RFP – Warehouse Management System Implementation

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Contents

I. Overview

The purpose of this document is to standardize the process of evaluating the Warehouse Management System implementation proposals. This document will be referred in the agreement and SOW of the project.

Requirements mentioned in this document hold valid for the final agreement between Hector Beverages and Warehouse System implementation Partner.

II. Current Environment and Implementation Status

- Presently we are on Microsoft Dynamics 365 Business Central ERP System.
- Following each production run, We initiate the release production order procedure within the ERP system to account for the quantity of materials consumed during the production process.
- During the Release Production Order process, Bill of Materials (BOMs) are automatically deducted from our inventory records, while the final Finished Goods (FG) inventory is simultaneously updated within the ERP system.
- The management of goods within our organization involves Three primary procedures: **Transfer Orders** for relocating items from one location to another, and **Sales Orders**, which encompass customer orders originating from various channels, including General Trade (GT), Modern Trade (MT), Key Accounts (KA), and E-commerce (Ecomm). **Sales orders** are generated and managed at their respective locations.
- Our Plant/CFA Team also engages in the procurement of Finished Goods (FG) from 3P copacker locations. These purchases are initiated through Purchase Orders, which are subsequently received with Goods Receipt Notes (GRNs).
- Our Factory and CFA teams are responsible for authorizing the release of Transfer and Sales Orders. This authorization is contingent upon the availability of FG inventory at the specific location.
- For efficient distribution and delivery, we generate Picklists associated with released Sales Orders, which guide the loading process for outbound vehicles.
- Invoice posting occurs upon once the Vehicle loading is done. During invoice posting, we meticulously select inventory items by their corresponding Lot Numbers for inclusion in each invoice, ensuring accuracy and traceability in our financial transactions.

III. Locations and Number of Users

Locations/User Count Summary :

Location Type	Number of Locations	Production Users	User License of WMS System	Scanners	Printers	Label Printers
CFA	7	0	7	13	0	7
Own Factory	2	7	11	35	4	0
3P – Job Work	8	9	7	16	6	5
3P (Copacker) – Trade	6	19	9	26	10	0
Foods Kitchen	1	1	3	3	0	1
Grand Total	**24**	**36**	**37**	**93**	**20**	**13**

User Access Department Summary Information:

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IV. Hector Beverages Sales Channels

System should support below sales channels

1. General Trade
2. Key Accounts, Airlines/Govt.
3. Modern Trade
4. E-Commerce (Amazon, Big Basket, Flipkart etc.)
5. Quick Commerce (Zomato, Instamart, Zepto, Dunzo)
6. Export
7. D2C – Direct to Consumer

V. Challenges the new system should address

All the challenges mentioned in this section should address as part of the SOW unless stated otherwise in out-of-scope section of this document.

1. Maintaining FIFO at Factories/CFAs:

- FIFO (First-In-First-Out) is a crucial inventory management method, especially for perishable or time-sensitive goods.

- Challenges arise in ensuring that the oldest inventory is used or dispatched first, as newer inventory might be more accessible or logistically convenient.

- Without strict adherence to FIFO, there is a risk of older inventory getting pushed to the back, leading to stock expiration.

2. FIFO Violations and Stock Expiry:

- FIFO violations can result in stock items expiring before they are utilized or sold.

- Expired stock represents a direct financial loss as it can no longer be sold or used in production.

- This issue not only affects profitability but can also damage the reputation of the company if customers receive expired products.

3. Additional Costs for Expired Stock Destruction:

- When stock expires due to FIFO violations, additional costs are incurred for the safe and environmentally responsible disposal of these expired goods.

- These disposal costs can eat into profits and are entirely avoidable with proper FIFO management.

4. Mismatch Between Physical and System Batches:

- Mismatch between the physical batches of Finished Goods (FG) and system records indicates a lack of accuracy and synchronization in inventory tracking.

- Such discrepancies can lead to confusion and errors in managing inventory levels and order fulfillment.

5. Manual Batch Selection and Data Hygiene:

- The manual process of selecting batches for dispatch can introduce errors and inconsistencies in inventory management.

- Data hygiene refers to the accuracy and cleanliness of data within the system. Without it, tracking inventory accurately becomes challenging.

- Delayed or extended stock audits due to batch-wise quantity mismatches further disrupt operational efficiency.

6. Manual Stock Reporting and Data Hygiene:

- Despite the availability of inventory reporting capabilities in D365 (Dynamics 365), manual stock reports are being generated.

- This manual effort is driven by a lack of data hygiene, as inaccurate or incomplete data in the system can't be relied upon for accurate reporting.

- Generating reports manually increases labor costs, prolongs reporting timelines, and introduces potential errors.

Addressing these challenges is essential for efficient inventory control, cost reduction, and improved customer satisfaction. Implementing automated systems and rigorous inventory management practices can help mitigate these issues and enhance overall operational performance.

The points addressed in the challenges faced. The WMS being proposed would ensure the following-

1. To ensure zero FIFO violations. This would help in avoiding unnecessary expiry.
2. Ensure physical and system batches match 100%
3. Elimination of manual generation of stock report. This would save time and energy.
4. Improved data hygiene.

Note: Implementation partner should note on the WMS Overview Functions and process may vary between Plant, CFA and Copackers. Also We need to implement the solutions in all own plants, CFA and Copackers.

VI. WMS Functions Overview:

Step 1: RPO, Sales order, GRN and sales return will be done in D365 as per current process.

Step 2:

After the completion of the Release Production Order (RPO), the inventory will be incorporated into D365. Subsequently, this inventory will be manually exported into the WMS platform following each RPO. To track the inventory's presence in the WMS, a checkbox against each inventory lot number in D365 will be activated upon exportation.

Note: Bin allocation Logic needs to Logic-

1. Automated allocation of Bin number by WMS (Once RPO, GRN, Sales return is done)
2. Manual entry of Bin number post physically storing the cases. (Required during season as stack height will be increased to counter WH space issues.

Implementation partner to devise a solution for having both Automatic allocation of Bin and Manual allocation of bin in WMS which can be set based on the Location wise.

Pallet based mapping Bin no to be mapped only in our Own plants not in CFA & Copackers.

The process for RPO and storage can be outlined as follows:

1. Online stock posting is necessary within the WMS. Upon physically stacking cases onto pallets, a production operator will utilize an HHT device to scan the QR code on the case for product details and the HU ID on the pallet. The operator will then input the physical quantity. In the WMS, the stock will be packed under the same HU ID. The storage bin will be updated to reflect the GR Zone (Production location is available only for plant not the CFA). The WMS will propose a bin number for the respective HU ID.A task can be generated in the WMS(There fore, Separate user Id to be created via which quantity of production run will be entered based on automated allocation of Bin. WMS should allocate the bin before RPO/GRN.) The operator is responsible for storing the

pallet in the suggested bin and confirming the task. Following confirmation, the storage bin will transition to the FG location associated with the respective bin number(Final Bin number location where dispatch will happen).

2. HU ID and corresponding product details will be mapped within the WMS, along with bin numbers. During stock posting, a provision will be included to allow the blocking of specific QA hold pallets.

3. The WMS will prevent stock posting if the specified HU already has stock in the system.

4. In cases where the WMS-suggested bin is physically full, the transaction will be canceled via the HHT, with an accompanying reason provided. The system will then propose a new bin for storage, and the previously designated 'BIN FULL' case will be blocked. This blocked bin will require manual unblocking after verification by the warehouse team.

5. Following the completion of the production run, the warehouse team will conduct a physical verification of stored pallets in each bin and obtain confirmation from the production team. If any discrepancies in physical cases are identified, an adjustment entry will be made in the WMS. Subsequently, the RPO will be recorded in D365 to align with the physical quantity."

Step 3:

On exporting the inventory data (Batch, MFD and Expiry date) into WMS, the Sales Order (against which invoice to be generated) to be made in D365 as per current process.(This case will be applicable only if the WMS is separate platform).

Step 4 :

Inventory which is exported into WMS from D365 to be allocated into Bins (Manual entry by factory). The data to be captured.

1. SKU Description
2. Variant code
3. Item code
4. Quantity
5. Batch
6. Manufacturing date

7. Expiry date
8. Bin number

The FG should not be enabled to be picked for 3 days as per Quality SOP. Early release can be done with approval.

Step 5 :

Invoicing – Picklist to be generated in WMS and to contain the below data format.

SKU Description

Variant code

Item code

Quantity

Batch

Manufacturing date

Expiry date

Picklist data to be generated based on scanning the barcode printed on cartons.

Logic for generating picklist- (Enabling FIFO) Since the MFD and Expiry date is captured in WMS, while scanning the barcode, only FG as per FIFO to be allowed to be added in the picklist (First expiry to be picked first). Error/pop up to be enabled if FG which is not as per FIFO scanned.

The following process can be implemented for outward movement, encompassing the creation of Sales or Transfer orders in the ERP system:

1. Begin by generating a Sales or Transfer order within the ERP system.

2. When the designated vehicle arrives, the system operator should process the document number and allocate an available Dock Door number in the Warehouse Management System (WMS).

3. This same document number should be provided to the Floor Liaison Officer (FLO), containing critical information such as Sales/Transfer order numbers, dock door assignments, and product details within the WMS.

4. The FLO is responsible for entering the Outbound document number in the Outbound category within the Vehicle Mount Terminal (VMT is tab for Fork L:ift. Also it is available in (Mysore/Manesar) Own plants). Subsequently, the system will display which pallets need to be retrieved from specific bins and specify the dock door number for transfer.

5. A task will be generated for each outbound pallet, indicating the movement from the storage bin to the assigned dock door location.

6. The FLO is required to scan and relocate pallets from the bin to the designated dock door and confirm this action in the VMT. This process results in the transfer of stock to the dock door location, and the corresponding pallet is marked as empty in the WMS. Notably, the same pallet can be reused for future production. (This point applicable of factory not the CFA).

7. During the loading process, if any instances of leakage, damage, or defective cases are identified, the Dock Supervisor will employ an HHT device to move these items to the designated damage bin. A new pallet or stock request will be initiated in the WMS, which will then suggest replacement pallets for the affected products(Based on FIFO logic).

8. Pallet confirmation is contingent upon the system matching the pallet's identity in both the digital system and the physical pallet. If a discrepancy exists, such as a different physical pallet, the system will not assign a dock door and will provide a relevant pop-up notification, signifying a bin mismatch case.

9. In cases where the bin is physically empty, transactions should be canceled with the reason specified as "BIN EMPTY." The system will subsequently assign a new pallet for picking. During this BIN EMPTY scenario, the system will automatically block the bin, a status that will be manually unblocked after verification.(Remarks column to be available which shows why the bin is blocked).

10. Cancellation of transactions for the specific Handling Unit (HU) ID in the VMT is necessary to enable the system to assign new pallets for subsequent operations.

11. Billing procedures should only be initiated if all transactions have been duly confirmed.

12. Three distinct types of picklists should be generated for a comprehensive three-way check involving the transporter, supervisor, and security personnel (if applicable). These picklists should be generated only after confirmation of all tasks.

13. Outbound operations should exclude stocks from QA Hold, damaged items, and variances.

14. For material picking, the following conditions should apply:

FIFO (First-In-First-Out),

partial pallets dispatched first,

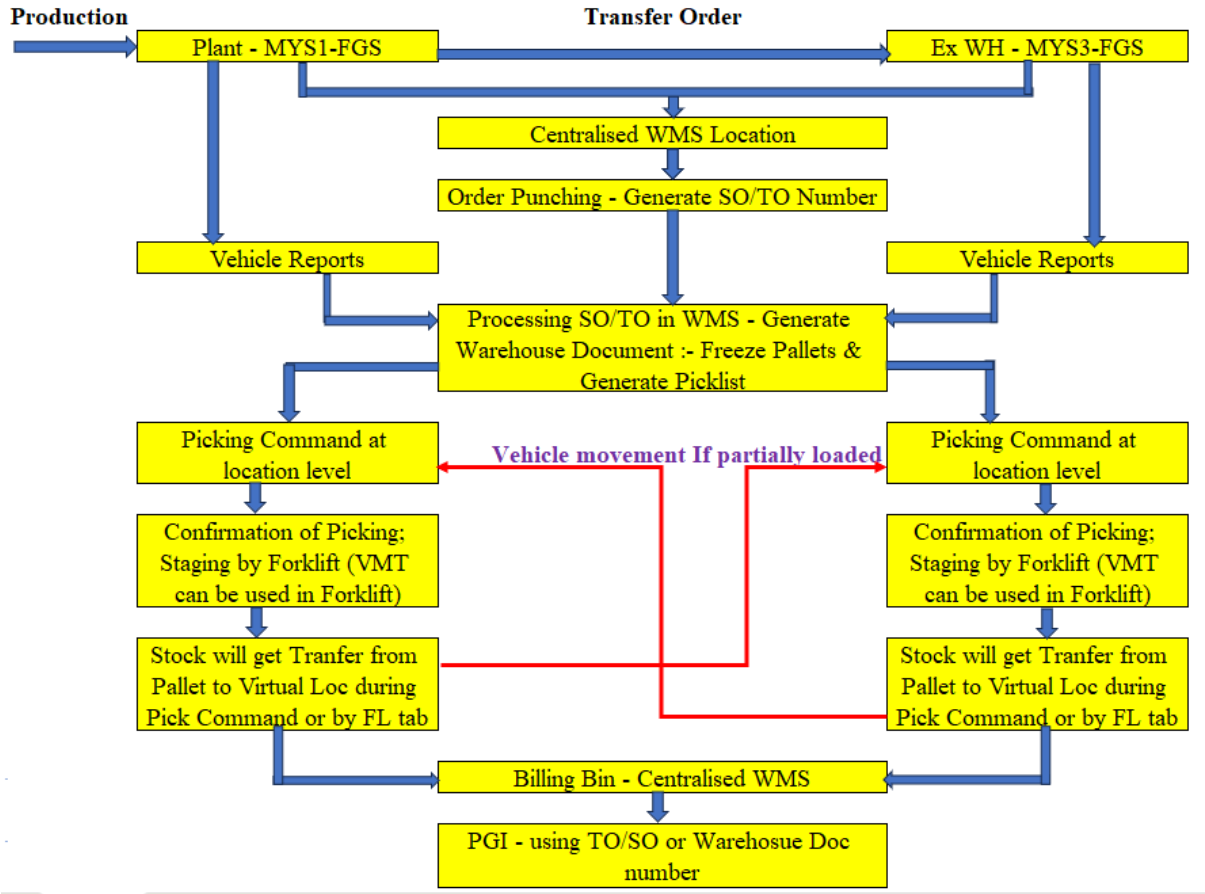
Full pallets.

15. The "CANCPICK" (Cancel Picking) option should be utilized in cases where confirmed pallets at the dock door exhibit issues. After a cancellation, new tasks can be generated for the remaining stock.

16. Post-loading, the Goods Issue process should be executed in the WMS. This process sends all product details to the Dynamics 365 system, rendering the Sales or Transfer order ready for invoice creation in D365.

Centralized Billing location for 2 point loading:

Implementation Partner to understand on the below representation and devise the solution for multi location billing coming under same plant. It especially applicable for our Own factory.



Sortation(Picking):

In the context of sortation, the following process is outlined:

It is specific only to our Own plants.

1. When there are no pallets available with the required quantity, the system will prompt the need to move a pallet from the bin to the Sorting station, which will be managed by the Floor Liaison Officer (FLO).

2. Operators stationed at the Sorting station will use scanning devices to process the pallet. The system will then provide instructions on how many cases should be transferred to the dock door and how many cases should return to the bin.

3. It's important to note that sorting can be categorized into two distinct types, often referred to as Negative Pick and Positive Pick (or using alternative terminology).

- **Negative Pick**: This scenario occurs when the quantity of stock to be moved to the dock door exceeds 50% of the pallet's total quantity. Following the sorting process, the FLO will scan both the Mother pallet and the Child pallet. The Mother pallet will be designated to the dock door as its destination, while the Child pallet will be directed back to the bin for storage.

- **Positive Pick**: In this case, the quantity of stock to be moved to the dock door is less than 50% of the pallet's total quantity. After the sorting operation, the FLO will scan both the Child pallet and the Mother pallet. The Child pallet will be assigned as the destination for the dock door, while the Mother pallet will return to the bin for storage.

This streamlined sorting process optimizes the movement of inventory, ensuring that stock is efficiently allocated to its intended destinations, be it the dock door or the storage bin.

Step 6:

Once the picklist is generated, it would be exported into D365 for invoicing. Dispatched stock details will be updated to D365 post Goods Issue.

Post invoice creation in D365 stock will reduce from both WMS and D365.

Step 7:

The Bin numbers for the FG picked would be vacant and used for next entry after RPO.

Bin numbers can be used immediately after warehouse task confirmation (from Bin to Dock door)

Same process to be followed for sales return and GRN FG

If a Sales Invoice is cancelled (Stock is added back into D365) the same stocks needs to be added in WMS -same as Step 2 to Step 4

Post cancellation of sales invoice in D365, stock to be repacked in WMS and it will suggest bin numbers to store pallets.

Inbound Process:

For the inbound process, the following steps should be followed:

1. Once the vehicle reports its arrival, the Inward process should be initiated in the Warehouse Management System (WMS).

2. During the unloading activity, the stock should be appropriately packed using Handling Unit (HU) IDs with reference to the Transfer Order (TO), Sales Order (SO), or invoice number.

3. There should be a provision for updating batch numbers and manufacturing dates through Handheld Terminals (HHT) while unloading.

4. The system should provide suggested bin numbers for storage of the incoming stock.

5. In cases where a bin is physically full, the transaction should be canceled using the HHT, with a designated reason provided. Subsequently, the system should recommend a new bin for storage while blocking the previous "BIN FULL" case. This blocked bin can only be unblocked manually after verification by the warehouse team.

6. Any stock that is found to be in short supply or damaged upon receipt should be promptly moved to designated Damage or Variance Bins.

7. After the completion of unloading, the warehouse team should conduct a thorough cross-check between the invoice quantity and the packed quantity recorded in the WMS before proceeding to create the Goods Receipt Note (GRN). Any discrepancies in the packed stock should be addressed, whether it involves reducing or increasing quantities, before the GRN is generated in Dynamics 365. The precise process for handling such discrepancies should be determined for optimal efficiency and accuracy.

Internal Transfer – (Replenishment):

For internal transfers, particularly replenishments, the following procedures should be implemented:

1. Establish a minimum inventory level within the system for each SKU at external warehouses.(Applicable for multi location Factories. Not applicable for CFA)

2. The system should take into account posted Sales or Transfer orders, in addition to the minimum inventory levels, when determining replenishment requirements.

3. When it comes to replenishment, the system should recommend specific pallets and their corresponding bin locations for transfer. This recommendation should operate at the pallet level rather than the quantity level.

4. To facilitate this process, a feature can be integrated into the Vehicle Mount Terminal (VMT) for selecting Internal Transfer. Subsequently, the forklift operator will follow the system's guidance to pick pallets from the designated bins. The operator will scan and load these pallets onto the truck, confirming the action within the system. The same data will be reflected in the system for subsequent invoice generation. Importantly, during Internal Transfers, the stock should not be depleted from Handling Unit (HU) IDs.

5. Upon arrival at the external warehouse, following the Goods Receipt Note (GRN) for the transferred stock, the system will suggest the appropriate bin locations for storing the pallets. There is no need to repack the stock into different pallets upon arrival.

6. A solution is needed for stock transfers to internal warehouses when no Replenishment Order (RPO) is created in Dynamics 365. This scenario may occur, for example, when transferring Vitamin D pallets to an external warehouse during production due to space constraints.

The objective of these processes is to maintain optimal inventory levels, streamline internal transfers, and ensure accurate invoice generation for the efficient management of stock movements within and between warehouses.

For moving batches from FGS to SHV location

1. The batches that need to be moved from FGS to SHV location in D365 to be exported into WMS following the same process as Step 1
2. Those batches would be scrapped from WMS inventory.
3. If any stock to be moved from FGS to SHV location, then movement to be done in WMS first.
4. Whenever there is a leakage or damage of cases in any pallets, the same need to be moved to Damage/variance location physically and in system through HHT by giving reason. So that Physical stock on HU will be same as system.
5. Later need to write off post approval in the month end.

Below are points to be taken care by Hector Beverages Team Internally:

1. Defining bins as different storage sections like fast mover, medium mover & slow mover. Accordingly, system should suggest for storage. Disadvantage might be – Even if the bin is empty, we cannot store other pallets in different storage section.
2. Should always keep some % of pallet positions Empty for new production.
3. Maximum Pallet Norms to be defined for each product.
4. Provision for BIN, Product Blocking along with reason and QA Hold movement provision.
5. Manpower cost for sorting operation in our own plant to be finalized by HB.

VII. Phase wise rollout requirement

As our business is season heavy, there is a huge preparation work that goes into the preparedness for the season. Our season starts in March every year. For us to be ready for the season, **we must migrate to the new system by the start of December month**.

To achieve this, we propose a phase-wise rollout of the processes. In the phase 1, we would cover must-have and in phase 2, we will address our wish list.

Note: The commercial proposal should cover both Phase 1 and Phase 2.

Phase 1: In Phase 1 all the processes that are critical for doing business. Below is not an exclusive list, however we have covered the process best to our understanding. This will cover 90% implementation of the current system, however with much better controls.

1. **Core WMS Functionality:**
   - System batch and physical batch should match post implementation of the WMS system in FIFO Manner.
   - Basic inventory management, including stock tracking and location management.
   - Order picking and packing.
   - Shipping and receiving.
   - Stock replenishment and cycle counting.
   - Basic reporting and analytics for inventory visibility(Reports formats will be shared by HB during the Functional Scope discussion).

2. **Integrations with Key Systems:**
    - Integration with your existing ERP for real-time data exchange.
    - Integration with barcode scanning.

Phase 2: In Phase 2 we will include all the critical functions that are required to materialize the investments we have made in the system.

1. **Advanced Analytics and Reporting:**

By dividing your requirements into these two phases, you can ensure that your WMS implementation begins with essential functionality to support core operations, while also allowing for future enhancements and optimizations as your warehouse processes mature and evolve. This phased approach helps manage costs, reduce implementation risks, and align the WMS rollout with your business priorities.

Note: Any gaps in Phase I needs to be addressed in the Phase II of the implementation. Also implementation partner can also suggest the Phase I and Phase II offering of the WMS System.

VIII. End User Training Requirement

1. Implementation partner should provide the functional training to the Business and IT Teams.
2. The key-users training should begin right after the configuration is completed in the development environment. Signoff to be given by the identified key-users.
3. Implementation partner should be able to travel across other regions to provide the training as necessary.
4. The test environment required for the training must be set up by the implementation partner before the training commences.
5. The Implementation partner should provide detailed help guide of the solution.

IX. Hyper-Care Requirement

1. The go-live signoff will be given by Hector Beverages.
2. A hyper-care support of two months of post-go-live signoff of Phase-1 and hyper-care support of one-month post-go-live signoff of Phase-2 should be covered in the proposal.

3. The members from the implementation should be part of the hyper-care team.
4. Hyper-care period support should include re-training as required, resolution of incidents, fixing any deviations, and changes to the existing implemented models.
5. Implementation partner should be able to deploy resources at key locations during the hyper-care.

X. Integration Points

1. Integration with your existing ERP for real-time data exchange.
2. Integration with barcode scanning.

XI. Expected Response Format

Please provide your response in the below format

A. Overview of the company
B. Implementation methodology.
C. Functional and technical documents created during the implementation that will be handover to Hector Beverages.
D. Implementation partner should act as a consultant for HB to study the existing process in all the Plants and CFA should provide the provide the System process implementation document.
E. Responsibility matrix and listing of the resource roles involved from the Hector and Partner's side during implementation and hyper-care.
F. Relevant references of WMS implementation in India with contact details
G. Implementation and Hyper-care Cost.
H. Will partner require travel and stay support for Bangalore location or other locations? If yes, Hector will only provide this on actuals. Capping subject to our standard travel policy.
I. Budget control – How the partner will ensure the requirements are captured in such a way that basis this document the minor deviations/requirements are addressed within the proposed implementation cost.
J. How the cut-over is managed to ensure we start with well-organized master data and required transactions make the system usable.
K. Any key differentiation that Partner brings to the table as part of the core offering.
L. Suggest if Hector Beverages have missed considering any critical point in this document basis your industry experience.

M. Out-of-Scope Details.

N. Post-hyper-care engagement: Please mention with engagement models are supported by the partner

   a. Fulltime consultants only
   b. Ticket based costing for functional and technical incidents/configuration changes
   c. Hourly billing basis the type of consultants involved on a pre-approved rate

   Please also mention your FTE/hourly/ticket-based rates.

O. Hardware Details quotation separately as well to be shared by Implementation partners.

XII. Proposal Submission Timeline

RFP Document Release Date	Vendor Clarifications Regarding RFP- Deadline	Final Submission of Proposal by Vendor
29-09-2023	09-10-2023	12-10-2023

----------Thank You - End of the Document----------