REQUEST FOR QUOTATION FOR PRODUCT AND SERVICES

COOLING CHAMBER FOR GUINEA-BISSAU

A. SUMMARY

BASE Foundation, in partnership with Empa, is seeking to adapt one existing room in a building located on Bolama island, Guinea-Bissau, to be used as a cooling chamber/room. This cooling facility will support the activities of the Association of Processors, which, with the help of the NGO OGD, is responsible for marketing products under the brand "Sabura di Bolama". This initiative is part of the implementation of the "*Tailoring Your Virtual Cold Chain Assistant (Your VCCA) to West Africa"* project.

B. PROJECT BACKGROUND AND OBJECTIVES

BASE Foundation (the Basel Agency for Sustainable Energy) is a not-for-profit organisation that uses its unique combination of expertise to unlock investment in sustainable energy and meet the challenges of climate change.

For this project BASE is partnering with Empa (Swiss Federal Laboratories for Materials Science and Technology), an interdisciplinary Swiss research institute for applied materials sciences and technology.

In 2021, BASE and Empa were awarded funding by data.org for the creation, implementation and deployment of an open access, data-science-based mobile application, using machine learning, digitalisation & physics-based food modelling, which was to be tailored and piloted in India. This project, "Your Virtual Cold Chain Assistant" (Your VCCA) was selected following a competitive process of 1260 other applications in January 2021. Building on this effort, BASE and Empa started the expansion of this project to Nigeria under the project "Scaling up Your Virtual Cold Chain Assistant". This project was commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). It has been carried out by BASE in partnership with Empa on behalf of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

The main objective of the Your VCCA solution is to help reduce food loss and increase farmer's revenues. This is achieved by easing smallholder farmers' access to decentralised cold storage facilities where their produce can be stored under a Cooling-as-a-Service business model: the farmers do not need any upfront investment to use the cold rooms and pay a nominal fee per day and crate. Digitalisation via the Coldtivate app makes the operations at the cold rooms more efficient and upcycles collected data into actionable information that support decision-making on produce and farm management.

The project *Tailoring Your Virtual Cold Chain Assistant (Your VCCA) to West Africa* is supported by the ECOWAS "Fund for Regional Stabilization and Development in fragile Regions within ECOWAS Member States". It aims to replicate this initiative to Guinea-Bissau, with a strong focus on understanding the cooling needs of the rural communities to drive

the project implementation, and the procurement and operationalisation of cooling rooms in suitable locations across the regions of Quinara, Gabu, Bafata and Bolama island.

In this context, BASE is looking for a provider to convert a room in the building where the Association of Processors produces the Sabura di Bolama products into a cooling chamber for fruits and vegetables. The cooling system must be compatible with the existing electrical grid, powered by a nearby solar (PV) plant, and should use natural refrigerants or those with a low Global Warming Potential (GWP).

C. PROJECT LOCATION

The project site is located at coordinates 11°34'42.0"N 15°28'25.6"W, making it highly accessible. It is situated along the main street of Bolama, approximately 500 meters from the port, which facilitates easy transportation of materials and equipment to and from the site. This strategic location ensures convenience for both logistics and operational activities.

D. EXISTING ELECTRICAL GRID CHARACTERISTICS

The existing grid is powered by a nearby PV plant, with the connection established recently in October 2024. The connection points and the junction board are located in the eastern part of the centre (see image below).

The system operates on a two-phase configuration and is considered provisional, as noted by the electrician. This is because the prepaid metres, which will be provided by the operator, are designed to work with either single-phase or three-phase systems.

Key technical details of the system:

- Voltage: 220 Volts
- The cable cross-sections are sufficient to support an additional cooling unit with a load between 2 and 5 kW, according to the local electrician. However, this point needs to be verified by the provider.
- The power grid is stable, providing 24/7 service.

E. FUTURE PLANES FOR ELECTRICAL BACKUP SYSTEM

The Association of Producers `Kabomgha´ that use the building is in the process of acquiring a 10 kW generator, which will act as a backup power source in case of a main grid failure. The generator will be installed outside the building in a designated "generator house" area, as shown in the drawing of Annex 3.

F. SCOPE OF WORK

E.0. EVALUATION OF ELECTRICAL NEEDS OF THE BUILDING

In light of the current status of the building electrical system and the proposed installation of the cold room and other equipment, the following steps are requested to ensure the building’s electrical system can handle the additional load effectively:

- Assessment of Existing Electrical Capacity: Conduct a thorough evaluation of the current electrical infrastructure to confirm it can support the new load requirements without affecting the existing system.
- Development of an Electrical Plan: Create an electrical project that addresses all the building’s power needs, including the cold room and other equipment to be installed.

The information regarding other loads will be provided by the local counterpart managing the building. This will help prevent potential issues down the line.

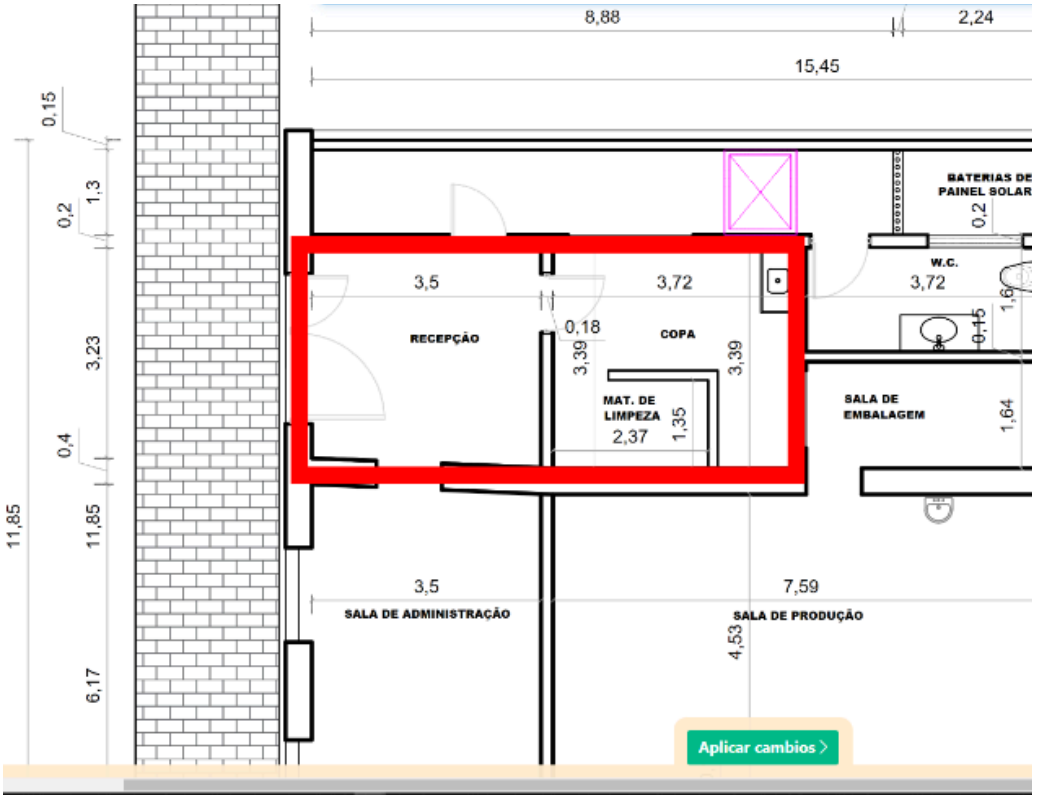
- Confirm with the operator whether the electrical system is expected to operate single-phase or three-phase (as current bi-phase system is only provisional) to ensure compatibility with both the cold room and other systems to be installed.

This initial evaluation will provide a clear understanding of the building's electrical requirements and enable proper planning for future installations.

E.1. ROOM AND EQUIPMENT

The provider is requested to submit a quote for converting an existing room into a cooling chamber. To simplify the project, the preferred approach is to construct a cooling room within the existing space. The quote should include the supply, assembly, and commissioning of the cooling room, and associated training activity to operate the cooling system.

The cooling room will be located in a building designed for agro-industrial purposes, which includes several functional areas. The designated space, outlined in red, has been selected for the cooling room and is intended to store up to 5 tons of fruits and vegetables. This space currently consists of two existing rooms that can be repurposed for this use.



The available space for the cooling room or chamber comprises the space of two existing rooms

 “Recepcao” room. One of the two rooms available for being transformed into a cooling chamber	 “Copa” room. The second room available for being transformed into a cooling chamber

In Annex 3 of the document you will find a drawing of the entire building and some more referential pictures.

Listed below are the requirements of the requested cooling room:

Room Dimensions and Available Space within the Building	The cooling room must be capable of refrigerating 5 tons of vegetables according to the specified parameters outlined in the table. The room should be located within the areas marked in red on the above picture. This area should be evaluated for its capacity to house the cooling room, considering thermal insulation and ease of access. The cooling room should be designed with efficient cooling systems that meet the refrigeration requirements for vegetable storage, ensuring that the internal environment maintains optimal conditions to preserve the quality of the produce.

Assessment of the existing room	Providers are requested to evaluate the current structural conditions of the room and identify any necessary modifications to support the cooling infrastructure proposed.
Use of the cold storage room	Storage of Fruits and Vegetables. Special focus on crops like: tomatoes, mangoes, Banana, Cabbage, Carrots, Citrus (Lemon, Orange), Cucumber,Eggplant,Kale, Lettuce, Okra, Onion, Papaya, Bell pepper, Plantain, Turnip Bottled juices processed at the facility could also be stored in the room.
Cooling chamber temperature level (*)	4-15 °C with an outside ambient temperature up to 35°C and a relative humidity of 75-90%
Usable storage for fruits & vegetables	The provider should specify the usable storage capacity for fruits and vegetables, particularly if the cooling room's capacity might be insufficient to maintain the optimal temperature for preserving fresh crops when the storage space is fully loaded with crops that are brought in at ambient temperatures.
Fruits & Vegetables storage system	The storage system will utilise ventilated plastic crates that should be provided together with the cooling room. The provider must specify the size and number of crates. Additionally, a referential layout of the cold room, including the crate arrangement, should be included as part of the technical offer.
Humidity	The storage systems should achieve relative humidity (RH) within the range of 75% to 90% for most product types to minimise water loss (no active humidity control required). Walls and all cold surfaces should be designed with high humidity and condensation in mind: cleanable surfaces; an allowance for condensation to drain; no crevices or features that will trap water, clog with dirt and grow slimy mould.
Cooling technology	To be decided by the provider, but expected would be mechanical refrigeration.
Cooling power(**)	To be decided by the provider but will be in the range of 2-5 kW.

Global Warming Potential (GWP) of refrigerant used(***)	The choice of refrigerant will be evaluated based on the following order of preference, with 1 being the most preferred option: 1) R-744 (Carbon Dioxide) 2) R-290 (Propane) 3) R-1234yf 4) R-32 5) R-717 (Ammonia), R-600a (Isobutane), R-1270 (Propylene) 6) R-407F 7) R-134a, R-410A 8) R-449A 9) R-452A 10) R-404A 11) R-22: Not admitted This ranking criteria tries to ensure that the selected refrigerant is environmentally friendly, energy-efficient, safe, compliant with regulations, and readily available in the local market.
Off-Grid capability	Not needed, as the building is connected to the national grid, there is available an electrical grid powered by a near PV plant (and plans for a backup 10 kW generator)
Electrical system of the room	AC type
Remote Monitoring	Needed. At least an internal air temperature and air RH sensor.
Control system	The cold room should come with a control system which manages the proper functioning of the cold room.
Walls and ceiling insulation	For walls, ceilings and doors use insulation with an aged thermal conductivity of ≤ 0.02 W.m-1.K-1. Polyisocyanurate (PIR) or polystyrene (EPS) can be used. Thickness can be adjusted to achieve insulation levels required
Floor insulation	Thermal insulation ratings on floors of at least 4.9 m^2K/W
Door (insulation and safety)	● The door of the room should properly thermally insulate the room (thermal conductivity of ≤ 0.02 W.m-1.K-1.), and minimum 6 cm of insulation ● A PVC strip curtain should be installed behind the door to reduce losses. ● It is essential that the door can be opened from the inside even when locked from the outside

	• A trapped-person alarm, with battery back-up, shall be provided.
Lighting	Light should be provided inside the room and outside.
(*)Note 1: We allow some flexibility in the lower end of the temperature range for the cooling room. This is to accommodate cases where meeting the full requested range would require the provider to use equipment that is outside their usual practice or would result in a significant cost increase.	

In addition to the mandatory requirements, we will also consider the inclusion of additional design criteria, classified as best practices. These criteria are listed in a separate annex (Annex 1)[1].

Providers are encouraged to review and include these criteria in their proposals, specifying which ones are feasible. If an optional design criterion does not increase costs, please indicate this. If it does involve a cost increase, quote it as optional. Proposals that incorporate more of these best practices will be evaluated positively.

E.2. CIVIL WORKS

The provider is responsible for preparing the room surface and demolishing the existing walls where needed for the cooling room installation.

E.3. ON SITE ASSEMBLY WORKS AND COMMISSIONING

The provider is requested to quote and price separately the cost of on-site assembly and commissioning of the cooling room. This includes all labour, materials, and equipment necessary to safely and correctly assemble the container and ensure its proper operation upon arrival at our designated location.

In Annex 2 of these Terms of Reference, there is a checklist of the various inspections required during the commissioning phase of the container. This checklist is presented in table format. The provider will be asked to complete this checklist and submit it as part of the project documentation once the commissioning phase is completed.

E.4. PERFORMANCE TEST

A three-day performance test of the cooling unit will be conducted at the end of the commissioning stage. The purpose of this test is to demonstrate the room's ability to maintain cooling for at least 95% of the time over the three-day period in the empty room. During the test, the cooling unit will be operated by the provider, and the temperature inside the cooling chamber will be continuously monitored and recorded through the control system. The provider will be permitted to repeat the test if necessary.

The provider is required to document the test results in a brief test report.

[1] All design criteria listed in the appendix originate from the best practice guide “WALK-IN COLD ROOMS,A PRACTITIONER’S TECHNICAL GUIDE Design and Operation of Walk-In Cold Rooms for Precooling and Storage of Fresh Produce in Hot Climates, in Off-Grid and Unreliable Grid Situations”, elaborated by the Energy Sector Management Assistance Program (ESMAP), Efficiency for Access and the International Institute of Refrigeration (IIR).

E.5 TRAINING

The provider is requested to offer 1-2-day training for local operators on the operation and basic maintenance of the cooling container. The training should be conducted in Portuguese and / or Creole to ensure clear understanding and effective skill transfer to the local operators. The training documentation should also be given in English to BASE.
An operation and maintenance manual should be provided in both English and Portuguese.

E.6.MAINTENANCE SERVICES

If the provider has the capacity to offer maintenance services, the proposal should include a separate cost breakdown for preventative maintenance services for the cooling container. Additionally, please outline the process for corrective maintenance, including response times, labour rates, point of contact, and any warranty coverage.

E.8. INSURANCES

Providers are required to provide the following insurances:

- Transit insurance to cover the risk of goods being transported to Bolama Island.
- Liability Insurance

E.9. WARRANTIES

Please specify a general warranty period for the entire room, which should be at least 12 months after commissioning is completed (a longer warranty period will be viewed favourably). Additionally, the main equipment is expected to have a warranty period that extends beyond this timeframe. Please provide the warranty periods for the following main components:

- Cooling equipment (Condenser / Evaporator)

E.10. SPARE PARTS

Include a detailed list of 2 years spare parts and indicate their cost.

G. LOCAL SITE COORDINATION

A local focal point from BASE will be available to coordinate a technical visit to the building. This representative will show the site where the works are to be carried out and assist in clarifying any technical points. Providers are encouraged to schedule a visit to better understand the project scope and ask questions regarding the existing infrastructure and requirements.

The contact details of BASE's local focal point for organising the visit are the following:

- Mohamadu Saido Balde
    - mohamadu.balde@energy-base.org
    - +245 957127381-mobile/ +245 966922769-whatsapp

H. PROJECT ORGANISATION AND COMPANY'S CAPACITIES

- Company's description and project organisation: Please provide a *description of your company* and the *CVs* of the expected team responsible for this project, their responsibilities, and the single point of contact during the duration of the project.
- Description of the execution of the Local works
- Quality and number of past references: Please also provide a *description* of any *references related to similar equipment* you've provided for handling food and vegetables in Guinea-Bissau or its neighbouring countries.

I. PROJECT TIMELINE

The cooling room is expected to be commissioned by January 2025.

Please provide a project timeline with the foreseen tasks. Please note the following key indicative milestones to be included in the project timeline:

- The room should start to be built not later than the second week of January 2025.
- Training services should be scheduled after commissioning, and should take place by the end of January 2025.
- The start of operation (turn key) for the cooling room is expected in February 2025.

J. PAYMENT MILESTONES, SECURITIES AND COMPENSATIONS

H.1. PAYMENT SCHEDULE

The following payment milestones are expected:

- 25% upon contract signing
- 25% at the purchase of the cooling unit
- 25% at the installation of the insulation material in the room on site
- 25% upon completion of commissioning, including the submission of commissioning checklists, and training, including the submission of all project documentation

H.2. SECURITIES

H.2.1 ADVANCE PAYMENT BOND

As a condition precedent for receiving the advance payment, the Provider shall submit an advance payment bond payable upon first demand in a form to be mutually agreed upon, issued by a bank or financial institution for an amount equal to the advance payment. The Advance Payment Bond shall be released to the Provider upon the successful installation of the insulation material in the room on site, confirmed by the Purchaser. The Purchaser may invoke the Advance Payment Bond to recover any funds in the event of failure by the Provider to deliver and install of the insulation material in the room on site.

H.2.2 PERFORMANCE BOND

The Provider shall submit a Performance Bond payable upon first demand, issued by a bank or financial institution, for an amount equal to 10% of the total contract price. The

Performance Bond shall be released to the Provider only upon formal Acceptance by the Purchaser, which includes the successful completion of the Performance Test, submission of all relevant project documentation, and satisfactory training of the final beneficiary. The Purchaser may use the Performance Bond to cover compensations or losses due to the Provider's failure to meet performance standards, contractual obligations, or project timelines.

H.3. COMPENSATION FOR DELAY

If the Provider fails to complete the commissioning within the agreed timeline, they shall compensate the Purchaser at a rate of 1% of the contract price for each week of delay, up to a maximum of 5% of the contract value.

K. SUBMISSION OF QUOTATION AND EVALUATION CRITERIA

Quote submission process:

- Please kindly submit a quotation for tasks / deliverables according to these terms of reference by the **4th of November 2024**.
- Price breakdown: we request providers to include the following price breakdown
  - **ROOM INSULATION MATERIALS**
  - **COOLING UNIT**
  - **OTHER ROOM EQUIPMENT**
  - **CIVIL WORKS ADAPTATIONS**
  - **INSTALLATION AND COMMISSIONING**
  - **TRAINING**
  - **2 YEARS SPARE PARTS**
  - **MAINTENANCE SERVICES**
- Kindly Include the following information:
  - Please provide a *Technical Description* for the proposal according to section E SCOPE OF WORKS of the present document and its annexes
  - Please provide a *Commercial Proposal* including the following sections:
    - PRICE BREAKDOWN AS REQUESTED
    - DELIVERY TIME AND CONDITIONS
    - PROJECT ORGANISATION AND COMPANY'S CAPACITIES
    - QUALITY AND NUMBER OF PAST REFERENCES IN SIMILAR PROJECTS. INDICATE REFERENCES (IF ANY) IN GUINEA BISSAU
    - PROJECT TIMELINE

Please send quotes via email by 4th of November 2024 to:

- pablo.oses@energy-base.org
- roberta.evangelista@energy-base.org,
- livia.miethke@energy-base.org

Evaluation criteria:

The evaluation of proposals will be based on a scoring system that assigns weights to various technical and commercial aspects. Here's a breakdown of the scoring:

- Technical Evaluation:
    - Mandatory requirements
        - As per section E.1
        - Civil works (as per section E.2)
        - On Site Assembly Works And Commissioning (as per section E.4.)
        - Training (as per section E.5)
    - Optional requirements, as per Annex 1

- Commercial Evaluation:
    - Cost of Supply, Civil Works, Installation and Commissioning and Spare parts
    - Transportation conditions (as per section E.7.)
    - Delivery Timeline
    - Warranties (as per E.8. section)
    - Availability Guarantee (as per section E.3.)
    - Insurances (as per E.9. section)
    - Facilitation of a breakdown of prices for a better understanding of the proposal (as per H section)
    - Project organisation, quality and number of past references
    - Spare parts
    - Maintenance services (as per section E.6.)

This structure ensures a comprehensive assessment of both the technical merits and cost-effectiveness of the proposals.

L. CONTACT DETAILS

For questions please contact: Roberta Evangelista, Livia Miethke and Pablo Oses

- roberta.evangelista@energy-base.org,
- livia.miethke@energy-base.org
- pablo.oses@energy-base.org

Elisabethenstrasse 22
4051 Basel, Switzerland
P. +41 61 274 04 80
www.energy-base.org

ANNEX 1

The following table contains recommended design criteria for the cooling chamber:

Nº	Optional design Criteria	Included (1)	Not included (2)	Comments (3)
1	Consider using crates with a lip at rear to prevent boxes being pressed against the wall			
2	Additional parameters for enhancing operational monitoring : • Ambient dry bulb temperature (°C) (outside room temperature) • Ambient relative humidity (%) • Number of door openings per day • Daily energy use (kWh) • Voltage applied to refrigeration system (Volts) • Current drawn by walk-in unit (A) • 10 minutes monitoring			
3	Compressor: Variable speed compressors match load to power demand and are generally more efficient.			
4	Condenser: Although manufacturers' standard data often includes a condensing temperature 17°C above the ambient air entry temperature, a lower difference is highly recommended, preferably between 10°C and 15°C above the ambient air entry temperature. Energy efficiency is better and running costs lower if a 10°C or less temperature differential is used			
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6	Consider specifying variable speed, high efficiency fan motors			
7	use a variable speed (variable capacity) system would be appropriate and affordable, which can match capacity to the heat load. The second option to consider is a modular system design that can be switched in and out as needed or a more traditional dual compressor system			
8	kick-plates on lower parts of wall panels and/or kerbing			
9	All cold rooms should allow pressures to be safely equalised using purpose-designed pressure relief valves and/or door gaskets			

(1) Included Without Additional Cost: Mark with (X) if the item/concept is included without any cost increase.

(2) Not Included/Different Design Criteria: Mark with (X) if the item/concept is not included or if the supplier uses a different design criterion.
(3) Indicate the reason for any deviation or use of a different criterion. Use this column to specify if a particular item/design criterion is optional because it involves increased costs, and include the optional price in the economic proposal.

ANNEX 2

The following table contains a Commissioning Checklist that needs to be completed during the commissioning stage.

Electrical Commissioning			
Task	**Description**	**Checked (Yes/No)**	**Remarks**
General			
Qualified Electrician	Ensure a qualified electrician conducts the commissioning check.		
Multi-meter Check	Use a multi-meter to assess current, voltages, and ground continuity.		
Cooling Unit Fans and Lights			
Fan Direction	Verify fans run in the correct direction.		
Wire Connection	Visually check for correct and firm connection of wires.		
Lights Functionality	Check that lights within the cold storage work properly from all switches.		
Cabling and Fuses			
Cable Installation	Ensure cables are installed and anchored correctly, with no loose or damaged sections.		
Fuse Check	Verify all fuses are in place and correctly labelled.		
Ground Connection			
Earth Ground Connection	Confirm an earth ground connection is installed and connected correctly.		
Continuity Check	Confirm continuity throughout the system at the time of commissioning.		
User Information and Training			
Documentation	Ensure all component specification sheets, wiring diagram, and instructions are consolidated into a file.		
Labelling	Ensure disconnect switches, overcurrent devices, and cables are clearly labelled.		
User Training	Provide user training at the time of commissioning and handover.		
- Check evaporator plates for damage	- Look for scrapes, scuffs, and bubbles indicating leaks		
Insulation Panels			
- Inspect for punctures or tears	- Fix with suitable adhesive/filler or silicone		
- Check for uniform cool temperature	- Use thermal imaging or directional thermometer		
Sealing/Door			
- Inspect sealing between panels and door	- Check for air and moisture leaks using visual inspection and card/paper test		

- Inspect sealing of services through panels	- Ensure flexibility of sealing compound		

Refrigeration System Commissioning			
Item	**Description**	**Checked (Yes/No)**	**Remarks**
- Dry concrete floor if freshly laid	- Avoid ice formation		
- Gradual cooling	- Cool room slowly to design operating temperature		
- Check pressure relief ports	- Ensure they are clean and operational		
- Monitor key parameters	- Track temperature, log system performance		
- Inspect for condensation or air leakage	- Feel/listen for air movement along joints and seals		
- Check alarms	- Test each alarm function (temperature, storage levels, door open, sensor connections)		

Other Systems			
Item	**Description**	**Checked (Yes/No)**	**Remarks**
Spare Parts Availability	- Confirm availability and proper storage of spare parts (PCB, power supply, etc.)		
System Safety	- Verify all system alarms are functioning and documentation is complete		
Remote Monitoring System	- Ensure SIM card and mobile connection, cross-check uploaded values with measured values		

Before Signing Off Commissioning			
Item	**Description**	**Checked (Yes/No)**	**Remarks**
Training of Operating Staff	Ensure staff can confidently run the plant and recognize when corrective action is necessary		
	Training should cover: - The technical features and components of the cold room (which components are where and what they do) - How to use the instruction manuals and plant diagrams and where they are stored, with a focus on the troubleshooting guidelines - How to set the temperature, humidity, and other parameters that the controls are designed to enable - Proper training to use the smartphone app if used to control the cold room - How the alarm systems work, what alarms mean, and what to do to resolve alarm conditions - Regular maintenance, cleaning, and servicing of the system - How to use the facility safely and what the key risks to staff and users are		
	Ensure complete documentation is handed over for saf and efficient operation		

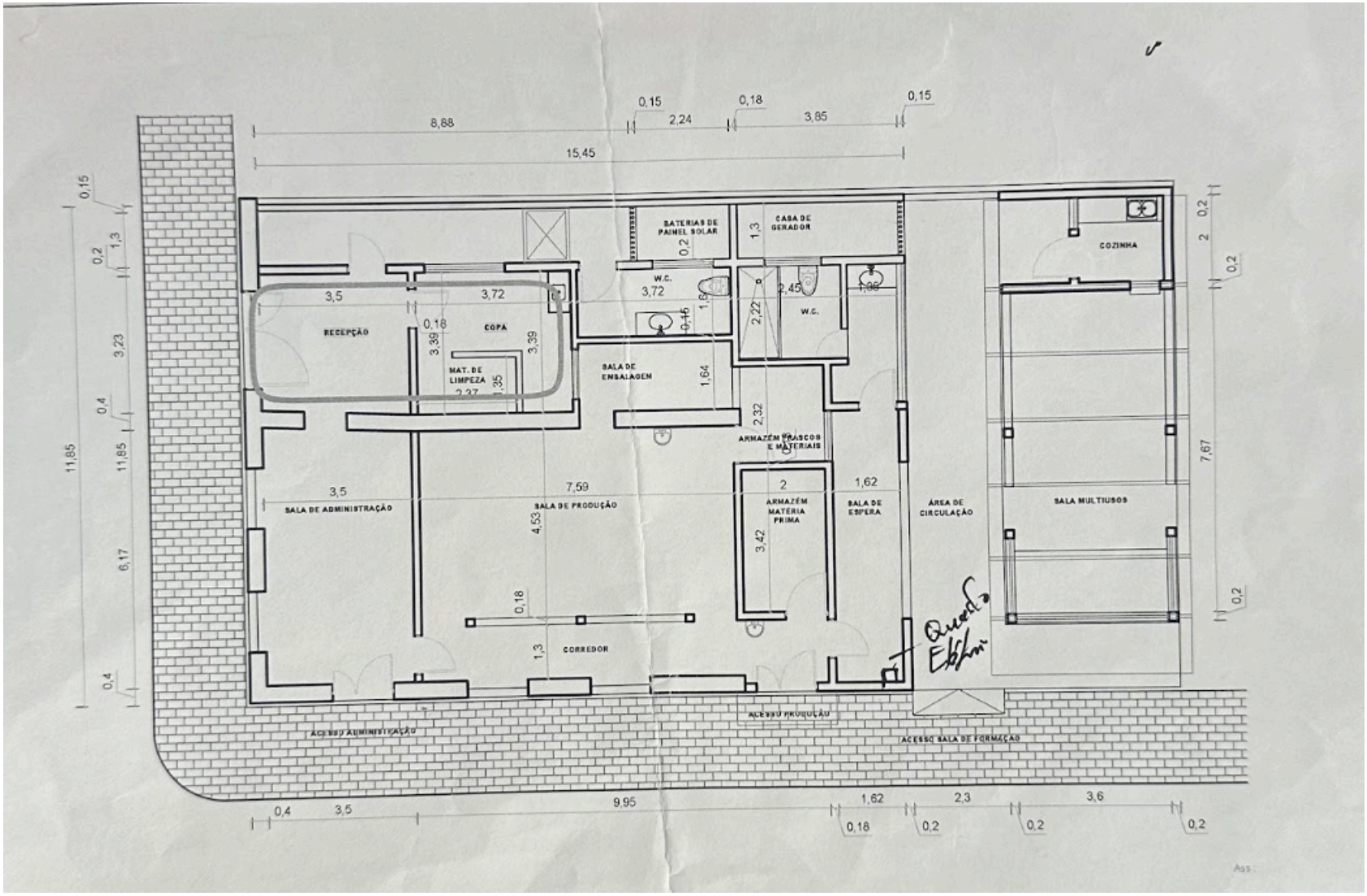
Documentation

	Documentation should include: - Contact details of the installer (name, phone number, email) - User manuals (including the operation of alarm systems, troubleshooting simple faults, and details of all control settings) - A complete set of installation drawings, together with refrigeration system piping diagrams, electrical wiring schematics, and refrigeration and electrical component lists including data sheets - The design operating parameters and a record of parameters at commissioning - Operation, service, and maintenance instructions for all major components used in the installation - A list of recommended spare parts for critical equipment - Copies of records of the commissioning procedure and checklists - Warranty certificates - A system logbook to record maintenance and servicing history, checks, tests, refrigerant usage, component changes, and observations of issues		
	A copy of these documents should be kept on-site in an agreed, safe place that is easily accessible and known by the operators and maintenance staff		
Logbook	Maintain a logbook covering the history of maintenance and servicing		
	The logbook should include: - Results of checks and tests - Details of all maintenance, servicing, and repairs - The amount and type of refrigerant used to initially charge the system, and date and amounts added to replenish the system - Components that have been repaired or replaced - Changes made to settings of controls and alarms - Observations of any potential or ongoing issues or faults		
Identification Plate	Ensure a permanently fixed identification plate with the following information: - Brand and/or name of the manufacturer - Model, reference number, and serial number - Refrigerant designation (R-xxx number) - Refrigerant charge (kg) - Maximum allowable high-side and low-side pressures (Bar or Pa) - Flame symbol if flammable refrigerant is used (minimum height of 10 mm) - Date of installation		
	Add contact details for problems with the equipment		
Maintenance	Ensure a maintenance plan with daily, weekly, and six-monthly procedures		
	Implement security measures to protect against theft and damage		

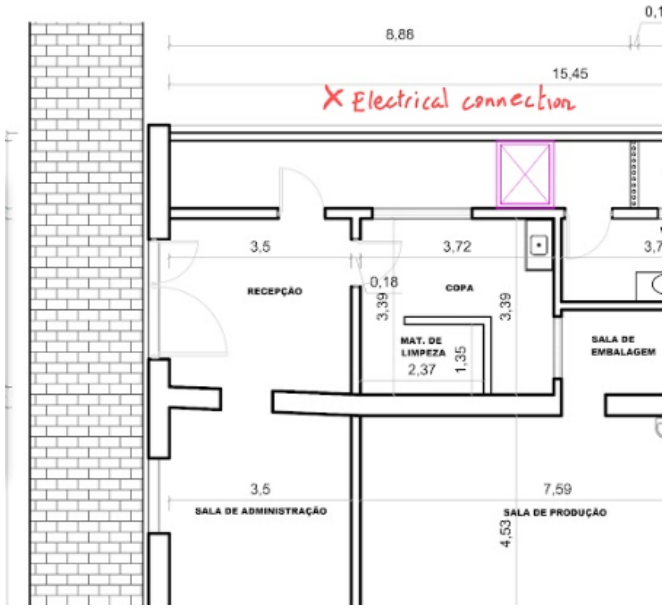
Site Security

	Measures could include: - Keeping the site clean and tidy, with loose equipment always put away securely after use - Means to lock the door of the cold storage in a way that it can always be opened from inside to avoid anyone being trapped inside (risk of hypothermia and suffocation) - Security fencing and motion detecting lights (if required) - Security guard (if required)		

ANNEX 3: Building referential drawing and pictures



Electrical panel



Electrical connection

BASE

Ceiling details of “Recepcao” room

Electrical connection, next to the building