

7. VaccineLedger Features -

7.1 Admin Portal (Web) -

7.1.1 Central Authority - Central Authority has the ability to on-board all the different organizations under their Network based on their authenticity and get a list of Master Organization data with all the details.

Table 7.1.1 Central Authority (e.g - Govt. department , UNICEF)	
1	Get all organization request - Vendors, Manufacturers, Country Offices, IP's HOP's
2	Accept request based on authenticity - and assign type of organization
3	Master list of all the registered Organizations - Location details, Email ID, Contact Number, Organization type

7.1.2 Organization Admin - An organization (e.g - Vendor - Bharat Biotech) can have multiple users operating from different departments or locations, in that case the Organization Admin has the ability to on-board the users for their organization and assign user roles for authorized access.

Table 7.1.2 Organization Admin (e.g - Vendors, Manufacturers etc)	
1	Get all the user requests under that organization
2	Assign user role for restricted authorization
3	Assign user location - add user address (Enter - Address, City, State, Country, Zip Code)
4	Import Master User Location data (List of all - Address, City, State, Country, Zip Code)
5	Accept User location request
6	User Master Data - List of all users under that organization (Email ID, Contact Number, Location details, user role)

7.1.3 Master Location Data - The user can import location data, manually enter location data and accept user location requests.

Table 7.1.3 Master Location Data	
1	The user can import all the location data and assign it to users
2	The user can manually enter location data and assign it to a particular user

3	The user can create request for Location and send it to Admin for approval
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7.2 User Portal (Web and Mobile) -

7.2.1 Sign Up for New Organization - For a new organization to sign-up and set their profile the user will have to sign up on to the platform and send the request for approval.

Table 7.2.1 Sign-up for any User - (Web and Mobile)	
1	First and Last Name of the User
2	Email ID of the user - to login
3	Contact number of the user - to login
4	Select Organization Type
5	Enter Organization and Location details
6	Request sent to Central Authority for on-boarding - refer table 1.1 for next steps

7.2.2 Sign Up for New User User has the ability to create their account and send a request to the organization admin for approval.

Table 7.2.2 Sign-up for any User - (Web & Mobile)	
1	First & Last Name of the User
2	Email ID of the user - to login
3	Contact number of the user - to login
4	Select the type of organization they belong to
5	Select their Organization from the drop down
6	Request sent to organization Admin for user approval - refer table 1.2 for next steps

7.2.3 Login - OPT based login - User can login using either their email ID or contact number

Table 7.2.3 Login for User (Web & Mobile)	
1	Enter registered Email ID (or)
2	Enter registered Contact Number
3	Enter OTP sent to respective users login credentials

7.2.4 Create Orders - The user has 2 options to send orders to Vendors/Manufacturers - they can either create orders manually or import an excel sheet and send the Order. The products are mapped to certain categories, which makes it easier to select the products while placing an order. Similarly, organizations are mapped to types (Vendors, Country Office, IP, HOP etc) that helps the selection process easier for users.

Table 7.2.4 Create Order Manually (Web & Mobile)

1	Select the product category, from that select the product name and the quantity required
2	User can place orders for multiple products
3	User can select from which Vendor they want to get the order from
4	User can select where they want the Vendor to deliver the products to
5	Send the Order request to the Vendor/Manufacturer

7.2.5 Import Orders - Alternatively, when there are multiple orders, the user can also import an excel (format) to send the orders.

Table 7.2.5 Import Orders (Web)

1	Excel format to be followed to import the orders
2	Select the file and upload
3	Orders will be sent to the desired user

7.2.6 View Order Details - The user can view all the order details, they can filter the orders based on delivery organization, products, order date and order status and see all the order details.

Table 7.2.6 View Order Details (Web & Mobile)

1	Search the Order ID
2	View all the Order details - products details, Delivery organization and location, Order status

7.2.7 Accept or Reject Orders -

Table 7.2.7 Accept or Reject Orders (Web & Mobile)

1	The user will be notified when they receive an order - view all the order details
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2	The user has the option to accept or reject the order
3	The user on the other side who created it, will be notified whether the order has been accepted or rejected

7.2.8 Order Analytics - The analytics are highly customizable based on the requirements.

Table 7.2.8 Order Analytics (Web & Mobile)	
1	Orders Sent - Number of orders the user sent during the year
2	Orders Received - Total number of orders the user received it during that year
3	Orders Pending - Number of orders that are yet to be acknowledged (not accepted or rejected)
4	Orders Rejected - Number of orders rejected

7.2.9 Order Filters - The user can sort the data based on Order date and other multiple options and export the report on the local and share via Email.

Table 7. 2.9 Order Sorting & Filters (Web & Mobile)	
1	Sort orders based on Order Date and export the list
2	Sort the Order Based on Delivery Location and export the list
3	Sort the Orders based on what products were ordered
4	Sort the orders based on To and From organization data

7.2.10 Add Inventory - The user, predominantly the Vendors and Manufacturers as the products are manufactured they can make an entry in VaccineLedger with all the products details to keep a record of the Inventory data. This is the first entry of products where VaccineLedger captures all the batch details, manufacturing date, expiry date and serial number details.

Table 7.2.10 Add Inventory (Web & Mobile)	
1	Select the Product category, product name and the quantity
2	Enter Batch and serial details for the products added
3	Capture manufacturing date, expiry of that batch

7.2.11 Import Inventory - Alternatively the user can also import data from an excel sheet and keep a record of Inventory data instead of adding the products manually.

Table 7.2.11 Import Product details (Web)	
1	Import excel sheet with all the Product details
2	List of the products imported with all the data

7.2.12 Inventory Transaction Table - Every time a product has been added or received from any user or sent to any stakeholder, VaccineLedger captures all transactions and gives all the information.

Table 7.2.12 Inventory Transaction List (Web & Mobile)	
1	List of all the Products Added by the User - Added
2	List of all the products sent by the user - Sent
3	List of all the products received by the user - Received
4	Sort the Orders based on Status, Date and Products and export the data list

7.2.13 Product List - The user will be able to see a list of all products, the exact total quantity at his/her specific location.

Table 7.2.13 Product List (Web & Mobile)	
1	List of Total product quantity at a specific location with all the batch details
2	Search product list based on category of products

7.2.14 Inventory Analytics - Product Analytics are highly customizable based on the requirements.

Table 7.2.14 Inventory Analytics (Web & Mobile)	
1	List of Total Product Categories and all the products that come under that with all the details
2	List of Products that are out of stock at a particular location
3	List of Products - Batches near expiration (notify user every 3 months before expiration)
4	List of products that are already expired

7.2.15 Sort Inventory Data - The user can sort the Inventory data based on products, transaction status and date and export the list of products.

Table 7.2.15 Sort Inventory Data (Web & Mobile)	
1	Sort a list of products based on Status of products
2	Sort a list based on Date
3	Sort a list based which product
4	Export a list of products accordingly

7.2.16 Create Shipments with Order ID - The user can create shipments with the Order ID (Order sent by another user) to send full or partial quantity shipments, where all the data from the order will be pre-populated upon selecting the ID and the user would just have to enter the delivery details.

Table 7.2.16 Create Shipment - Order ID (Web & Mobile)	
1	Select the Order ID - pre populate all the details
2	Enter Delivery details
3	Edit product quantity (if required - for partial shipments)
4	Verify the Batch of Products being sent

7.2.17 Create Shipments with Shipment ID - The user can create shipments using the previous Shipment ID, where all the product details will be pre-populated and the user will have to select the delivery location and the delivery details. This is used to track the shipments down the line from Country offices to IP's or HOP's.

Table 7.2.16 Create Shipment - Shipment ID (Web & Mobile)	
1	Select the Shipment ID - pre populate all the product details
2	Enter location and delivery details
3	Edit product quantity
4	Verify the Batch of Products being sent

7.2.18 Inbound and Outbound Shipments List - The user can view a list of Inbound and Outbound shipments for their location.

Table 7.2.17 Outbound Inbound Shipment Table (Web & Mobile)

1	Categorize the Inbound and Outbound shipments
2	List of all the OutboundShipments
3	List of all the Inbound Shipments

7.2.18 View Shipment - The user at any given time can view the shipment details, status and chain of custody.

Table 7.2.18 View Shipment Details (Web & Mobile)

1	All the Product details - products sent, quantity
2	Shipment Chain of custody
3	Geo location and Temperature data

7.2.19 Update Shipment Status - This is mainly for the Logistics, 3PL's and Airport Authorities to update the shipment and notify the concerned stakeholders.

Table 7.2.19 Update Shipment Status (Web & Mobile)

1	Enter the Shipment ID or scan the Barcode on the mobile app
2	Update the shipment and location details
3	Enter any comments and images

7.2.20 Receive Shipment -The users can receive the shipment with a quick Barcode scan and get all the shipment details and receive it.

Table 7.2.20 Receive Shipment (Web & Mobile)

1	Scan the barcode using mobile app and receive the shipment - update quantity received, comments, images
2	The user can receive the shipment on web
3	View Shipment details with updated chain of custody

7.2.21 Shipment Analytics - are highly customizable based on the requirements.

Table 7.2.21 Shipment Analytics (Web & mobile)

1	Total Number of Inbound shipments - for that location user
2	Total Number of Outbound Shipments for that location user
3	Inbound Shipments alerts
4	Outbound Shipments Alerts

7.2.22 Shipment Sorting and Report Generation - The user can sort the Inbound and Outbound shipments based on the Date, From and To Location, Shipment Status and export the file.

Table 7.2.22 Shipment Sorting (Web & Mobile)

1	Sort the Inbound/Outbound Shipments based on Order date and export the data
2	Sort the Inbound/Outbound Shipments based on To & From Location and export the data
3	Sort the Inbound/Outbound Shipments based on the Shipment status and export the data

7.2.23 Track & Trace - The Authorized User can track the entire journey of products starting right from when the Order is created till it reaches the last beneficiary point with all the product details and how much quantity was sent at each step.

Table 7.2.23 Track & Trace (Web & Mobile)

1	Track the entire journey of shipments with the Parent Order ID
2	Track the entire journey of Shipments with the Shipment ID
3	Track the journey of shipment with Airway Bill Number
4	Track the journey of shipment with Batch Number and serial Number

7.2.24 Network - The authorized user can check the Inventory Level at all the locations at any given time.

Table 7.2.24 Network (Web)

1	Authorized user can search the location via, region, country, city
2	View all the Inventory stock levels at each location

7.2.25 Last Mile - The user at the PHC/CHC level can collect Beneficiary details in the mobile app and can view the entire list of beneficiaries in the web app.

Table 7.2.25 Last Mile

1	Capture Patient data - Name, age, gender, ID Proof
2	Assign product to the beneficiary - product name, batch, serial number details
3	Only the Authorized user can view all the beneficiary details

7.2.26 Filters & Sorting - The user can sort the data upon applying filters, to generate Orders report, shipments report, Inventory report.

Table 7. 2.26 Filters & Sorting

1	Sort Orders report by Date, location, product, organization, status and generate report - Excel or PDF
2	Sort Shipment data by date, location, organization, status - Excel or PDF
3	Sort Inventory list by Date, product name, status - Excel or PDF

Table 7.2.27 Location Approval and Master Location Data – The user can send location approval to the Admin and can have more than 1 location.

Table 7.2.27 Approve User Locations and show Master Location data

1	Get a list of all the User's location
2	Admin approval required for user location

7.2.28 Master Product Data - The authorized user can upload a list of all the product categories and their respective products. Alternatively, the user can also add product data manually.

Table 2.27 Master Product Data

1	The user can import a list of all the products to be added
2	The user can enter product details manually

VaccineLedger Verify incorporates GS1 standards to detect counterfeit products in the supply chain. GS1 provides identification keys that allow businesses to assign unique identifiers to products, documents, physical locations, and other items. Since GS1 ID keys are globally unique, it enables businesses to efficiently access and share information about items among the trading partners, increasing supply chain visibility

GS1**Compliance****Certificate**

<https://www.dropbox.com/s/x7n5o9c9ysmm5be/StaTwig%20-%20GS1%20Standard%20certificate.pdf?dl=0>.

Table 2.28 Verification (Web and Mobile)	
1.	Identify Unauthorized user trying to scan shipment and send alert to Admin
2.	Send request to Admin for scanning approval
3.	Duplication of Barcode
4.	Invalid Barcode

7.2.29 Subscription to Alerts and Notifications - The authorized user will get in-app notifications and they can subscribe to alerts and notifications on their Email ID and via SMS and WhatsApp on their registered mobile number.

Table 2.29 Subscription to Alerts & Notifications (Web and Mobile)	
1.	User will get in-app notifications on receiving orders, shipments etc
2.	User can also subscribe for alerts on Email ID
3.	User can also subscribe for alerts on SMS and WhatsApp

7.2.30 Generate Reports - The authorized user can generate reports for orders, shipments and inventory levels in - PDF, excel.

Table 2.29 Generate Reports - Export (Web)	
1.	Download report in PDF or excel format - orders, shipments and inventory

Note - The user can access only those features and functionalities based on the roles and permissions given to the user by Admin.

VaccineLedger Functionalities and WorkFlow

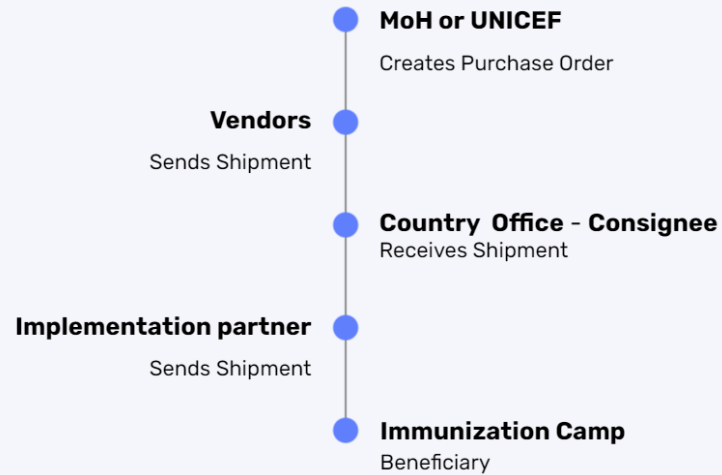
The platform has the capabilities to on-board any type of user in the supply chain such as UNICEF Supply division, Manufacturers, Vendors, Implementation partners, HOP's, Government departments, PHC's and CHC's among various others with authorized access to each user given by the concerned Central Authority or Admin.

As the platform has multilevel access permissions and rights, each user will have their specific access rights based on the roles given by the Admin.

Roles	Description
PowerUser	User who has access to whole supply chain
WareHouseViewer	Can oversee all the warehouses
WareHouseEmployeeII	Warehouse Manager who can access and see each and everything going out and coming in of the Warehouse
WareHouseEmployeeI	Warehouse employee who creates the shipment and receives a shipment
SalesEmployeeII	Head of Sales who can see each and every PO and SO and Shipment Status
SalesEmployeeI	Sales team User whose rights are similar to WareHouseEmployeeI in the context of PO and SO created and executed by Him/ Her only.
Admin	IT Employee responsible to add users, delete users assign user roles, delete role of the user
Affliator	Employee responsible for approving affiliation to an organisation

Localization – The Dashboard is scalable and can support multiple languages.

Multiple stakeholders in the vaccine supply chain





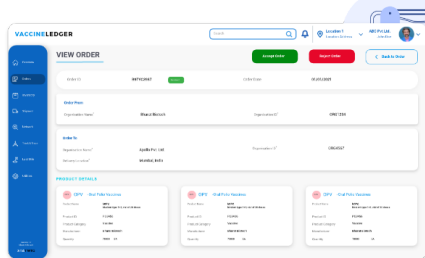
Supply Division will send the order to the Manufacturer

Imports Orders into VaccineLedger

Vaccine Manufacturer will Receive Order & start Creating Shipment



Supply Division

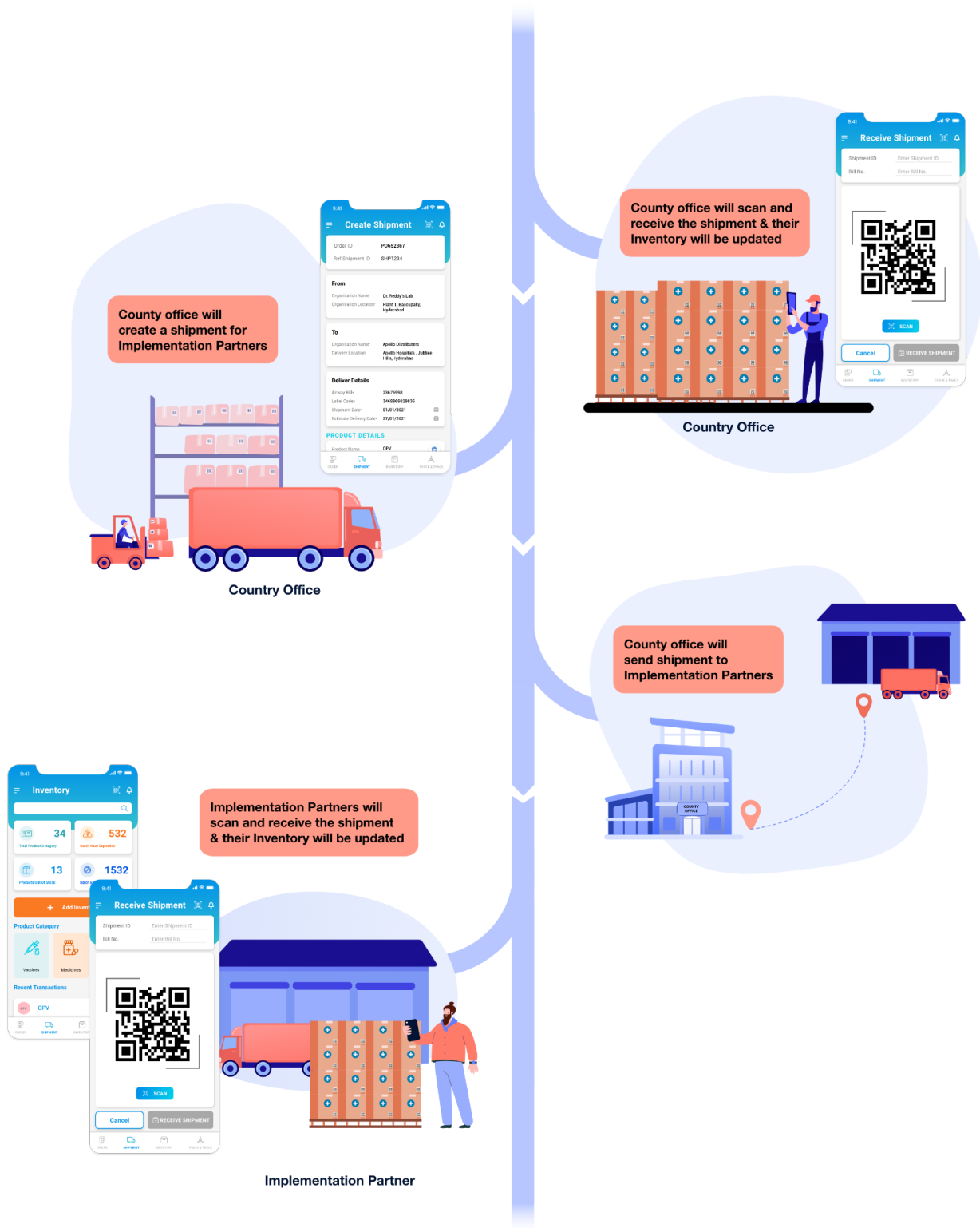


Vaccine Manufacturer

County office will receive shipment

Shipment sent from Manufacturer to the Country Office







VaccineLedger comes in both Web App and Mobile App for all the users with all the capabilities to create Orders, View Orders, Create Shipments, Track the Entire journey of an order or a shipment right from the source till the last beneficiary who received it.