

## TERMS OF REFERENCE

### **Consultancy services for Business Model Development on 3D Printing Service Delivery in Rwanda**

**Project:** Inclusive Nutrition and Early Childhood Development (INECD/ USAID  
Gikuriro Kuri Bose)

## 1. CONTEXT

Humanity & Inclusion (HI), in partnership with the Catholic Relief Services (CRS) as the lead partner and other consortium members (Umuhuza, Three Stones International, and the University of Global Health Equity), is implementing a comprehensive disability inclusion, rehabilitation, and assistive technology (AT) component within the five-year USAID-funded Inclusive Nutrition and Early Childhood Development (INECD/USAID GIKURIRO KURI BOSE) program. This progressive program promotes nurturing and responsive care practices for caregivers and children, particularly in essential health, functioning, nutrition, and early childhood development (ECD). A key component of this initiative focuses on addressing social inclusion needs, child development gaps, physical rehabilitation, and assistive technology requirements, recognizing that inclusive practices can significantly improve the quality of life for individuals with disabilities. The program aims to enhance the accessibility, affordability, and availability of durable assistive products for end-users in Rwanda, ensuring that every child has the tools necessary to thrive.

In collaboration with the Regional Center of Excellence in Biomedical Engineering of the University of Rwanda (UR-CEBE), the INECD program introduced cutting-edge 3D printing technology to promote access to high-quality, affordable mobility assistive devices, thus fostering innovation in rehabilitation. This advanced technology brings vital prosthetic and orthotic services closer to the communities, significantly reducing the need for long-distance travel and extended wait times for prosthetic and orthotic fittings. By streamlining access to these critical services, the program addresses immediate needs. It empowers individuals and families through improved mobility and independence, contributing to a more inclusive society where everyone can participate fully in their communities.

It is against this background that the INECD program in collaboration with UR-CEBE, would like to hire a local or international consultant with a strong business management background that will develop a business model for the production of orthotic and prosthetic fittings using the 3-D printing technology. This model will serve as a guiding tool for; defining operational roles and responsibilities of the involved stakeholders, determining the cost of production of mobility technology devices vis-à-vis the conventional orthopaedic devices, return on investment and the ultimate price of the finished product. The hired consultant will also calculate the cost-sharing between UR-CEBE which in this case will be considered as the service provider in charge of printing 3 D mobility devices and its clients namely: CHUK, CHUB and Gahini hospitals. These clients will in this case be responsible for the end-user assessment, scanning, digital designing of prosthetic sockets using the 3-D printing technology and sending the measurements to UR-CEBE production team for Printing. The business model will also contain strong mechanisms to ensure the sustainability of the 3 D printing program through optimization of returns on investment.

## **2. DESCRIPTION OF THE EXPECTED SERVICE**

### **2.1. General objectives:**

To develop a sustainable and efficient business model that fosters collaboration between UR-CEBE and key rehabilitation stakeholders (CHUK, CHUB, and Gahini Hospital) to optimize 3D printing technology for enhanced patient outcomes, increased user satisfaction, and the long-term viability of the project.

### **2.2. Specific objectives:**

- To develop a sustainable and economically viable business model for 3D printed mobility assistive devices that includes detailed cost analysis, revenue generation strategies, pricing optimization, sustainable sourcing and production, cost-sharing mechanisms.
- To guide the collaborative frameworks between UR-CEBE (as the service provider) and CHUB, CHUK, and Gahini Hospital (as clients) to streamline processes, ensure quality, and optimize the delivery of 3D printed mobility assistive devices.

### **2.3. Expected Results, deliverables and timelines**

The consultant will handle over the following documents:

- An Inception report
- Presentation of the draft business model for inputs
- Final report presentation – the consultant will present to the panel the recommended Business Model on 3D printing service delivery

## **2.4. Responsibilities**

### **2.4.1. UR-CEBE**

- ✓ In collaboration with the INECD program, the UR-CEBE will organize 3 successive consultative meetings that will converge relevant stakeholders namely: RBC, MoH, NCPD, CHUK, CHUB, Gahini hospital, RSSB, CHAI, NUDOR, HVP GATAGARA, RMS, BUFMAR, HI and 3 Rehabilitation associations: RPTO, RWOTA and RSPO. The first 2-day consultative meeting will be aimed at gathering relevant information that will enable the consultant to develop a business model. The second consultative meeting will be aimed at reviewing the drafted business model and provide inputs while the third consultative meeting will be intended to validate the business model.
- ✓ Participate in developing the terms of reference and selection of consultant according to pre-determined guidance and criteria
- ✓ Provide inputs in developing a business model for the 3-D printing project
- ✓ Participate in validation of the business model for the 3D printing project
- ✓ Adoption and Implementation of the Business model
- ✓ Develop Standard Operating Procedure (SoP) based on the proposed business model (within 15 days after the final report)

### **2.4.2. USAID Gikuriro Kuri Bose (HI & CRS)**

- ✓ The INECD program will provide logistics support such as: meals, refreshments and transport fees for the participants who will attend consultative meetings and workshops.
- ✓ Develop the terms of reference and selection of consultant according to guidance and pre-determined criteria
- ✓ Provide inputs in developing a business model for the 3-D printing project
- ✓ Participate in validation of the business model for the 3D printing project
- ✓ Monitor the implementation of the Business model
- ✓ Follow up on recommendations of the consultant
- ✓ Payment of consultancy fees as per the contract

### **2.4.3. Consultant**

- Develop and present an inception report
- Through consultative meeting, the consultant will collect information from various rehabilitation stakeholders, conduct desc reviews, undertake cost-benefit analysis and develop a business model
- Presentation of a draft business model for inputs and approval
- Submission of the final version of the Business model
- Provide guidance on how to establish of a responsive and realistic collaborative framework between UR-CEBE (as the service provider) and CHUB, CHUK, and Gahini Hospital (as clients) to streamline processes, ensure quality, and optimize the delivery of 3D printed mobility assistive devices

## **3. Core deliverables:**

### **Service Delivery Model Canvas:**

- Customer Segments: Identification of target customer groups and their specific needs.

- Value Propositions: Definition of the unique value proposition offered to each customer segment.
- Channels: Identify the channels through which services will be delivered (e.g., in-person, online, hybrid).
- Customer Relationships: Definition of the relationships to be established with customers (e.g., personalized, self-service).
- Revenue Streams: Identify potential revenue sources (e.g., service fees, subscription models, value-added services).
- Key Resources: Identifying essential resources required for service delivery (e.g., personnel, technology, infrastructure).
- Key Activities: Definition of core activities necessary to deliver services (e.g., service design, delivery, support).
- Key Partnerships: Identification of strategic partnerships to enhance service delivery (e.g., suppliers, technology providers).
- Cost Structure: Analysis of the cost drivers associated with service delivery.

#### **Service Blueprint:**

- Customer Journey Map: Visual representation of the customer's experience from initial contact to post-service interaction.
- Service Process Map: Detailed mapping of the service delivery process, including steps, decision points, and handoffs.
- Service Standards: Definition of service level agreements (SLAs) and key performance indicators (KPIs) to measure service quality.

#### **Operational Plan:**

- Resource Allocation: Resources (personnel, budget, technology) to support service delivery.
- Staffing Plan: Development of a staffing plan to ensure adequate personnel to deliver services.
- Training and Development: Identification of training needs for staff to enhance their skills and knowledge.
- Technology Infrastructure: Assessment and planning of technology infrastructure required for service delivery.
- Process Improvement: Identification of opportunities to streamline processes and improve efficiency.

#### **Financial Model:**

- Revenue Projections: Forecasting of revenue based on pricing strategies, customer acquisition, and service delivery.
- Cost Analysis: Detailed analysis of fixed and variable costs associated with service delivery.
- Profit and Loss Statement: Projection of profitability based on revenue and cost estimates.
- Cash Flow Statement: Analysis of cash inflows and outflows to ensure financial sustainability.

## **Risk Assessment and Mitigation Plan:**

- Identification of potential risks that could impact service delivery.
- Development of strategies to mitigate identified risks

**4. Duration of the Assignment:** The process of developing a business model should be completed in not more than 60 working days from the date of signing the contract as per the following schedules:

- ✓ Present an Inception report: **7<sup>th</sup> February 2025**
- ✓ First consultative meeting: **12<sup>th</sup> – 13<sup>th</sup> February 2025**
- ✓ Drafting a business model: **2 weeks from 14<sup>th</sup> - 28<sup>th</sup> February 2025**
- ✓ Second consultative meeting to present the **1<sup>st</sup> draft of the business model: 5<sup>th</sup> – 6<sup>th</sup> March 2025**
- ✓ Finalize the business model from **7<sup>th</sup> to 14<sup>th</sup> March 2025.**
- ✓ Third consultative workshop to validate a business model: **19<sup>th</sup> March 2025**
- ✓ Submission of the final version of the business model on **25<sup>th</sup> March 2025**

## **5. Desired qualification/ experience of the Consultant**

The consultant will meet the following requirements:

- Master's Degree in one or more of the following fields: Finance, Systems Design, Health Economics, Healthcare Management, Advanced Statistical Analysis, Prosthetics and Orthotics.
- Minimum 3 Years of relevant experience in developing business models and cost-effective analyses for businesses.
- In-depth Knowledge of Rwanda's national healthcare system, including the supply chain for rehabilitation materials and various technologies for producing assistive devices.
- Proven Experience working with diverse stakeholders, including government agencies, NGOs, and healthcare facilities.
- Strong Analytical and Problem-Solving Skills to develop innovative and sustainable solutions to complex challenges.
- Expertise in financial modelling, income-sharing arrangements, and partnership development.
- Extensive Experience conducting research studies, data analysis, and financial modeling.
- Excellent Communication and English Writing Skills.
- Demonstrated Interpersonal Skills for effective interaction with stakeholders and partners in the healthcare sector, particularly rehabilitation.
- Ability to Work Collaboratively in multi-professional teams.
- Fluency in English, with French language skills, is considered an asset.

## **6. ADMINISTRATIVE AND TECHNICAL requirements**

Proposals from interested consultants(s) should include the following:

- l) Letter of expression of interests addressed to the country Manager HI Rwanda Program

- II) Curriculum vitae (compulsory) detailing the consultant's qualifications and experience in business model development. References of previous assignments done or sample of work accomplished should be included
- III) Technical Proposal outlining the proposed methodology, work plan, and business model development approach.
- IV) Financial Proposal: provides detailed financial information, including cost estimates, budgets, pricing structures, and financial plans related to a project or contract. This should include all applicable tax) WHT 15% or VAT 18%. Local consultants are not allowed to submit their financial proposals in international currencies.  
Note: No per diem will be paid to the consultant (s). The consultant will be responsible for his/her own security in the country, HI will not cover any insurance fee during the consultancy period.
- V) Respect of HI institutional Policies (Anti-fraud, bribery, and corruption policy, Humanity and Inclusion policy on inclusion, gender and Age, Code of conduct HI, and Child protection policy) remember to sign each policy and send them together with your offer.
- VI) Bank details (account name, account number, and bank name). This also applies to international consultants
- VII) Valid tax clearance certificate (if applicable).
- VIII) Proof of ownership or access to EBM machine and ability to provide EBM invoices (for local applicants).
- IX) Not blacklisted by Rwanda Revenue Authority (RRA), Rwanda Public Procurement Authority (RPPA), USAID, Federation Handicap International and Catholic Relief Services. No certificate required
- X) For International Applicants: A valid work permit or license to work in Rwanda should be provided.
- XI) For Local Consultants: Valid RDB registration with Tax Identification Number, RSSB clearance certificate, and clear and precise payment terms.
- XII) Demonstrated experience in developing business models for the production of Assistive mobility services, rehabilitation or other related sectors. Having a good experience in developing business models for the 3D printing technology will be an added advantage.
- XIII) The certificates of good completion for previous relevant assignments are required.
- XIV) Copy of Applicant ID/Passport or company representative ID or Passport is required
- XV) Copy of Company legalization certificate or Consultancy business registration of the activity or any documents certifying the regularity of the activity

The Evaluation of the applications will be done in 2 phases:

- Administrative selection: checking for completeness of application for all compulsory items listed above). Incomplete applications will not be taken into consideration for technical selection.
- Technical selection: criteria to select the best application will be based on the quality of the technical proposal, competitive financial proposal, human resources skills and previous experiences, and demonstrated expertise of the applicant.

The deadline for submission of applications is 10<sup>th</sup> January 2025 at midnight.

Proposals should be submitted to the following email: [dao@rwanda.hi.org](mailto:dao@rwanda.hi.org);

including the email subject "3D business model development".

Only candidates who pass the administrative selection will be taken into consideration for the technical assessment and they will be afterward notified of the decision. Selected applicants may be invited for a (phone/skype) interview. HI reserves the right to contact the applicants for further information before the final selection of the selection committee.

## 7. APPENDICES

1. [Anti-Fraud, bribery, and corruption policy](#)
2. [Humanity & inclusion's policy on Disability, Gender and Age](#)
3. [Code of conduct: Integrity, Preventing of abuse and Safeguarding](#)
4. [Child protection policy](#)

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