



SELCO Foundation – Call for Vendor

SUPPLY OF RMS SYSTEMS TO SOLAR PHOTOVOLTAIC SYSTEMS

SELCO Foundation – Procurement Officer

690, 15th Cross Rd, Jeewan Griha Colony,
2nd Phase,

J P Nagar, Bengaluru, Karnataka 560078

procurement@selcofoundation.org

SELCO Foundation hereby invites bids for Scaling and operationalizing Remote Monitoring System (RMS) deployment and establish a fully functional dashboard to monitor the DRE Solutions at *Livelihood* applications Across the states of India.

The detailed tender document which can be downloaded from 15/11/2025.

<https://selcofoundation.org/tender/>

Bids, as per the terms and conditions herein should be submitted preferably through the online form (E-tender)

<https://forms.gle/8j4ozMBm8bwCv3Ez8>

or submitted to the undersigned, at the above-mentioned address

by 4 pm on or before 01/12/2025.

Chief Executive Officer – SELCO Foundation



SELCO FOUNDATION

TENDER NOTIFICATION

FOR

SCALING AND OPERATIONALIZING REMOTE MONITORING SYSTEM (RMS) DEPLOYMENT AND ESTABLISH A FULLY FUNCTIONAL DASHBOARD TO MONITOR THE DRE SOLUTIONS AT LIVELIHOOD APPLICATIONS ACROSS THE STATES OF INDIA.

TENDER DOCUMENT

Address for Communication

SELCO Foundation

#690, 15th Cross Rd, J P Nagar – 2nd Phase

Bangalore, Karnataka – 560078

Telephone: 080-26493145

E-mail: procurement@selcofoundation.org

DISCLAIMER

NIT (Notice Inviting Tender) No: 17/2025-2026

This tender is to supply Remote Monitoring System (RMS) for Energy for livelihood sites and establish a fully functional dashboard to monitor the DRE Solutions at Livelihood applications Across the states of India.

NOTE:

SELCO Foundation has the right to award the work who meets the criteria based on the suitability of the proposed methodology, relevant background and expertise along with the quote submitted towards this tender.

Though adequate care has been taken while preparing this Notice Inviting Tender (NIT) document, the Bidders are requested to satisfy themselves as to the completeness of this document in all aspects. Intimation of any discrepancy shall be given to the email address mentioned above immediately. If no intimation is received from any Bidder within seven (7) days from the date of this NIT, it shall be considered that the NIT is complete in all aspects and has been received by the Bidder.

SELCO Foundation reserves the right to cancel/ withdraw this NIT without assigning any reason and shall bear no liability whatsoever consequent upon such a decision.

SELCO Foundation reserves the right to modify, amend or supplement this NIT.

While this NIT has been prepared in good faith, neither SELCO Foundation nor their employees or advisors make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this NIT.

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SELCO FOUNDATION
#690 15th Cross J P Nagar 2nd Phase
Bangalore - 560078
Telephone: 080-26493145
E-mail: procurement@selcofoundation.org

Tender: **17/2025-2026**

Dated: 15-11-2025

NOTICE INVITATION TENDER

Chief Executive Officer of SELCO Foundation, Karnataka State, India hereby invites bids for Scaling and operationalizing Remote Monitoring System (RMS) deployment and establish a fully functional dashboard to monitor the DRE Solutions at Livelihood applications Across the states of India.

1.	Tender Ref No.	17/2025-2026
2.	Last date & time for the bid submission	01-12-2025, 5:00 PM
3.	Opening date of Technical Bid & Financial Bid	02-12-2025, 11:00 AM
4.	Venue of acceptance and opening of tenders.	SELCO Foundation, Bangalore
5.	Link for e-tender	https://forms.gle/8j4ozMBm8bwCv3Ez8

Interested and eligible Organizations may furnish the Technical & Commercial Bids for Scaling and operationalizing Remote Monitoring System (RMS) deployment and establish a fully functional dashboard to monitor the DRE Solutions at Livelihood applications Across the states of India.

<https://forms.gle/8j4ozMBm8bwCv3Ez8>

Or furnish the same to the below-mentioned address:

Procurement Officer - Tender NO 17/2025-2026
#690 15th Cross J P Nagar 2nd Phase
Bangalore - 560078
Telephone: 080-26493145

Any further information or clarification may obtain either in person or through phone during office hours from the office of the SELCO Foundation Ph: 080-2649 3145 or through the email – procurement@selcofoundation.org

sd/-
Chief Executive Officer
SELCO Foundation

INSTRUCTION TO ORGANIZATION

About SELCO Foundation

SELCO Foundation is an open-source, not-for-profit organization that engages in field-based R&D and ecosystem building for the deployment of clean energy solutions that alleviate poverty by improving access to sustainable energy to underserved communities in tribal, rural, and urban poor areas. The organization works in collaboration with practitioners in the social sector, energy entrepreneurs, NGOs from various developmental sectors, and educational institutions to link the benefits of sustainable energy to poverty eradication. The organization works across verticals such as energy access, health, and livelihoods with practitioners in the social sector, energy entrepreneurs, and partners from various developmental sectors.

1. Eligibility to Organizations:

Legal and Financial Eligibility Criteria

1. Bidding Organization or Bidder must be a company (incorporated under Indian Companies Act, 1956/2013) or a Partnership Firm (registered under Indian Partnership Act, 1932). Or a proprietorship firm.
2. The bidding organizations must have an average annual turnover of 5 Crore for the last three (3) financial years.
3. Bidders should have maintained audited financials, certified by practicing Chartered Accountant for the last two (2) financial years.
4. Bidders should have filed the Income tax return for the last two years
5. Bidders should have a valid PAN card for the Organization.
6. Bidder Should have a GST certificate of the Organization.
7. Net Worth of the bidder in the last Financial Year (2024-25) should be Positive.

Technical Eligibility Criteria

1. The bidder shall have at least three (3) or more cumulative experience of executing contracts of said nature in similar projects. As proof of such experience, the bidder must submit documentation such as reports on previous projects. Any such information shared will be kept confidential by SELCO Foundation.
2. The bidder team should demonstrate experience in designing, manufacturing and supplying the RMS devices along with high quality dashboards that reflect the real time data from the hardware to the server.
3. The bidder should have skilled persons with proven expertise in designing, manufacturing and supplying the preconfigured RMS devices. The bidder should have a dedicated team to configure the data from the hardware to the dashboard server and agree to customize the dashboard as per client's requirement. The bidder shall also provide capacity building to the client for adequate usage of the dashboard information and support in data analysis as and when required.
4. The bidder is expected to provide complete remote support to on ground staff installing the system and active troubleshooting support. However, in case of need where remote support is not possible, the bidder shall provide onsite physical visit support.
5. The bidder shall have a dedicated team for the troubleshooting/repair/replacement/service assistance. A point of contact shall be notified to SELCO Foundation along with the tender document.
6. The bidder should have a proven track record of on-time performance on assignments of similar scale.

7. The bidder should have in-house capacity to execute the assignment that meets the project's requirements.
8. The bidder should have a track record of an effective system for internal quality assurance.
9. The bidder shall provide at least three (3) client references and contact information. The references should be limited to work done within the past three years and specific to India in relevant fields.
10. The bidder shall have the capacity to supply a minimum quantity of 1000 units/month.
11. The bidder shall disclose the Regional or State office/service centre locations, if any, for repair, service and maintenance of the RMS devices
12. The bidder shall provide the Rest API's for seamless integration with other systems into the dashboard and also support for all upcoming installations.

2. **Cost of bidding:** The Bidding Organizations or Bidder shall bear all costs associated with the preparation and submission of Bid to the Chief Executive Officer, SELCO Foundation (hereinafter referred to as "the Foundation"). The Foundation will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

The technical proposal shall contain:

- I. Particulars of the Organization as per [Annexure - 3](#)
 - II. Checklist of Documents to be submitted in First cover as per [Annexure - 4](#)
 - III. The Bidder has to submit an acceptance letter of guarantee for 5 years for the total performance of the Remote Monitoring System.
 - IV. The Bidders must sign all the pages of the documents as acceptance of all terms and conditions.
3. **The financial bid shall contain:** The rate quoted for RMS in different geographies should include all taxes levied by the State & Central Govt. Packing, and forwarding charges including transportation and delivery, dashboard subscriptions and data handling, IoT Sim Cards, internet data packs. As mentioned in the Annexure- Price Schedule
 4. **Price schedule:** The Bidders shall complete the price schedule as per [Annexure 5](#) furnished in the Bidding Documents, indicating the total cost towards designing, manufacturing and supplying the preconfigured RMS devices. The SELCO Foundation will not pay any extra charges over and above the rate quoted by the Organizations. SELCO Foundation will only accept the budget in the exact format outlined in [Annexure 5](#).
 5. **Fixed price:** Prices quoted by the Bidders are firm and final and binding and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.
 6. **Period of Validity of Bids:** Bids shall remain valid for a period of 12 months from the date of opening of the Second cover (Financial Bid). A Bid valid for a shorter period shall be rejected by the Foundation as non-responsive.
 7. **Format and Signing of Bid:** The Bidders shall give a set of hard copies of all the documents on the sealed cover. The Bids could be submitted preferably through the online form (E-tender)

<https://forms.gle/8j4ozMBm8bwCv3Ez8>

or submitted by hand or post/courier to the below-mentioned address

Procurement Officer - Tender No 17/2025-2026

SELCO Foundation, #690, 15th Cross, 2nd Phase,

JP Nagar, Bengaluru- 560078.

Email id: procurement@selcofoundation.org

8. Deadline for Submission of Bids: Bids must be received by the Foundation no later than the time and date specified in the **Invitation for Bids**. The Foundation may, at its discretion, extend this deadline for submission of the bid by amending the bid documents in which case all rights and obligations of the Foundation and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

9. Tender Opening: The Technical & Financial bids will be opened separately as per the date and time mentioned above. The Financial bids (Second Cover), of only technically qualified Bidders, will be opened. The Bidders Names, Bid Modifications, or Withdrawals, bid prices, discounts and the presence or absence of the requisite details as the Foundation, at its discretion, may consider appropriate will be recorded by the Purchasing Committee of SELCO Foundation. No Bid shall be rejected at bid opening, except for late bids, which will be rejected.

10. Clarification of Bids: During evaluation of Bids, SELCO Foundation may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing only.

11. Preliminary Examination: The Foundation will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between words and figures, the lowest of the two shall prevail and the bid shall stand corrected to that effect. The Foundation may waive any minor infirmity or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidders.

12. Acceptance or rejection of bids:

CEO, SELCO Foundation reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability or any obligation to inform the affected Bidders or Bidders of the grounds for the said action.

Any Bid with incomplete information is liable to be rejected.

13. Selection of Technical Specifications, Decision on quality:

The rights of selection of technical design/ specifications and evaluation of the quality of products will be done by a team of technical experts appointed by the Procurement Committee of SELCO Foundation and their decision will be final and binding.

Eligible bidder may be required to coordinate site visits for the SELCO Foundation Technical Team to evaluate the quality of the previous installation. This team will then generate a report detailing their findings and observations. The eligible bidders shall comply and facilitate such visit, in accordance with SELCO Foundation's requirements as communicated. This report will be taken into consideration by SELCO Foundation before awarding the tender.

14. Awarding Tender

The Tender will be awarded based on the criteria as stated in the Tender and in accordance with SELCO's policies. The bidder who have provided all documents in compliance with the terms and regulations stated under this Tender and have further complied with SELCO's terms (as clarification would be required from time to time) will be awarded the tender.

The award for this tender will be communicated to the successful bidder by email.

SELCO shall have the right to disqualify a eligible bidder at its own discretion.

15. Terms and Conditions of the Contract

15.1 Duration: The agreement will be valid from the date of signing the Contract and for a period 5 years (60 months) from the date of completion of the supply of Remote Monitoring Systems (RMS). The maintenance and service will commence from the date of completion of installation of the RMS and will be effective for a period of 5 (five) years. The end date of this agreement will be sixty (60) months after the date mentioned in supply of RMS and dashboard reports that will be subsequently annexed to this agreement and will form an integral part of this agreement.

15.2 Fixed price: Prices quoted by the Bidders are firm and final and binding and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

15.3 Prices: Prices provided by the Bidder, and accepted by the Foundation shall be considered as final and firm and will not be subject to escalation due to any variations in the prices of materials, labour and/or any other reasons which may occur while the order is being carried out (except any increase in costs due to a change in applicable taxes). The SELCO Foundation will not pay any extra charges over and above the rate quoted by the Bidders. SELCO Foundation will only accept the budget in the exact format outlined in Annexure:

15.4 Payment Terms:

Disbursement	Milestone
20%	Supply of RMS Materials based on actuals Phase 1 – Units
20%	Supply of RMS Materials based on actuals Phase 2 – Units
20%	Supply of RMS Materials based on actuals Phase 3 – Units
20%	Supply of RMS Materials based on actuals Phase 4 – Units
20%	Dashboard Customization, data validation and visualization

Note: For every tranche of payment, bidder has to raise an invoice

15.5 Insurance:

- Required insurance shall be arranged and maintained by the Bidder till the products/components are delivered in full to the end point.
- Material safety after delivery: Arrangement of transport, warehouse for stocking and safekeeping of the material till the handover is within the bidder 's scope of work and SELCO Foundation will not be responsible for any missing item or damage that is incurred before the system is handed over.
- Accidental damage for supplied items or to delivery staff or installation staff is the responsibility of the bidder and the bidder will ensure required insurance coverage and damage to service staff in case of any accidents during the course of this engagement with SELCO Foundation for providing the services covered under this agreement.

15.6 Inspection, Checking, Testing:

The products covered by the Purchase order shall be subject to inspection within a reasonable time after arrival at the place of delivery and the bidder must facilitate this process by fixing time informing SELCO Foundation in writing in advance and making bidder representative available at

the location. Besides, the SELCO Foundation is also entitled to do a preliminary inspection at the manufacturing site of the Bidder by giving prior notice.

The Bidder shall provide free access to the SELCO Foundation during normal working hours at Bidder's or its sub-Bidder's works and place at their disposal, internal test reports, material/component test certificates and approved drawings. Even if inspections and tests are fully carried out, Bidder shall not be absolved to any degree from their responsibilities to ensure that products supplied, comply strictly with requirements of the Purchase order and technical specification at the time of delivery, inspection on arrival at site, installation and commissioning and warranty/guarantee period.

In any case, the products supplied must be strictly in accordance with the Purchase order and the technical specification specified by the tender failing which the Foundation shall have the right to reject goods and hold the Bidder liable for non-performance of contract.

15.6 Packing:

Bidder is fully responsible for adequately packing products/components mandated in the tender and ensuring appropriate packing suitable for inland carriage and ensuring complete safety of goods from any kind of damage during transport and subsequent storage at the designated place as intimated by SELCO Foundation.

15.7 Assembly, pre-configuration of devices, after sales service and training:

- a. The successful bidder must have a clear idea on logistics to reach materials, estimating the ease of material movements, pre installation preparations etc. The Bidder shall be fully responsible for the assembly and ensure required pre-configurations of the product as per the Purchase order before transportation and delivery. Wherever required, bidder shall extend support and coordinate remotely with the field team and provide necessary guidance for any installation related glitches.
- b. The Bidder shall provide necessary "After Sales Service" for a period of 5 years either remotely or physically. Bidder representative must record the service done/complaint recorded /resolution done /instructions if any.
- c. Bidder is solely responsible for any type of complaints to the supplied system and complaints must be resolved within 5 to 10 working days after lodging.
- d. Complaints will be lodged using SMS/WhatsApp messenger app/email or a phone call and the bidder must provide the appropriate active contacts like phone number/email ID/WhatsApp number for lodging complaints.
- e. Active contact numbers will be displayed at the site prominently for registering any complaints on the performance of the product.

15.8 Delivery terms:

- a. Successful bidder will be provided a detailed written communication on site address, system to be installed and a brief site profile for installation and necessary contacts.
- b. The delivery of the said products will be to the State Capitals as per the address provided by the SELCO Foundation in writing. No variation shall be permitted, except with prior authorization in writing from the SELCO Foundation.
- c. Delivery Schedule and terms will be as per the Work Order and Phases. In case of a delay solely attributed to the bidder in meeting the said deliverables, the Bidder shall be liable to pay a late fee at the rate of 2% per week beyond a period of 30 days and up to a maximum of 10% of the value of this Agreement.

15.9 Risk Purchase on Default:

In case of default on the part of the Bidder to supply all the products or part thereof covered by the contract as per the standard/specifications within the contractual delivery period stipulated in the contract, the SELCO Foundation shall have the right to purchase such products or other of similar description at the risk and cost of the Bidder. Bidder shall be liable to pay the cost of such purchase products and also the penalty under clause 8 above for resultant delay.

15.10 Delay due to force majeure:

If any time during the continuance of the Agreement the performance in whole or part by either party on any obligation under the contract shall be prevented or delayed by reason of any war, hostility, explosions, epidemics, quarantine restrictions, or other acts of God, then provided, notice of the happening of any such event is given by either party to the other within fifteen (15) days from the date of occurrence thereof. Either party shall be entitled to terminate this contract if such Force Majeure event persists for a period of ninety days and neither party has any claim for damages against the other in respect of such non-performance and delay in performance and deliveries under the contract. All duties and responsibilities of the Parties shall be resumed as soon as practicable after such event has come to an end or ceased to exist. Force Majeure conditions shall not affect the payment obligations of the SELCO Foundation which shall be made as per clause 3 of this Agreement.

15.11 Rejection, Removal of Rejected Goods and Replacement:

In case the testing and inspection at any stage by inspectors reveal that the product, material and workmanship do not comply with the agreed specifications and requirements, the same shall be removed by the Bidder at his/its own expenses and risk within 15 to 20 working days of written information of rejection by the SELCO Foundation. The SELCO Foundation shall be at liberty to dispose of such rejected goods in such manner as they may think appropriate, in the event the Bidder fails to remove the rejected goods within the period as aforesaid. All expenses incurred by the SELCO Foundation for such disposal shall be payable by the account of the Bidder. The freight paid by the SELCO Foundation, if any, on the inward journey of the rejected material shall be reimbursed by the Bidder to the SELCO Foundation before the rejected materials are removed by the Bidder. The Bidder will have to proceed with the replacement of that product or part of the product without claiming any extra payment if so, required by the SELCO Foundation, within 2 weeks of notification.

15.12 Warranty:

The Bidder shall warrant that every material/product to be supplied shall be in accordance with the specifications agreed upon by both parties. The items should be consistent with the established, recognized or stipulated standards for material of the type usually used for the purpose and in full conformity with the specifications and drawings or samples, if any, outlined by the SELCO Foundation in the tender documents and agreed upon by the Bidder by the virtue of acceptance of the WO by the bidder. Products offered must withstand normal operating conditions. The warranty shall continue notwithstanding inspection, payment, acceptance of tendered product and shall expire except in respect of complaints notified to Bidder prior to such date within 60 months from the date of commissioning.

15.13 Performance Guarantee:

The Bidder shall guarantee that any/all material used in execution of the Purchase Order shall be in strict compliance with characteristics requirements and specifications agreed upon. The Bidder shall guarantee that all material and products shall be repaired or replaced, as the case may be, at his own expense in case the same have been found to be defective in respect of material, workmanship for smooth and rated operation within a period of 60 months from the

date of commissioning. Acceptance by the SELCO Foundation of any product and materials or their replacement will not relieve the Bidder of his/its responsibility concerning the above guarantee. In case of any legal case against the SELCO Foundation by any ultimate user of the product with respect to the performance of the system (during the warranty period), the SELCO Foundation shall not be held liable in such cases and the Bidder should support the SELCO Foundation with required and relevant technical testing and reports supporting the performance of the product and to defend that the non-performance of the product is not because of any manufacturing defect. The warranty replacements will be made within 15 to 20 working days from the date of receipt of the Complaint at the site.

15.14 Indemnity:

The Bidder shall at all times indemnify the SELCO Foundation against all claims which may be made in respect of stores for infringement of any right protected by patent, registration of design or trademark or other intellectual property, whether registered or not. Provided always that in the event of any claim in respect of alleged breach of patent, registered designs or trademark and other intellectual property whether registered or not, being made against the SELCO Foundation, the SELCO Foundation shall notify the Bidder of the same and the Bidder shall indemnify and hold the SELCO Foundation harmless at his own expense either settle any such dispute or conduct any litigation that may arise there from.

The Bidder shall, indemnify, defend and hold the SELCO Foundation and its officers, directors, representatives and assigns harmless from and against any liability or any other loss that may occur, arising from or relating to a breach of any of the terms or obligations under this Contract or any acts, errors, representations, fraudulent acts, misrepresentations, willful misconduct or negligence of the Bidder its employees, sub bidders and agents in performance of its obligations under this Contract.

15.15 Other Clauses:

- a. The Bidder will treat all information disclosed to it by the SELCO Foundation under this agreement as information with proprietary value and will not disclose the same to any outsiders or use any such information, either directly or indirectly, in whole or in part, for any commercial or non-commercial purposes. Bidder will not at any time, except under legal process, divulge any trade or business secret relating to the SELCO Foundation or any customer or agent of the SELCO Foundation, which may become known by virtue of the position as Bidder.
- b. All information that is developed during the Term in relation to the Project which shall include but not be limited to information collected through the remote monitoring system and other information, shall solely belong to the SELCO Foundation.
- c. SELCO Foundation may terminate this contract forthwith in the event of any fraud or misconduct on part of the other party by providing a thirty-day written notice to such other Party. The SELCO Foundation may terminate this contract in the event of delay in supply/ installation of the products by the Bidder beyond 15 days from what is stipulated in the WO. Any notice to be given hereunder shall be sufficiently given to the other party if forwarded by registered post or by Courier Service to the registered address of the other party mentioned in this agreement or the last known postal address of the other party or is send to the other Party's provided email. Upon the termination of this contract, the Bidder shall refund the entire amount paid by the SELCO Foundation. The Bidder shall deliver all deeds, documents and paper in his possession relating to the business of the SELCO Foundation and further certify the same in writing.
- d. Both the SELCO Foundation and the Bidder fully and freely intend to create an independent Bidder relationship under this Agreement. Nothing herein shall be deemed to establish a partnership, joint venture, association or employment relationship between the parties. Both parties agree that the Bidder has the right to control the manner and means employed in performing their activities under this Agreement. The Bidder shall

update and inform the SELCO Foundation in writing of the various methods used to perform such activities in a timely manner. The SELCO Foundation shall further have the right to suggest and direct the Bidder to use other methods or refrain from using certain methods when performing such activities.

- e. The SELCO Foundation represents and warrants that (a) it has the full right and authority to enter into this Agreement, and no consent or authorization not obtained prior to the Effective Date is necessary to be obtained, (b) the SELCO Foundation is a charitable trust registered under the laws of India and is authorized to do business to the extent necessary to fulfil its obligations hereunder.
- f. Except as specifically set forth in this Agreement, neither party makes any representation or warranty of any kind, express or implied, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose or use, any warranty of non-infringement, or any other statutory warranty. Each party expressly disclaims any and all implied warranties.
- g. This agreement shall not be amended or renewed, except in writing mutually agreed by both parties. The project shall be fully completed as agreed in the above-mentioned terms and conditions.
- h. Notwithstanding anything else to the contrary:
 - Bidder 's total aggregate liability under this Agreement shall not in any case exceed 100% of the value of this Agreement;
 - neither party shall be liable for any indirect, consequential, special, remote, exemplary, punitive or speculative losses or any losses or damages for loss of profits or business even if such party has been advised of the possibility of such costs or damages; and
 - The Bidder shall have no liability for matters outside of its own scope of works.
- i. In the event that any or any part of the provisions contained in this Agreement is determined to be invalid, unlawful or unenforceable to any extent, such provision shall be severed from the remaining provisions which shall continue to be valid and enforceable to the fullest extent permitted by law.
- j. The SELCO Foundation shall not either directly or indirectly assign, transfer, charge or in any manner make, offer or purport to assign, transfer or charge this Agreement or any rights herein or any part thereof without the previous consent in writing of the Bidder.
- k. Neither Parties shall during the term of this Agreement and for a period of one (1) year thereafter, either directly or indirectly, through any Third Party (ies) recruit, solicit, discuss employment with, hire, employ or induce any such individual to leave the employment of the other Party, unless prior written consent is obtained from the Party.
- l. Neither Party shall make any announcement relating to this Contract or any matter arising in respect of this or its relationship with the other Party, without the prior written consent of the other Party, which consent will not be unduly withheld.
- m. Parties shall not use any trademark, trade name, service mark, service name, copyright, logo or other intellectual property of the other Party without the prior written consent of such Party. For avoidance of doubt, Parties shall seek prior written consent each time when it intends to use trademark, trade name, service mark, service name, copyright, patent, or logo of the other Party.
- n. The Bidder will comply with all applicable laws, rules, regulations and statutory requirements and amendments thereof during the term of this Contract.
- o. The Bidder represents and warrants that at the Execution Date the Bidder is not engaged in any unethical business practices or any practice which is against the integrity or sovereignty of India. Bidder also represents and warrants that on the Execution Date there is no pending litigation or any other charge, whether civil or criminal, against Bidder that will significantly impair the ability of the Bidder to perform its obligations under this Contract. The Foundation reserves the right to perform a background check at its discretion and the Foundation hereby waives any liability that may arise out of misrepresentation by the Bidder. Bidder also agrees to indemnify the Foundation for any liability that may arise out of such misrepresentation.

- p. The Bidder will, its parent entities, partners or subcontractors nor any of its subsidiary or affiliated entities (if any) is engaged in any practice inconsistent with the rights set forth in the Child Labour (Prohibition and Regulation) Act of 1986, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
- q. The Bidder will not engage in any activity that will result in forced or compulsory labor under applicable laws including the Bonded Labour System (Abolition) Act, 1976,
- r. Bidder will act in accordance with applicable laws and regulations and will not violate the rights of laborers as stated in The Factories Act, 1948 and similar legislations.
- s. Working hours, wages and benefits shall be provided by the Bidder to its staff and employees in accordance with applicable laws including the Minimum Wages Act, 1948.
- t. Bidder represents and warrants to the Foundation that, as on the date of signing of this Purchase Order, it is neither blacklisted/ debarred nor it is under a declaration of ineligibility by Central / State or Semi-Government Organization/Department or Institutions and Public Sector Undertakings in India and abroad. Bidder further undertakes to duly inform the Foundation in the event it is blacklisted subsequent to execution of this Purchase Order.
- u. Compliance with Anti-bribery Laws: Bidder and each of its directors, officers, employees, agents or other (collectively referred to as "Bidder") represent and warrant that it shall not either directly or on behalf of the Foundation give, offer, promise to offer, or authorize the offer, directly or indirectly (proxy bribing), anything of value (such as money, shares, goods or service, gifts or entertainment) to government officials, government customers, potential government customers or foreign government officials including officials of any public international organizations or officials of any political party either in India or abroad ("Officials") with an Intent to influence any act or decision in his or her official capacity Induce the Official to do or omit to do any act in violation of his or her lawful duty to obtain any improper advantage, or Induce to use such Official 's influence improperly to affect or influence an act or decision.
- v. The Bidder shall not provide any offering, promising, giving or receive, solicit or accept a financial or other advantage, or any other thing of value, with the intention of influencing or rewarding the behavior of a person in a position of trust to perform a public, commercial or legal function to obtain or retain a commercial advantage.
- w. Bidder understands and acknowledges that any non- adherence to the warranty as stated herein above will be violation of the provisions of the Indian Prevention of Corruption Act,1988 and other applicable laws and legislations ("Anti-bribery Laws").
- x. In addition, Bidder agrees to promptly report to the Foundation of any incident of breach or potential breach of this section.
- y. Compliance with Sexual Harassment of Women (Prevention, Prohibition & Redressal) Act, 2013 (PoSH): The Service Provider shall agree to adhere to the mandates prescribed under the Sexual Harassment of Women (Prevention, Prohibition & Redressal) Act, 2013, which requires all workplaces to have a Policy and Internal Committee to address complaints of sexual harassment that women may face at the workplace.

15.16 Subcontracting: In the event that the bidder requires the services of subcontractors to perform any obligations under the Agreement, the Bidder shall obtain prior written approval of the SELCO Foundation. Any rejection or non-performance of the subcontractor shall not, in and of itself, entitle the Bidder to claim any delays in the performance, or to assert any excuses for the non-performance, of any of its obligations under the Agreement, and the Bidder shall be solely responsible for all services, obligations and deliverables performed by its subcontractors. Any intention to subcontract aspects of the Contract must be specified in detail in the proposal submitted. No sub-contracting will be permitted under the contract unless proposed in the initial submission or formally agreed to by SELCO Foundation later. In any event, the total responsibility for the contract remains with the Bidder.

- 15.17 Governing Law and Arbitration:** The Parties agree that this Agreement shall be governed and construed in accordance with the laws of India. The Parties hereto agree that they shall use all reasonable efforts to resolve between themselves any disputes, controversy or claim arising out of or relating to this Agreement. If the Parties fail to resolve the matter within the 60 days of occurrence of any dispute, such dispute, controversy or claim shall be settled by binding arbitration under the Indian Arbitration and Conciliation Act, 1996. There shall be one arbitrator mutually appointed by the Parties. The place of arbitration shall be Bangalore and the arbitration proceedings shall be in English. The courts at Bangalore alone shall have the jurisdiction to entertain and/or try any dispute arising out of or in connection with or in relation to the terms of this Agreement.
- 15.18 Selection of Technical Specifications, Decision on quality:** The rights of selection of technical design/ specifications and evaluation of the quality of products will be done by a team of technical experts appointed by the Procurement Committee of SELCO Foundation and their decision will be final and binding. Bidders must submit technical information in accordance with Annexure 1 for their bid to be accepted. Submissions that are missing/incomplete information or have blank fields will not be considered. Eligible bidder may be required to coordinate site visits for the SELCO Foundation Technical Team to evaluate the quality of the previous installation. This team will then generate a report detailing their findings and observations. The eligible bidders shall comply and facilitate such visit, in accordance with SELCO Foundation's requirements as communicated. This report will be taken into consideration by SELCO Foundation before awarding the tender.
- 15.19 Awarding Tender:** The Tender will be awarded based on the criteria as stated in the Tender and in accordance with SELCO's policies. The bidder who have provided all documents in compliance with the terms and regulations stated under this Tender and have further complied with SELCO's terms (as clarification would be required from time to time) will be awarded the tender. The award for this tender will be communicated to the successful bidder by email. SELCO shall have the right to disqualify an eligible bidder at its own discretion.
- 15.20 Ethical Behavior:** SELCO Foundation, the Bidder and each of the Bidder's partners, sub-bidders and their employees and agents shall adhere to the highest ethical standards in the performance of the Contract. In this regard, the Bidder shall also ensure that neither the Bidder nor its partners, sub-bidders, agents or employees will engage in activities involving child labour, trafficking in arms, promotion of tobacco or other unlikelihood behavior, or sexual exploitation and abuse.
- 15.21 Zero tolerance for sexual exploitation and abuse:** SELCO FOUNDATION has zero tolerance towards sexual exploitation and abuse. In this regard, and without limiting any other provisions contained herein: - each legal entity Bidder warrants that it will:
- (i) take all reasonable and appropriate measures to prevent sexual exploitation or abuse as described in the SELCO Policy on Sexual Exploitation and Abuse Prevention and Response by any of its employees and any other persons engaged by it to perform any services under the Contract; and
 - (ii) promptly report to SELCO Foundation and respond to, in accordance with the terms of the Policy, any actual or suspected violations of the Policy of which the bidder becomes aware.
- 15.22 Engagement of Third Parties and use of In-house Resources:** The Bidder acknowledges that SELCO Foundation may elect to engage third parties to participate in or oversee certain aspects of the project and that SELCO Foundation may elect to use its in-house resources for the performance of certain aspects of the project. The Bidder shall always cooperate with and ensure that the Bidder and its partners, sub-bidders and their employees and agents cooperate, in good faith, with such third parties and with any SELCO Foundation in-house resources.

ANNEXURE 1: TECHNICAL SPECIFICATIONS OF SOLUTIONS

Summary of the Project

SELCO Foundation is seeking an experienced bidder that provides key services for deployment and maintenance of RMS to remotely track and monitor the solar systems in livelihood sites at different geographies across India and develop a centralized dashboard that can generate National-wise, State-wise, District-Wise and Block-wise reports at regular intervals.

Goals and Objectives

Institutionalization of DRE solutions with Remote Monitoring System (RMS) based monitoring and tracking tools by 2026 by creating a sustainable solution that provides end-to-end services to track and monitor the progress remotely of the DRE systems installed at different geographies across India. All RMS installations will be taken care of by the SELCO Foundation team. The bidder is expected to provide complete remote support to on-ground staff installing the system and active troubleshooting support. However, in case of need where remote support is not possible, the bidder shall provide onsite physical visit support. Beyond which data accumulation through internet facilities, periodic maintenance of the RMS hardware's, developing and designing a dashboard application to visualize the data from Remote Monitoring System located across different geographies will all be under the scope of the RMS supplier. In addition, provide adequate training to end-users to understand the dashboard data as well as generate and produce DRE based analytic reports for strategic decisions. The purpose of the end-to-end solution is to enable users to remotely monitor and manage solar power systems, ensuring optimal performance, fault detection, and maintenance.

SELCO foundation has installed the DRE OFFGRID system across different geographies with various brands of PCU/Inverters with different capacities. PCU/Inverter capacity varies from 0.85 kVA to 20 kVA. SELCO Foundation is looking for External Sensor Based RMS in which data are measured directly from the external sensors which will be positioned on each data point to measure the parameters. This measurement will not be dependent on the Inverter.

Requirement (System Overview)

SELCO Foundation is looking toward the Monitoring Solutions of DRE systems through external sensor-based RMS for livelihood systems.

Details on RMS Requirement

This will have measurements from all the nodes. The data points that are applicable for this Livelihood facilities are mentioned below:

Sl.No	Node	Name of the Component	Major Parameters
1	D3	Inverter	i. Voltage ii. Current iii. Power iv. Energy
2	D1	Battery	i. Voltage ii. Current iii. Power iv. Energy v. State of Charge (Measurement to be done on both Charging and Discharging mode)

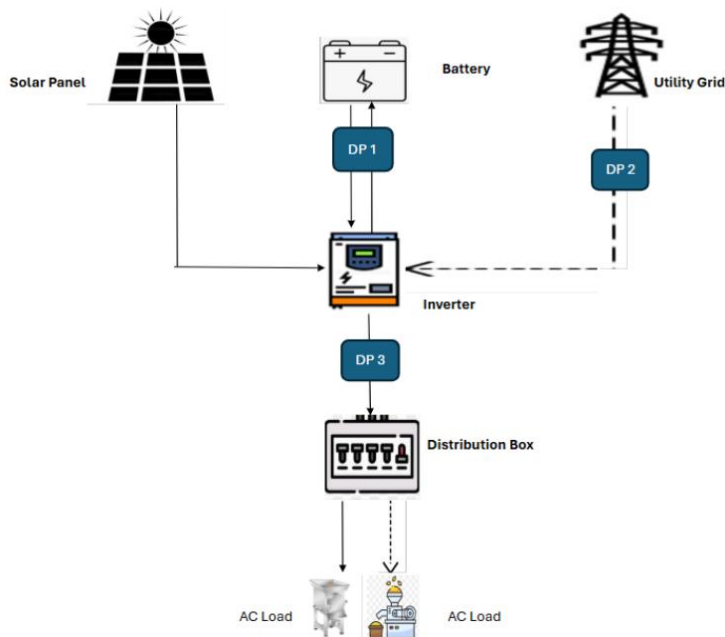
3	D2	Grid Input to PCU	i. Voltage ii. Current iii. Frequency iv. Power Energy
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Note: More Details on Measurement and derivative parameters from each data point are shown in below diagram for reference:

Specifications for Energy Meters

Parameters	AC Meters		DC Meters	
Phase	Single Phase	Three Phase	(For battery)	(For Solar)
Type	CT		Shunt	
Meter Type	Bidirectional Meters			
Operating Temperature	-10°C to +55°C (14°F-131°F)			
Operating Voltage Range	80 V – 270 Vac (L-N)	80 V – 270 V AC (L-N), 250 V – 480 Vac (L-L)	0 – 280 Vdc	12 V - 650 V
Input Current Range	0 A - 50 A (max) (Current Range may vary from site to site depending on the loads connected to solar system and Inverter Capacity. Details will be provided separately and based on that meter selection to be done)			
Frequency	35 - 65 Hz ± 3 Hz			
Power Consumption	5 W (Max)			
Accuracy	Voltage & Current (L-N): 1% or better Power Factor: 1% or better Frequency: 1% or better Power: 1% or better Energy: Class 1.0			
Display Resolution	Voltage: 0.1 V or better Current: 0.1 A or better			
Protection	IP 51/54 as per IEC 60529 or better; Class 2 or Class 3			
Warranty Period	5 Years (Warranty clause to be shared)			
Feature	The meter should not restrict the system power flow during the Meter failure.			

1. Data points requirements (Architecture):



Existing site architecture

i. **Measured Data points:**

AC Parameters	DC Parameters
Instantaneous Line to Neutral voltage	Instantaneous DC Voltage
Instantaneous Line to Line Voltage	
Instantaneous Current value	Instantaneous DC Current
Instantaneous Active Power	Instantaneous Active Power
Frequency	Active Import Energy – Cumulative Value
Instantaneous Power Factor	Active Export Energy – Cumulative Value
Active Import Energy- Cumulative Value	DC ON Hours (If power is available- accumulates irrespective of loads)
Active Export Energy- Cumulative Value	DC Import Load Hours (Accumulates Hours when meter ON with LOAD on Import side)
ON Hours- If power is available (irrespective of load)	DC Export Load Hours (Accumulates Hours when meter ON with LOAD on Export side)
Load Hours (Accumulates hours when device is ON with LOAD)	
No of Power supply disruption	Number of Power Supply disruptions

ii. **Derived Data points:**

- Energy utilization from solar
- Solar v/s Grid energy usage – daily/monthly/yearly
- SOC% of battery
- Carbon emission avoided
- Financial saving due to solar

Gateway

Parameters	Specifications	Details
Connectivity	IoT SIM Card (2G/3G/4G).	No calling facility on SIMs.- Should be based on network availability/strength of the geography/site location.
Type of Communication	RS 232 / RS 485	No Wi-Fi/Ethernet assumption.
Storage	With battery storage for min 10 Hrs backup	To have a sperate battery backup. Not to connect with existing battery
Power Consumption	< 5 W	
Operating Temperature	-40 °C to 75 °C; 10 – 90 % RH	
Protection	IP 54 or better.	
Data Frequency	Minimum 5mins interval	Should have scope for customization
Internal Storage	With SD card	(capable to store data of min 1 month)

Dashboard features

Dashboard Development & Data Flow

The vendor shall provide a comprehensive, customized, and unified SaaS-based dashboard platform for real-time monitoring, data management, and reporting, adhering to the following key features and functionalities:

Core Dashboard Features

- *Alerts and Notifications:* Customizable alert settings with pop-up messages displayed on the screen upon any faults and abnormality conditions. Alert logic will be provided and must be incorporated for all sites, reflecting in the necessary dashboard pages.
- *Data Logging and Storage:* Store historical data for compliance purposes, quality control, and trend analysis. Users should be able to access and export/download this data as needed. Primary data storage should be on the SELCO Foundation's server.
- *Data Visualization:* Utilize various visualization tools such as charts, graphs, and heatmaps to help users quickly understand trends and anomalies.
- *Data Export:* Features for exporting data in various formats (e.g., CSV, Excel) for further analysis or reporting.
- *Compliance and Reporting:* Compliance feature for generating hourly, daily, weekly/monthly reports, which should be sent through email based on requirements.
- Dashboard should also be made mobile compatible (Android/iOS).
- *Security:* Robust security measures, including strong encryption protocols for data in transit and at rest, to protect data and the dashboard from unauthorized access, hacking vulnerabilities, and tampering.
- *Cyber Secured:* Cloud based platform shall be Cyber Secured advanced remote monitoring platform to Connects, Monitors and control for the generation, Consumption & Storage DERs.
- *Scalability:* Capability to scale to accommodate additional sensors or data loggers as the system expands.
- *Data Backup and Recovery:* Robust data backup and recovery mechanisms to ensure data is not lost in case of system failure. Further, in case of network, device, or server failure, there should be an ability for data backup locally in the logger (minimum 1 month).
- *Over-the-Air (OTA) Upgrade:* The platform should support Over-the-Air updates for device firmware and dashboard software.
- *Data Privacy:* The vendor has no right to use or share data for any purpose other than providing the contracted services. Data privacy must be maintained in compliance with applicable data protection regulations. A Non-Disclosure Agreement (NDA) should be signed between both parties.
- *Carbon Credit Enabler:* All relevant data (clean energy generation logs, timestamps, system specs) must be securely stored and exportable for third-party verification. The system must maintain a tamper-proof audit trail of energy production and emission savings.

Dashboard Overview and Access

- Login & Access Management:
 - Master Login: The dashboard should have an option to create multiple user login credentials with grouping options, providing access to data from across all installations. It should have a provision to enable and disable any user login credentials.
 - State Login: Users will have access to data only for specific states/sites.

- o Users will be able to log in with user ID and password. Once a user logs into the system, if they belong to a specific location (e.g., Karnataka, Assam), then they can only see the RMS related to the site under that location.
- Site Visualization:
 - o Installed RMS sites should be overall reflected state-wise and district-wise by providing filter options. Livelihood sites should be reflected as 3 main verticals – Agri, Animal Husbandry (AH) and Resilient Micro business (RMB).

Category table:

State	District	Main Category	Subcategory
Ex. Karnataka, Assam, Meghalaya, Odisha, Etc.	Bangalore, Dharwad, Kamrup EKH, Kalahandi	1. Agri 2. Animal Husbandry (AH) 3. Resilient Micro Business (RMB) 4. Others	Ex. Post harvest processing, Agri Processing, Food processing

- o GIS mapping should display installed RMS sites with color coding based on system functionality logics: Green (system working), Red (system not working), Grey (RMS not active due to any reason).
- o By clicking on a site in the GIS map, the dashboard should reflect the Name of the site with typology, latitude, and longitude.
- o For sites classified as "system not working" (Red) and "RMS not active" (Grey), the dashboard should show the list of such centers, with options enabled to download these lists.
- System Summary:
 - o The cumulative number of sites should be shown in the header, including total installed systems, systems working, systems not working, and systems inactive due to network issues.
 - o System Information should be added, consisting of: Name of the site; Type of site: Main category(Agri, AH & RMB): Sub Category-Value chain wise - with customizable option; System Capacity Including Solar Panel(including module capacity & configuration-Total no. of panels, number of panels in series & parallel), Battery(including Amper Hour rating & configuration, number of batteries in series & parallel) and Inverter(kW & kVA rating @ nominal voltage); and System Installation Date, with site picture- full system(Panel, & BOS)

System Block Diagram

- A system block diagram will show the equipment involved in the system and further depict the energy flow from each equipment.
- "Last updated" date and time stamp should be present in the header.
- Measurement values should be shown from the hardware on a real-time basis.
- Filter options should be enabled, consisting of state, block, etc.

Energy Parameters

- Energy parameters will provide data of the total energy consumption from different data points.
- A pie chart should be shown for the total solar generation and total grid utilization.
- Cumulative values on each parameter should be reflected in the dashboard. Cumulative parameters should be in the format of the current day and customized day.

- It should have a feature of providing the cumulative values of all the sites from the beginning to the last updated time.
- Specific Data Points to be Displayed/Monitored:
 - AC Meters: Instantaneous Line to Neutral voltage, Instantaneous Line to Line Voltage (for 3-phase) Instantaneous Current value, Instantaneous Active Power, Frequency, Instantaneous Power Factor, Active Import Energy (Cumulative Value), Active Export Energy (Cumulative Value), ON Hours (irrespective of load), Load Hours (with load), power supply Interruptions
 - DC Meters: Instantaneous DC Voltage, Instantaneous DC Current, Instantaneous Active Power, Active Import Energy (Cumulative Value), Active Export Energy (Cumulative Value), DC ON Hours (irrespective of loads), DC Import Load Hours, DC Export Load Hours, power supply Interruptions
- *System Capacity Utilization*: Solar system capacity utilization refers to how effectively a solar power plant uses its installed capacity to generate electricity. It's typically measured by the Capacity Utilization Factor (CUF), which compares the actual energy output over a period to the maximum possible output if the plant operates at full capacity continuously.

Trends and Analytics

- All the measured and derivative parameters should be shown in the trends.
- Trends must have the option to select any of the parameters at any time period.
- Options to be enabled to make the grouping of parameters.
- Below the graph, values should be shown in the table, and an option to be enabled to download the data, and export graphs as jpeg/pdf.
- Filter options should be enabled, consisting of state, block, type of livelihood site, name of the site, and time interval.
- Derived Data Points for Analytics:
 - a. PV: kWp, MPPT performance, Irradiation, Generation in KWH.
 - b. Battery: SOC %, Indicative KWH, Health (Ref discharge current).
 - c. Load: Units consumed KWH, PF, Efficiency of machine.
 - d. Grid: KWH (both import/export), Grid failure (Low voltage, load shedding).
- Additional Analytical Remarks/Features:
 - a. Utilization dynamics of multiple machines.
 - b. Grid downtime.
 - c. Trend of efficiency with alerts for drops.
 - d. CO2 Offset and Indicative Carbon Credits.
 - e. Battery life cycle indicator.
 - f. Production in Kgs (taking into reference working hours).
 - g. Phase-wise non-availability.
- Analytics:
 - a. **Auto Health Diagnosis**: Automatic health diagnosis involves using advanced techniques to monitor, detect, and diagnose faults in real-time, alert, enhancing system reliability and efficiency.
 - b. **Preventive Alert Mechanism (Alert before Failure) – Push Notification**: Alerts shall be generated based on predefined thresholds and predictive models. Types of alerts must include - Early warning (non-critical anomalies), Critical alerts (imminent failure risk), Maintenance reminders (based on usage patterns or time intervals).

- c. **Remote Configuration:** Remote Configuration capability to enable remote access, monitoring, and adjustment of system parameters without requiring physical presence at the installation site.
- d. **Sustainability measurement:**
 - CO₂ emissions avoided (kg or tones) based on local grid emission factors.
 - Total clean energy generated (kWh) over time.
 - Number of households or facilities powered – People Impacted
- e. **Multi-Site View:**
 - Global view for the all-site status, System generation vs consumption pattern view
 - Holistic view of system performance and anomalies
 - GIS Map View and easy locate and trace the sites / projects

Data Download and Report Generation

- Options should be provided to download raw data.
- Compliance feature for generating weekly/monthly reports. Daily, Weekly (or) Monthly reports to be generated and it should be sent by email based on the requirement.
- Report(s) should consist of:
 - Cumulative energy from all the data points in a day and over the month on each site.
 - Breakup on Solar / Grid Energy Utilization in a day and over the month on each site.
 - Hours of power outages in a day and over the month on each site.
 - Number of systems along with list of livelihood sites (State wise, District wise and main category) in which RMS are inactive (This will be based on date of report generation).
 - Number of solar systems along with list of livelihood site (State wise, District wise and main category) that did not function for more than 48 hours in the last month.
 - Number of sites along with list of livelihood sites (State wise, District wise and main category) in which system is not working (This will be based on data of report generation).
 - Estimation of Carbon offset (State wise and District wise).
- Customized reporting formats: Impact / Sustainability Report (NGO), Technical Report (Tech Partner & O&M)

Data Logging and Storage

The dashboard should store historical data for compliance purposes, quality control, and trend analysis. Users should be able to access and export this data as needed.

Data Privacy

The RMS supplier has no right to use or share data for any purpose other than providing the contracted services. Data privacy should be maintained in compliance with applicable data protection regulations.

Non-Disclosure Agreement (NDA) should be signed between both parties.

Data Analytics

- **Data Visualization** : Present data through charts, graphs, and reports.
- **Historical Analysis** : Allow users to analyze trends and historical data.

Data Export

Should have features for exporting data in various formats (e.g., CSV, Excel) for further analysis or reporting.

Dashboard Software Specifications (SaaS Platform)

- **Real-Time Monitoring:** Provide real-time data streams from monitored devices and display a dashboard for users to monitor multiple devices simultaneously.

- **Security & Capabilities:**
 - Implement robust encryption for data in transit and at rest.
 - Ensure secure access with role-based permissions.
 - Expose REST APIs for seamless integration with other systems. Any changes in the REST APIs need to be documented and communicated.
 - Support for a growing number of devices and users.
 - Ensure consistent performance as the user and device count increases.
 - Offer an intuitive and user-friendly interface for easy navigation.
- **Functional Requirements:**
 - **User Management:** SELCO Foundation users will have a registration process in the system where they will be mapped to a particular location (e.g., Karnataka, Assam). User authentication and authorization should ensure that once a user logs in, they can only see RMS data related to region/site category under their mapped location.
(Refer Category table)
 - **Web Portal Key Features:** Basic analytics (trends and graphs with existing data), real-time alarms & alerts upon any anomaly detection, multiple users can log in simultaneously, role-based features for feature control & multiple user creation, and historical data retrieval up to 5 years.
- **Upper System Connect (Secured): Support Open API**
 - The system shall support RESTful APIs or MQTT/WebSocket protocols or other secured protocols for real-time data exchange. API documentation must be provided in standard formats

Real Time Monitoring

Security & Capabilities:

Live Data Feeds	Provide real-time data streams from monitored devices.
Dashboard	Display a dashboard for users to monitor multi devices simultaneously
Data Encryption	Implement robust encryption for data in transit and at rest.
Access Controls	Ensure secure access with role-based permissions.
APIs and Integrations	Expose REST APIs for seamless integration with other systems. Any Changes in the REST APIs need to be documented and communicated.
Support for Growing Devices	Expose REST APIs for seamless integration with other systems. Any Changes in the REST APIs need to be documented and communicated.
Performance Scalability	Ensure consistent performance as the user and device count increases.
Intuitive User Interface	Offer a user-friendly interface for easy navigation.

Functional Requirements

User Management:

- **Personal/User:** SELCO Foundation users will have a registration process in the system where they will be mapped to a particular location (Karnataka, Assam etc.)
- **User Authentication and Authorization:** Once User login to the system, if they belong to Karnataka then they can only see the RMS data related to Livelihood centers under Karnataka location.

Web Portal Key Features:

- Basic analytics – Trends and Graphs with existing data.
- Real time alarms & alerts, upon any anomaly detection
- Multiple users can login simultaneously
- Role based features for feature control & multiple user creation
- Historical Data Retrieval up to 5 years

RMS Deployment

- Rating of meters, gateways, cables should be as per the system requirement.
- Sensors are positioned in enclosure box and cable are managed properly with conduit protection.
- Labels to be provided for each component for the identification.

Maintenance and Support

- Periodic calibration to be done for the external sensors to maintain the accuracy level.
- For issues pertaining to RMS hardware, the RMS supplier is expected to support the ground team for repair/replacement/spares etc.
- Internet pack and necessary subscription pack to be monitored periodically.
- Update Mechanism for Software Updates (OTA)
- Mechanism to resolve production bugs if any.

Service Level Agreements

This is a Service Level Agreement (SLA*) between [Customer] and [Service Provider]. This document identifies the services required and the expected level of services between DD/MM/YYYY to DD/MM/YYYY.

Sl. No	Security Level	Description	Target Response
1	Outage	SaaS server down	Same day
2	Informational	Inquiry for information	Within 48 hours

Testing and Validation

- Validation of the data from the hardware post installation or any subsequent replacements.
- Validation of the data in the dashboard post installation or any subsequent replacements.

Documentation and Training

- RMS suppliers are expected to train the end-users to effectively utilize the RMS dashboards to provide effective information and maintenance triggers.
- Any changes in the User Interface post GO live, additional training to be provided for End User.
- User guide/manual covering both Software and Hardware in the form of written document & demo videos.
- Hardware Installation and troubleshooting process in the form of written document & demo videos.
- REST API Documentation

Project Plan and Timeline in different Geographies

Projected Year	Name of the State	Total No of Units with Single Phase AC Meter	Total No of Units with Three Phase AC Meter
2025	Karnataka		
	Odisha		
	NE		
	Total		

Quality Assurance:

The agency should ensure the supply of good quality materials that includes RMS devices and necessary consumables, required for the installation of RMS. Moreover, the data or dashboard submitted to Selco Foundation should be accurate, complete, reliable and relevant. Consulting agency shall establish additional layers for data cleaning and submission

ANNEXURE 2: Technical Specifications Response

Hardware and Data Points

Parameters	AC Meters		DC Meters	Response	Details
Phase	Single Phase	Three Phase	(For battery)		
Type	CT		Shunt		
Meter Type	Bidirectional Meters				
Operating Temperature	-10°C to +55°C (14°F-131°F)				
Operating Voltage Range	80 V – 270 Vac (L-N)	80 V – 270 V AC (L-N),	0 – 280 Vdc		
		250 V – 480 Vac (L-L)			
Input Current Range	0 A - 50 A (max)				
Frequency	35 - 65 Hz ± 3 Hz				
Power Consumption	5 W (Max)				
Accuracy	Voltage & Current (L-N): 1% or better				
	Power Factor: 1% or better				
	Frequency: 1% or better				
	Power: 1% or better				
	Energy: Class 1.0				
Display Resolution	Voltage: 0.1 V or better				
	Current: 0.1 A or better				
Protection	IP 51/54 as per IEC 60529 or better; Class 2 or Class 3				
Warranty Period	5 Years (Warranty clause to be shared)				
Feature	The meter should not restrict the system power flow during the Meter failure.				
AC Parameters	Instantaneous Line to Neutral voltage				
	Instantaneous Line to Line Voltage				
	Instantaneous Current value				
	Instantaneous Active Power				
	Frequency				
	Instantaneous Power Factor				
	Active Import Energy- Cumulative Value				
	Active Export Energy- Cumulative Value				
	ON Hours- If power is available (irrespective of load)				
	Load Hours (Accumulates hours when device is ON with LOAD)				
	No of Power supply disruption				
DC Parameters	Instantaneous DC Voltage				
	Instantaneous DC Current				
	Instantaneous Active Power				

	Active Import Energy – Cumulative Value	
	Active Export Energy – Cumulative Value	
	DC ON Hours (If power is available- accumulates irrespective of loads)	
	DC Import Load Hours (Accumulates Hours when meter ON with LOAD on Import side)	
	DC Export Load Hours (Accumulates Hours when meter ON with LOAD on Export side)	
	Number of Power Supply disruptions	
Derived Data points:	Energy utilization from solar	
	Solar v/s Grid energy usage – daily/monthly/yearly	
	SOC% of battery	
	Carbon emission avoided	
	Financial saving due to solar	

Dashboard Development

Core Dashboard Features		Response	Details
Alerts and Notifications:	Alerts and Notifications: Customizable alert settings with pop-up messages displayed on the screen upon any faults and abnormality conditions. Alert logic will be provided and must be incorporated for all sites, reflecting in the necessary dashboard pages.		
Data Logging and Storage:	Store historical data for compliance purposes, quality control, and trend analysis. Users should be able to access and export/download this data as needed. Primary data storage should be on the SELCO Foundation's server.		
Data Visualization:	Utilize various visualization tools such as charts, graphs, and heatmaps to help users quickly understand trends and anomalies.		
Data Export:	Features for exporting data in various formats (e.g., CSV, Excel) for further analysis or reporting.		
Compliance and Reporting:	Compliance feature for generating hourly, daily, weekly/monthly reports, which should be sent through email based on requirements.		
	Dashboard should also be made mobile compatible (Android/IOS).		
Security:	Robust security measures, including strong encryption protocols for data in transit and at rest, to protect data and the dashboard from unauthorized access, hacking vulnerabilities, and tampering.		
Cyber Secured:	Cloud based platform shall be Cyber Secured advanced remote monitoring platform to Connects, Monitors and control for the generation, Consumption & Storage DERs.		
Scalability:	Capability to scale to accommodate additional sensors or data loggers as the system expands.		
Data Backup and Recovery:	Robust data backup and recovery mechanisms to ensure data is not lost in case of system failure. Further, in case of network, device, or server failure, there should be an ability for data backup locally in the logger (minimum 1 month).		
Over-the-Air (OTA) Upgrade:	The platform should support Over-the-Air updates for device firmware and dashboard software.		

Data Privacy:	The vendor has no right to use or share data for any purpose other than providing the contracted services. Data privacy must be maintained in compliance with applicable data protection regulations. A Non-Disclosure Agreement (NDA) should be signed between both parties.		
Carbon Credit Enabler:	All relevant data (clean energy generation logs, timestamps, system specs) must be securely stored and exportable for third-party verification. The system must maintain a tamper-proof audit trail of energy production and emission savings.		
Dashboard Overview and Access			
Login & Access Management:			
Master Login:	The dashboard should have an option to create multiple user login credentials with grouping options, providing access to data from across all installations. It should have a provision to enable and disable any user login credentials.		
State Login:	Users will have access to data only for specific states/sites.		
	Users will be able to log in with user ID and password. Once a user logs into the system, if they belong to a specific location (e.g., Karnataka, Assam), then they can only see the RMS related to the site under that location		
Site Visualization:	Installed RMS sites should be overall reflected state-wise and district-wise by providing filter options. Livelihood sites should be reflected as 3 main verticals – Agri, Animal Husbandry (AH) and Resilient Micro business (RMB).		
	GIS mapping should display installed RMS sites with color coding based on system functionality logics: Green (system working), Red (system not working), Grey (RMS not active due to any reason).		
	By clicking on a site in the GIS map, the dashboard should reflect the Name of the site with typology, latitude, and longitude.		
	For sites classified as "system not working" (Red) and "RMS not active" (Grey), the dashboard should show the list of such centers, with options enabled to download these lists.		
System Summary:	The cumulative number of sites should be shown in the header, including total installed systems, systems working, systems not working, and systems inactive due to network issues.		
	System Information should be added, consisting of: Name of the site; Type of site: Main category(Agri, AH & RMB): Sub Category-Value chain wise - with customizable option; System Capacity Including Solar Panel(including module capacity & configuration-Total no. of panels, number of panels in series & parallel), Battery(including Amper Hour rating & configuration, number of batteries in series & parallel) and Inverter(kW & kVA rating @ nominal voltage); and System Installation Date, with site		

System Block Diagram	A system block diagram will show the equipment involved in the system and further depict the energy flow from each equipment.		
	Measurement values should be shown from the hardware on a real-time basis.		
	Filter options should be enabled, consisting of state, block, etc.		
Energy Parameters	Energy parameters will provide data of the total energy consumption from different data points.		
	A pie chart should be shown for the total solar generation and total grid utilization.		
	Cumulative values on each parameter should be reflected in the dashboard. Cumulative parameters should be in the format of current day and customized day.		
	It should have a feature of providing the cumulative values of all the sites from the beginning to the last updated time.		
	Specific Data Points to be Displayed/Monitored:		
AC Meters:	Instantaneous Line to Neutral voltage, Instantaneous Line to Line Voltage (for 3-phase) Instantaneous Current value, Instantaneous Active Power, Frequency, Instantaneous Power Factor, Active Import Energy (Cumulative Value), Active Export Energy (Cumulative Value), ON Hours (irrespective of load), Load Hours (with load), power supply Interruptions		
DC Meters:	Instantaneous DC Voltage, Instantaneous DC Current, Instantaneous Active Power, Active Import Energy (Cumulative Value), Active Export Energy (Cumulative Value), DC ON Hours (irrespective of loads), DC Import Load Hours, DC Export Load Hours, power supply Interruptions		
System Capacity Utilization:	Solar system capacity utilization refers to how effectively a solar power plant uses its installed capacity to generate electricity. It's typically measured by the Capacity Utilization Factor (CUF), which compares the actual energy output over a period to the maximum possible output if the plant operates at full capacity continuously.		
Trends and Analytics	All the measured and derivative parameters should be shown in the trends.		
	Trends must have the option to select any of the parameters at any time period.		
	Option to be enabled to make the grouping of parameters.		
	Below the graph, values should be shown in the table, and an option to be enabled to download the data, and export graphs as jpeg/pdf.		
	Filter options should be enabled, consisting of state, block, type of livelihood site, name of the site, and time interval.		
	Derived Data Points for Analytics:		
a. PV	kWp, MPPT performance, Irradiation, Generation in KWH.		
b. Battery:	SOC %, Indicative KWH, Health (Ref discharge current).		
c Load:	Units consumed KWH, PF, Efficiency of machine.		

d. Grid	KWH (both import/export), Grid failure (Low voltage, load shedding).		
Additional Analytical Remarks/Features:			
a	Utilization dynamics of multiple machines.		
b	Grid downtime.		
c	Trend of efficiency with alerts for drops.		
d	CO2 Offset and Indicative carbon credits.		
e	Battery life cycle indicator.		
f	Production in Kgs (taking into reference working hours).		
g	Phase-wise non-availability.		
Analytics:			
Auto Health Diagnosis:	Automatic health diagnosis involves using advanced techniques to monitor, detect, and diagnose faults in real-time, alert, enhancing system reliability and efficiency.		
Preventive Alert Mechanism (Alert before Failure) – Push Notification:	Alerts shall be generated based on predefined thresholds and predictive models. Types of alerts must include - Early warning (non-critical anomalies), Critical alerts (imminent failure risk), Maintenance reminders (based on usage patterns or time intervals).		
Remote Configuration:	Remote Configuration capability to enable remote access, monitoring, and adjustment of system parameters without requiring physical presence at the installation site.		
Sustainability measurement:	CO ₂ emissions avoided (kg or tones) based on local grid emission factors.		
	Total clean energy generated (kWh) over time.		
	Number of households or facilities powered – People Impacted		
Multi-Site View:	Global view for the all-site status, System generation vs consumption pattern view		
	Holistic view of system performance and anomalies		
	GIS Map View and easy locate and trace the sites / projects		
Data Download and Report Generation	Options should be provided to download raw data.		
	Compliance feature for generating weekly/monthly reports. Daily, Weekly (or) Monthly reports to be generated and it should be sent by email based on the requirement.		
	Report(s) should consist of:		
	Cumulative energy from all the data points in a day and over the month on each site.		
	Breakup on Solar / Grid energy Utilization in a day and over the month on each site.		
	Hours of power outages in a day and over the month on each site.		

	Number of systems along with list of livelihood sites (State wise, District wise and main category) in which RMS are inactive (This will be based on date of report generation).		
	Number of solar systems along with list of livelihood site (State wise, District wise and main category) that did not function for more than 48 hours in the last month.		
	Number of sites along with list of livelihood sites (State wise, District wise and main category) in which system is not working (This will be based on data of report generation).		
	Estimation of Carbon offset (State wise and District wise).		
	Customized reporting formats: Impact / Sustainability Report (NGO), Technical Report (Tech Partner & O&M)		
3.3.7. Dashboard Software Specifications (SaaS Platform)	Real-Time Monitoring: Provide real-time data streams from monitored devices and display a dashboard for users to monitor multiple devices simultaneously.		
	Security & Capabilities:		
	Implement robust encryption for data in transit and at rest.		
	Ensure secure access with role-based permissions.		
	Expose REST APIs for seamless integration with other systems. Any changes in the REST APIs need to be documented and communicated.		
	Support for a growing number of devices and users.		
	Ensure consistent performance as the user and device count increases.		
	Offer an intuitive and user-friendly interface for easy navigation.		
	Functional Requirements:		
	User Management: SELCO Foundation users will have a registration process in the system where they will be mapped to a particular location (e.g., Karnataka, Assam). User authentication and authorization should ensure that once a user logs in, they can only see RMS data related to region/site category under their mapped location.		
	(Refer Category table)		
	Web Portal Key Features: Basic analytics (trends and graphs with existing data), real-time alarms & alerts upon any anomaly detection, multiple users can log in simultaneously, role-based features for feature control & multiple user creation, and historical data retrieval up to 5 years.		
	Upper System Connect (Secured): Support Open API		
	The system shall support RESTful APIs or MQTT/WebSocket protocols or other secured protocols for real-time data exchange. API documentation must be provided in standard formats		

Post Installation O & M

Post-Installation Support & Maintenance (For 5 years)		Response	Details
1	Provide post-installation maintenance support.		
2	Replacement mechanism on faulty meters and replacement mechanism.		
3	Coordinate issue resolution and provide design/O&M feedback.		
4	Submit detailed warranty clauses for all RMS devices.		
5	Periodic calibration to be done for the external sensors to maintain the accuracy level.		
6	For issues pertaining to RMS hardware, the RMS supplier is expected to support the ground team for repair, replacement/spares etc.		
7	Internet pack and necessary subscription pack to be monitored periodically.		
8	Update Mechanism for Software Updates (OTA)		
9	Mechanism to resolve production bugs if any.		

ANNEXURE 3: DETAILS OF THE ORGANIZATION

(Enclose separate sheets as necessary and in this checklist indicate yes or no)

1	Name and address of the Bidder (With pin code)	
2	Year of starting the organization	
3	Registration number (photocopy of registration certificate or any other relevant document to be enclosed)	
4	Name and Contact number of the Point of Contact	
5	Status of Supplier- Partnership/ Proprietorship /Pvt Ltd / Limited	
6	GSTIN (Copies of certificates to be enclosed)	
7	PAN No. from Income Tax Dept. (Copies of certificates to be enclosed)	
8	Documents to prove last financial year business of Rs 5 crore.	
9	Experience of Supplier/supplier relating to supply of solar energy-based solutions (supporting certificates to be enclosed)	
10	Particulars of Physical Infrastructure and total strength of staff available in the organization.	
11	Bidders Bank details	

Signature of the bidder and address with seal

Date:

ANNEXURE 4: CONFIRMATION ON ENCLOSURES

Sl.No.	Description	Whether the Document is enclosed or not	Page No. From and to
1	Details of Organization as per Annexure 5	YES/NO	
2	Copies showing the legal status, places of registration and principal place of business of the Organisation	YES/NO	
3	Copies of audited financial statements for the last 3 years	YES/NO	
4	Copy of GST registration		
5	Copies of GST returns filed in the previous 2 financial years	YES/NO	
6	Copies of income tax returns filed in the previous 2 financial years	YES/NO	
7	Copy of PAN Card should be submitted	YES/NO	
8	Acceptance to provide service & Maintenance for 5 years	YES/NO	
9	Evidence of existence (GST Registration) of local offices	YES/NO	
10	Letter of declaration to confirm that the bidder has not been blacklisted by any entity or institution	YES/NO	
11	Documents to prove business of Rs.5 Crore in the previous financial year	YES/NO	
12	Project Report on 3 successful Solar Off-grid Projects with contact details of customer	YES/NO	
13	Supply plan to complete delivery as per schedule in annexure: 5, this should include Team Structure & Team Size (no's) and installation schedule.	YES/NO	
14	Bidders bank details	YES/NO	
15	Signed, sealed copies of Annexure 1, 2, 3, 4, 5 and 6	YES/NO	

I abide by all the above terms & conditions.

SIGNATURE OF THE BIDDER and with office seal

PLACE:

DATE:

ANNEXURE 5: PRICE SCHEDULE

All documents to be stamped, signed, and submitted on the organization's letterhead.

Particulars to be submitted in the financial bid.

Price schedule to partner with SELCO Foundation across the four phases of this project.

The rate quoted to SELCO FOUNDATION should include all taxes levied by the State & Central Govt., travel costs for physical meetings if any.

Costing to be provided considered the below count:

State Name	Expected quantity
Karnataka	1200
Odisha	800
Assam	300
Meghalaya	400
Mizoram	300

AC Meters - Single Phase

PART A: Hardware Cost

Sr No	Description	Costing in INR				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	RMS Hardware Cost (exclusive of Accessories and consumables)					
2	Enclosure Box, Power Cables, Communication Cables, Conduit pipe protection, Accessories and consumables					
3	Wi-Fi Router with necessary cables to connect the device (Separate plug point to be provided to connect power adaptor for input power supply to the Wi-Fi router)					
4	IoT Sim Card + Internet Pack					
	Total Cost					
	GST %					
	Gross Total Cost					

PART B: Services

Sr No	Description	Costing in INR				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Dashboard Development cost					
2	Dashboard Subscription and Data Handling Cost (Inclusive of all the dashboard customization, updates & Maintenance)					
3	Training and Documentation					
4	Comprehensive Maintenance Contract (CMC) Cost*					
	Total Cost					
	GST %					
	Gross Total Cost					

Description	State wise- per batch cost breakup														
	Karnataka			Odisha			Assam			Meghalaya			Mizoram		
	<i>1 to 10</i>	<i>11 to 50</i>	<i>51 to 100</i>	<i>1 to 10</i>	<i>11 to 50</i>	<i>51 to 100</i>	<i>1 to 10</i>	<i>11 to 50</i>	<i>51 to 100</i>	<i>1 to 10</i>	<i>11 to 50</i>	<i>51 to 100</i>	<i>1 to 10</i>	<i>11 to 50</i>	<i>51 to 100</i>
Part A: Hardware Cost															
Installation & Commissioning															
Transport															

CONDITIONS

If our tender is accepted, we hereby undertake to abide as per the stipulated Terms and Conditions to supplier and supply of remote monitoring system.

We agree to abide by this tender and if the work is awarded to us, in executing the above contract we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of corruption act 1988".

We understand that you are not bound to determine the price based on the lowest offer that Foundation may receive.

We accept that all disputes between parties will be adjudicated by a competent court in Bangalore, India.

I, _____ (Name of signatory) on behalf of the bidder _____ (Name of the bidder), hereby certify that I have noted the technical specifications of solutions mentioned in Annexure 1 and the prices quoted above are as per the details specified and in compliance with Annexure 1.

Dated this..... day of.....2025

Signature (Name and Address of the Tender with seal) (In the capacity of.....)

Duly authorized to sign the Tender for and on behalf of _____