should be prepared in US Dollars (USD) only. If the bidders provide in-kind support or a discounted price for any of the inputs/line items, that should be made explicit in the financial proposal.

Please find more information and carefully consider the detailed instructions provided in the RFPS.

The financial proposals will be evaluated only for those offers that meet the minimum passing score of 65 points in the Technical evaluation Part 1 and Part 2 process. The financial proposals will be graded on a scale of 0-20. The highest number of points will be awarded to the proposal with the lowest financial value. Other financial proposals will be scored on a relative scale, with points determined based on the percentage of difference with the lowest score.

Financial Evaluation	Max points
Financial Proposal	20
TOTAL POINTS FINANCIAL EVALUATION	**20**

The total score for the financial offer will be calculated in the following manner (rounded to one decimal):

$$TS_{FO} = \frac{Lowest\ offer}{Actual\ Offer} x\ 20$$

The total combined score (TS) for the proposal will then be calculated by adding the scores for the technical and financial proposal within the service area.

The recommendation for award of contract will be made based on best combination of technical and financial scores per workstreams and based on the results of the reference checks and financial stability of the vendors(s). Award recommendation can be made for one or multiple workstream(s) for provision of services to ensure best value for money and is in the best interests of UNICEF.

PAYMENT SCHEDULE

Payments will be made upon submission and satisfactory approval of deliverables and upon full and satisfactory completion of the assignment. Any proposed different payment terms should be specified in the proposal.

LOCATION AND DURATION OF ASSIGNMENT

The requirements gathering workshops will be held at Giga's Tech Center in Barcelona. Each workshop is estimated to last 2 days. Estimated travel costs should be included in the financial proposal. No other travel is expected for this work.

The services should be performed off-site from the vendor's premises with no travel expected to UNICEF/Giga's premises.

All travel and the related budget should be pre-approved by UNICEF. Should there be any travel, the Contractor will be responsible for administering its own travel and will be responsible for all travel costs - flights, daily subsistence allowance, etc. Travel expenses will be reimbursed separately upon presentation of receipts based on actual cost or as per UN rates (http://icsc.un.org/rootindex.asp and/or https://icsc.un.org/Home/DailySubsistence),

whichever is Lower. ICSC DSA of special hotels will not be applicable. Travel expenses shall be calculated based on economy class travel, regardless of the length of travel, and costs for accommodation, meals, and incidentals shall not exceed applicable daily subsistence allowance (DSA) rates, as promulgated by the International Civil Service Commission (ICSC).

Engagement not to exceed 24 weeks from contract signature. Expected Timeframes for provision of each deliverable are indicated above.

Vendor to submit a complete timeline (workplan) reflecting all the activities required for the engagement. Kindly refer above with regards to additional details on the expected timeline (workplan) and Deliverables for the engagement. Services under contract to start immediately upon contract signature.

PROJECT MANAGEMENT/CONTRACT SUPERVISOR AND OTHER STAKEHOLDERS

- **Roadmap refinement & planning-** Weekly calls with Giga product team and/or other team members and users based on requirements to refine backlog that require diverse inputs from the team, and also discuss the plan for the sprint.
- **Asynchronous Standups-** Daily update on common communication tool (Slack preferred) to update on progress, roadblocks and requests.
- **Demos-** Weekly call to demonstrate product development and take feedback from Giga team and users as per the agenda of the demos.
- **Monthly retrospective-** Call every month to discuss feedback on product, process, team and/or major roadblocks.
- **General Guidelines-** Have clear meetings agendas, practice detailed documentation and notes wherever possible for efficient remote work collaboration. Response time to any query should not exceed 1 working day.

Through the assignment, the team would work independently, with the advisory support of the Giga HQ team primarily consists of the innovation manager, product lead and designer. The team will be accountable to UNICEF´s Giga leadership for final deliverables.

What to Submit

Applicants can submit a proposal to cover any one, any two, or all three workstreams.

Applicants will need to provide a 1) Technical Proposal and 2) Financial Proposal. Applicants should provide the information in their bids using the following structure and templates.

Technical and financial proposal must be submitted in In-Tend.

1) TECHNICAL PROPOSAL REQUIREMENTS

The list below explains the technical proposal requirements. Your submission should address all aspects and criteria outlined in the Request for Proposal and include the following:

1. **Title Page:**
    a. This should clearly indicate the name of the bidding entity and contact person
2. **Bidder profile:**
    a. Please complete **Appendix 2**
    b. Include a description of your mission, background and focuses with emphasis on relevant experience and services.
    c. Include curriculum vitaes/resumes or bios of key personnel, which demonstrate qualifications in areas relevant to the scope of work.

d. Include any other information which exemplifies your qualifications.

3. **Qualifications and technical background:**
    a. Proposed methodology, course of action and solutions to be provided for each of the main services / activities. Since the product requirements will be provided by Giga later, you may make assumptions based on the information in the RFP to outline at a high level how you envision the solution, what the key technical choices would be, and how these would benefit users/stakeholders. Motivate all choices as how they will support the engagement of all stakeholders towards the end of providing connectivity to the schools. This text should provide enough information for UNICEF to judge whether the proposer has the skills and personnel profile(s) required to carry out the category of work, as well as the vision and forethought to lead on new and innovative solutions.
    b. Describe how you / your company will deal with risk management in this service.
    c. Share samples of work related to the specific services which demonstrate a diversity of styles and skills in your portfolio. Any file / email must be no more than 10MB or will not be accepted.
    d. Provide a list of software or tools being used and level of expertise where relevant.
    e. Provide a list of previous UN contracts, Government contracts or other partners carried out in related fields of work, if any.
    f. At least three (3) reference letters or evaluation forms from previous contracts of a similar nature. Note that letters that do not explicitly refer to the name of the contracted entity will not be considered.
4. **Sustainable Procurement:** Please complete Appendix 3.
5. **Other:** Clarifications the proposer would like to make that are not expressed elsewhere, in support of their proposal. Innovative, out-of-the-box ideas are welcome.

***No price information should be contained in the technical proposal.**

2) FINANCIAL PROPOSAL REQUIREMENTS

1. **Budget proposal**: Please complete Annex C - Financial proposal template
2. **Signed Request for Proposals for Services Form**: included in the RFPS.

Appendix 1: How "Connectivity Credits" can help a billion young people get online

Overview:

- 3.7 billion people aren't connected to the internet today[1]
- Giga, the UNICEF & ITU partnership to connect every school in the world, endorsed by the Secretary-General in his Roadmap for Digital Cooperation, and other experts estimate that it will cost upwards of $428B[2] to build the infrastructure necessary to have a fair, inclusive digital humanity.
- Hard to reach and less developed places are being left behind. One of the reasons for this is that the Internet Service Provider (ISP) or Mobile Network Operator (MNO) often see insufficient business case to invest in these areas.
- Incentives such as subsidies, tax breaks, loans and more exist to encourage ISPs and MNOs to connect the underserved – however, these incentives are often under deployed, inefficiently targeted or hard to access.
- We believe Giga, and other efforts involved in driving universal connectivity, can explore the creation of a new system to align industry, investors, and governments in connecting every school: a 'Connectivity Credit'.
- A Connectivity Credit could, like a carbon credit, be an incentive for those seeking to provide connectivity to underserved areas. Every time an ISP or MNO connects an eligible school, they would earn Credits, based on verified real-time data.
- Advances in blockchain technology can make the issuance and tracking of these Credits low friction and transparent, meanwhile a data-driven platform for matching incentives and providers can be more efficient compared to legacy setups.

The Need:

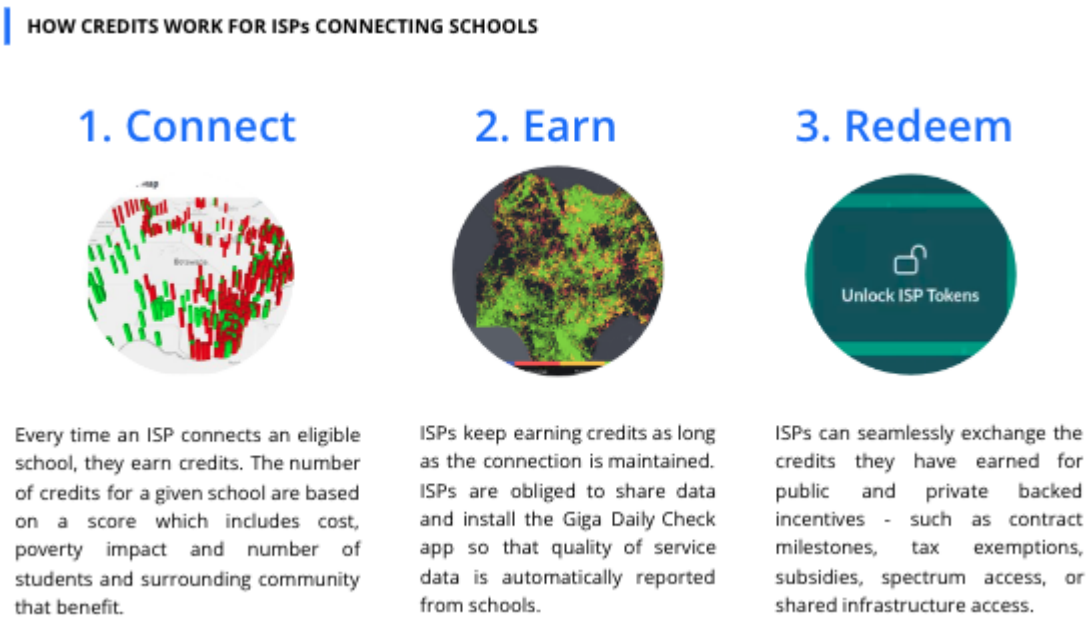
As we have seen during Covid, when people are not connected to the internet their ability to learn, work, and create is significantly diminished. Giga combines UNICEF's focus on children and education with ITU's experience in connectivity policy, to ensure that every school in the world has access to the internet – and every young person has access to information, opportunity, and choice.

Many of the poorest schools are also the most difficult to connect. It has been difficult to prove the business cases using traditional means, as there is not, usually, pre-existing revenue from the poorest communities that can be used to estimate future profits. Additionally, these communities often don't have other fundamental infrastructure like electricity or roads making it even more expensive, per unit (per school) to connect. The result is that many of these communities remain disconnected.

There are existing incentives to encourage ISPs and MNOs to connect the unconnected, however, they are often under deployed. Governments face challenges in ensuring optimal impact for the incentives they offer; meanwhile many providers face barriers accessing these incentives through legacy processes.

A Solution: The Connectivity Credit

A Connectivity Credit system would create incentives for service providers and other technology companies to extend networks and services to the most underserved regions and connect public facilities. By creating incentives that are earned based on connectivity provided, we could ensure that funds that enter this system are spent appropriately, with a minimum of overhead expense.



Who are the users of Credits, and how do they benefit?

The two user groups are incentive providers (i.e. governments) and connectivity providers (i.e. ISPs and MNOs).

Governments can use the Connectivity Credits system to plan, incentivize and monitor more effectively.

- *Planning* - Governments must decide which schools to connect with a given budget. The Connectivity Credits score enables governments to prioritize a longlist of eligible schools, based on cost modelling and impact scoring. The score is adjustable depending on national priorities.

- *Incentives* - In order for ISPs to be motivated to earn Credits by connecting schools, governments may offer incentives that Credits can be exchanged for. Examples include:
    - Tax exemptions - Credits earned by ISPs may be recognized as in-kind Universal Service Fund contributions or mandatory CSR contributions.
    - Infrastructure sharing - ISPs may access public infrastructure or public space, such as towers on school grounds.
    - Interest rates - lower rates are offered on government loans for ISPs that have earned Credits.
    - Spectrum access - ISPs exchange Credits earned for discounted access to spectrum in specific areas.
- *Monitoring* - Once a government has offered an incentive, they must monitor that the ISP continues to deliver on its agreed obligations in order to access the incentive. The Connectivity Credits system monitors the quality of service delivered to schools in real-time, and at zero marginal cost. Governments can tie incentive access to conditions around quality of service delivered.

Connectivity providers (such as ISPs and MNOs) benefit from greater access to incentives:

- *Opportunity discovery* - transparent and clear information about opportunities available means providers can more easily identify low hanging fruit.
- *Flexible bidding* - instead of having to apply to large RFPs requiring many schools to be connected, providers can bid on a set of schools that best fits their business context, and bids are made comparable by Credit scores.
- *Frictionless payment* - a more highly automated system means more frictionless payment based on results.
- *Access to new incentives* – assets which governments have, but traditionally have challenges in administering at scale, such as infrastructure sharing, are made easier to administer through an automated system.

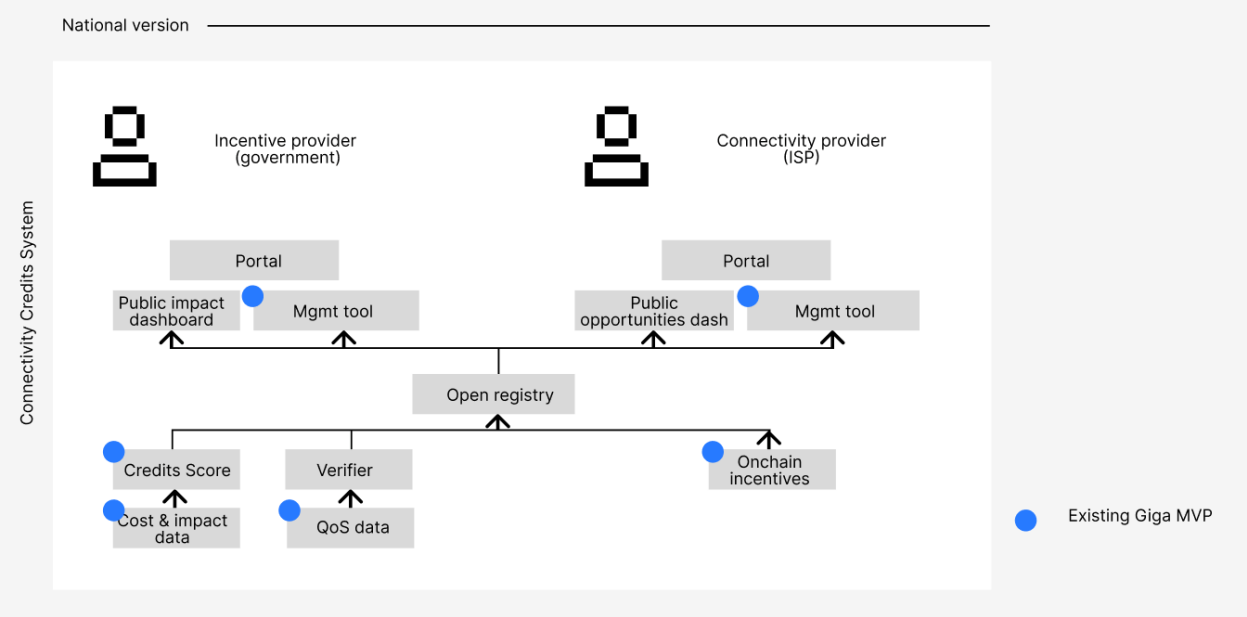
Who monitors whether a Credit has been earned?

Because Giga monitors school connectivity in real-time[3], the Credits system can automatically tie incentives to results delivered by providers.

Unlike carbon sequestration, where a provider needs to sequester a minimum of one metric ton for a credit, units of connectivity can be measured in granular detail (i.e. a gigabyte, megabyte, etc.) and counted by the minute, hour, or day. Also, unlike the carbon market, where secondary monitoring infrastructure is needed (people, technology, and partnerships), connectivity monitoring is *built into* the network itself. Once a facility is connected it has, by definition, the innate ability to report on its connectivity status through the cables, radio-signals, or satellites used to connect it.

What are the technical components of the Connectivity Credits system?

The initial vision of Connectivity Credits is shown in the following system diagram:



The components are briefly described as follows:

- Portal – introductory landing page and simple onboarding flow for each user group (incentive providers, connectivity providers)
- Impact dashboard – transparent and clear public dashboard which shows which incentives have been offered and what impact they have had.
- Management tool (for government) – real-time and automated monitoring of contracts with connectivity providers. Includes features such as automated alerts and payment management. This is based on the Giga Counts product.
- Opportunities dashboard – connectivity providers can easily filter and discover eligible schools with Credits available, which fit their business criteria.
- Management tool (for ISPs) – connectivity providers can manage their contracts with governments, view their automatic reporting of connectivity status, and receive payments based on results. This is based on the Giga Counts product.
- Open Registry – onchain database of all Connectivity Credits (tokens). A single source of truth of which Credits are available, how they've been valued, the impact they've had, and (in future) how they've been traded. Open and transparent by default to enhance the price transparency of connectivity.
- Credits Scoring system – a tool which determines the number of Credits for the connection of a given school. The Score is based on factors which include cost, poverty

impact and number of students and surrounding community that benefit. Scores are constantly recalculated. This is based on the Giga Score product.

- Verifier – monitors onchain quality of service data, and updates the Open Registry when there is a change in status. Can be used to trigger payment of Credits.
- Onchain incentives – a module which allows Credits to be exchanged for incentives (such as tokens which grant access to shared infrastructure).
- Quality of Service data – real-time data from the Giga Daily Check app, where quality of service data is automatically reported from schools.

How would Credits be used at a global level?

The system will first be deployed at the country level to be designed according to specific country needs. In the future, it is anticipated that this can become a global market, with access to backing, or reserve, and trading to increase liquidity of assets.

One of the many lessons from the world of carbon credits is that building an alliance, and a global, unified standard from the beginning will help drive adoption and create liquidity. The vision is to co-create this solution with country-level governments. Each government is likely to offer numerous incentive types, which can eventually be traded in a global connectivity marketplace.

[1] https://www.weforum.org/agenda/2020/04/coronavirus-covid-19-pandemic-digital-divide-internet-data-broadband-mobbile/

[2]https://www.unicef.org/media/87296/file/Reimagine%20Education%20Summary%20Case%20for%20Investment-2020.pdf

[3] www.projectconnect.world is Giga's data platform, has more than 1,000,000 schools mapped, and is increasingly providing data in live or "near-live" updates.

Appendix 2: Bidder Profile

GENERAL INFORMATION

Please check the box when appropriate.

Full name of entity:	
Address:	
Country:	
Contact Person, Position Title:	
E-mail address:	
Website:	
Telephone:	
Fax:	
Alternative Contact person, Position Title:	
E-mail address:	
Type of Entity:	❑ Private Sector ❑ NGO ❑ Foundation ❑ Other: (please indicate)

MAIN SERVICES

Briefly describe your entity's main services and areas of expertise (max 150 words)

GEOGRAPHIC FOOTPRINT & PRESENCE

List all countries where you have already carried out related work including details of such work. List any country offices, number of employees per country, etc. (where applicable). (max 150 words)

ADDITIONAL INFORMATION

Company established in (year):	
Years of experience providing similar service(s):	
Number of employees (if any):	
Annual turnover (USD):	
Registration with UNGM[1]	❑ If so, provide registration number:
Experience working with UN Agencies over the last 5 years	❑ No ❑ Yes. If yes, briefly mention the UN agencies and the type of work done, including the details of referees

SERVICE-RELATED INFORMATION

Workstreams for which offers are submitted *(check all that apply)*	Workstream 1 ❒	Workstream 2 ❒	Workstream 3 ❒
Parallel service delivery can be provided	❒ No ❒ Yes		

[1] United Nations Market Place (www.ungm.org)

Appendix 3 - UNICEF Procedure on Sustainable Procurement

The UNICEF Procedure on Sustainable Procurement is one of UNICEF's responses to the Sustainable Development Goals (SDGs) particularly Goal 12 – "Ensure Sustainable Consumption and Production Patterns" and its target 12.7 – "promote public procurement practices that are sustainable, in accordance with national policies and priorities". Sustainable procurement encompasses three pillars – economic, environmental, and social. Bidders are encouraged to read Sustainable procurement procedure (UNICEF Supply Division).

Each box below has been assigned with 1 point. Last box has been assigned with 2 points. If applicable, please checkmark the box for the following:

❑ Has your company made a commitment to economic pillar (example: policy/ SOP to inclusion of local resources to develop local economy in area of work, including small businesses and businesses owned by marginalized groups). Please provide relevant policy / certification / SOP to evidence the claim.

❑ Has your company made a commitment to social pillar (example: policy/ SOP to protecting human rights and labour issues (workers' rights), inclusion of persons with disabilities and gender in the work force). Please provide relevant policy / certification / SOP to evidence the claim.

❑ Has your company made a commitment to environmental pillar (example: policy/ SOP to minimize the impact on environment from purchasing, reduction of wastage, reduced CO2 emissions etc.). Please provide relevant policy / certification / SOP to evidence the claim.

❑ Please explain how you plan to integrate sustainability measures in the execution of the contract, if awarded to you (250 words):

Appendix 3 for SDG Goal 12 and its target 12.7 must be duly completed, signed, and returned with the Technical Proposal