

GS1 Global Trade Item Number (GTIN) Data Collection Tool Overview and Standard Operating Procedure (SOP)

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Acronyms

AIDC	automatic identification and data capture
EAN	European Article Number (refers to a type of linear barcode used to encode item numbers)
ERP	enterprise resource planning system
GTIN	Global Trade Item Number
GUI	guided user interface
SCIS	supply chain information system
SKU	stock keeping unit
SOP	standard operating procedure
UPC	Universal Product Code (refers to a type of linear barcode used to encode item numbers)
WMS	warehouse management system

Introduction

The GTIN Data Collection Tool is a resource to aid countries in automating the physical collection trade item identifiers – namely the Global Trade Item Numbers (GTIN) – encoded in GS1 standardized data carriers (specifically, GS1 2D DataMatrix, GS1-128 linear, or EAN/UPC) that are labelled on physical products. The data collection exercise may be implemented as a part of an effort to establish a robust product master data file that includes both trade item level identification, packaging level hierarchies, and parent-child relationships between unique trade items and generic product concepts. For the proposed data structure, trade item hierarchies are uniquely identified by a GTIN and are packaging level specific (each, inner pack, case, pallet).

What pain points does this tool address?

The first step to normalize product master data that supports GS1 hierarchies is establishing the uniform dataset that aligns existing generic product level IDs, product keys, or stock keeping units (SKUs) with one or more trade item identifiers (GTINs). This tool is intended to be used to execute an initial GTIN data collection where operators are accessing packaging in the warehouse and unpacking containers to determine tertiary, secondary, and primary packing GTINs for each manufacturer of a product. For long-term data collection, a stakeholders' SOP for operating an automatic identification and data capture (AIDC) solution should incorporate GTIN data collection for new products into the Receiving process to streamline the activity.¹

What information can the tool capture?

The GTIN Data Collection Tool runs on Python and has the capability to work in an online and offline mode. It has been configured to support and capture seven primary attributes either as free text or from the pick list, depending on the attribute:

- Product Internal SKU
- Packaging Level²
- Manufacturer Name
- Manufacturer Country
- GTIN
- Quantity of Children
- Additional Comment

What are the pre-requisites to use the tool?

- Existence of a defined product master data model for the desired future state of master data including required attributes.
- Windows laptop computer
- Barcode scanner that is capable of it reading the GS1 2D DataMatrix, GS1 128 linear and EAN/UPC data carriers

¹ For more information on recommended SOPs to address this business process step please see the GS1 AIDC SOP Booklet, see: <https://www.ghsupplychain.org/GS1AIDCSOPBooklet>

² For more information on definitions as they relate to packaging level hierarchies, see: <https://www.gs1us.org/resources/data-hub-help-center/packaging-level>

- Existing enterprise resource planning (ERP) and/or warehouse management system (WMS) product master file

What are the tool's key features?

- Built-in logic to parse the scanned barcode and only display GTIN
- Users can select fields for filtering the product master file
- Displays the status of the data submission/capture as (Success! / Failed!)
- Ability to collect data offline
- Ability to pause a scanning session and save all work in progress.
- Ability to view the collected records for validation/verification steps before ingesting the data into the user's ERP or WMS
- Ability to review scans and rescan or update details of previous scans.

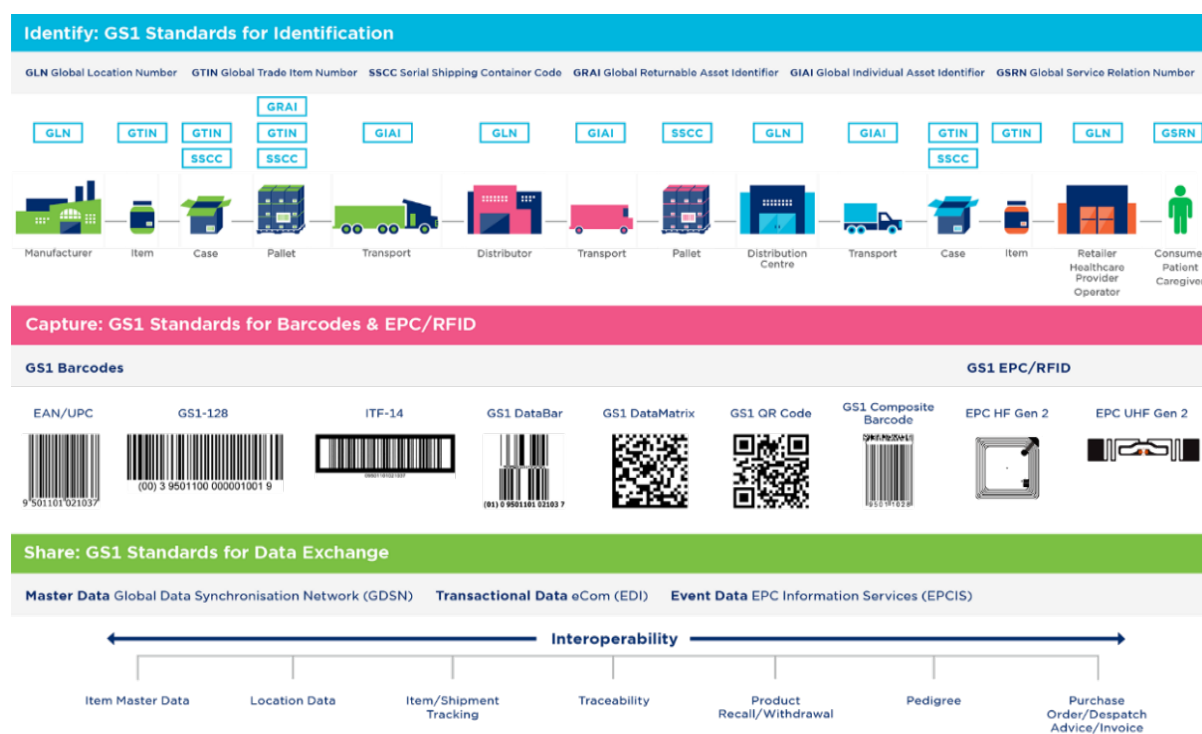
Overview of Key Concepts

This section describes several general concepts that are referenced frequently throughout the document.³

GS1 Global Standards

GS1 is an international standards organization that develops and maintains a comprehensive system of data standards for health supply chains, including identifying locations, legal entities, trade items, and logistic units; capturing data through specific data carriers, such as barcodes; and sharing data through standards for master, transaction and event data exchange, as summarized in Figure 1.⁴

Figure 1. Summary of the GS1 System of Standards for Identify, Capture and Share



The most referenced standards within the context of this tool are:

- IDENTIFY: Global Trade Item Number (GTIN)
- CAPTURE: EAN/UPC, GS1-128, GS1 DataMatrix

Product and Trade Item Hierarchy

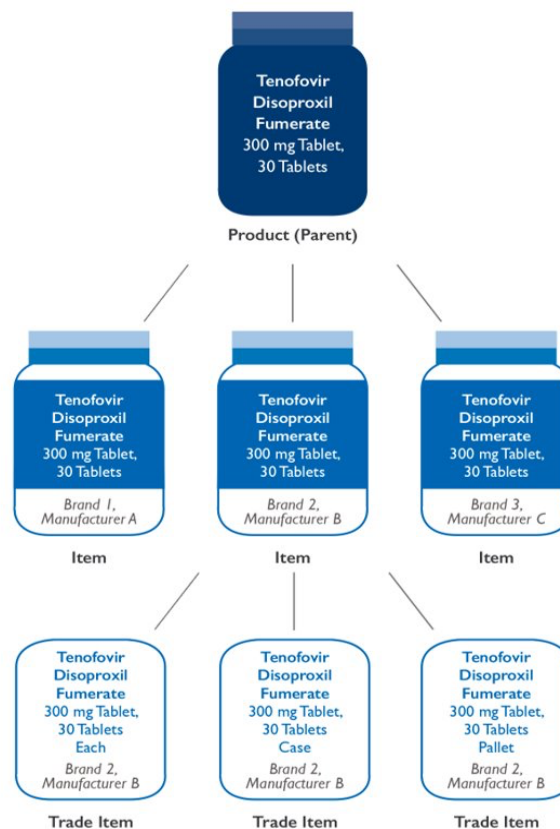
The terms “product” and “trade item” are often used interchangeably, but in practice and for the purpose of this tool, the two concepts have differentiating characteristics that are important to understand to effectively manage commodities in the health supply chain.

³ For more detailed information on these concepts, please see the Product Master Data Management Reference (PMDM) Guide available: <https://www.ghsupplychain.org/PMDMReferenceGuide>

⁴ GS1. (2014, December 23). GS1 Standards in Healthcare. Retrieved from <https://www.gs1.org/industries/healthcare/standards>

In general, a product refers to a general concept of a commodity, whereas the trade item refers to a commercialized instance of that commodity by a specific manufacturer. Products have a set of defining characteristics, often defined by a local entity that may include active ingredients, dosage, dosage form and pack size. Trade items are instances of products with unique characteristics, such as manufacturer, brand name, shelf life, and net content. Trade items will be assigned GTINs unique to each packaging level—products will not. An entity’s product master data should be able to support and manage both concepts as well as the hierarchy or relationship between the two, sometimes referred to as a parent-child relationship. An example of this concept is provided in Figure 2.

Figure 2. Relationship Analysis: GTIN Parent-Child Relationship



In public health supply chains, planning and requisitioning are functions that are generally executed using the generic concept of a product, while procurement, order fulfillment and all subsequent processes are executed with the specific instance of a trade item.

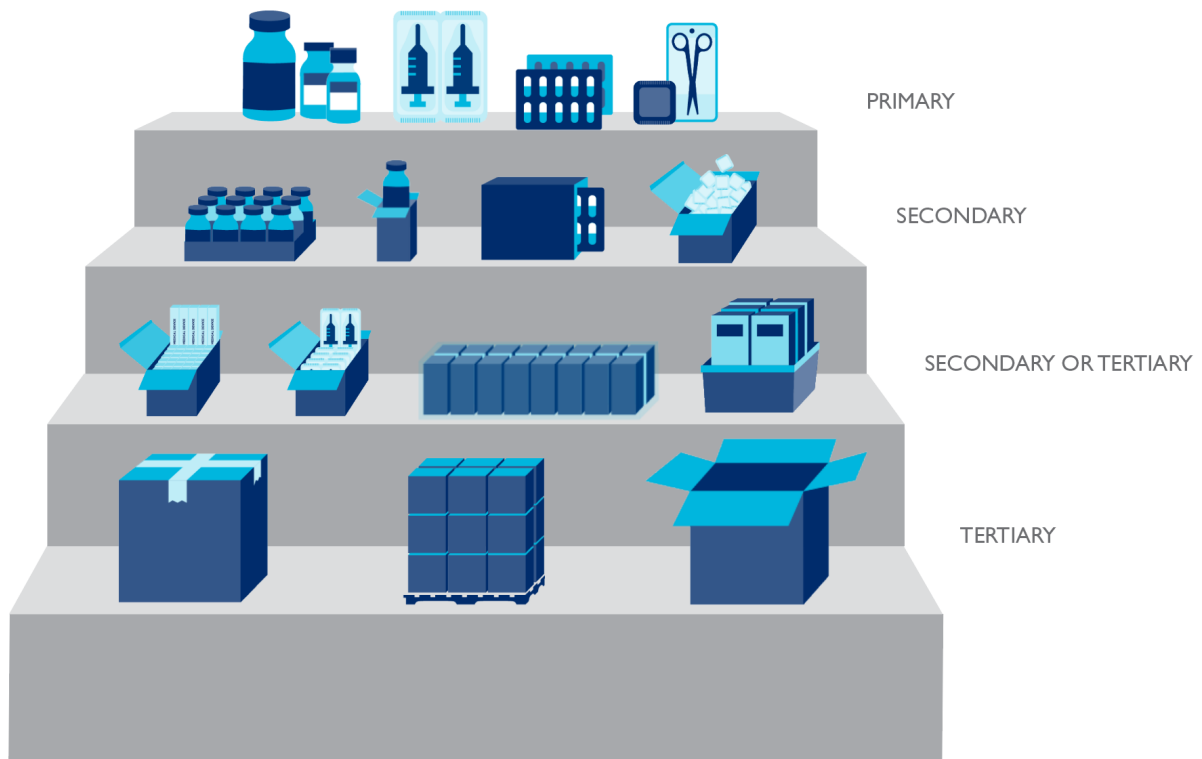
Trade Item Packaging Hierarchy

Any level of packaging that can be priced, ordered or invoiced throughout the supply chain is considered a trade item. An “each” is often packed in an “inner pack” with multiple inner packs packed into a “case.” Each level of packaging can be considered a trade item; therefore, each is also to be assigned a GTIN. The definition of trade item packaging configurations and the relationship between those different levels is called the trade item packaging hierarchy.⁵ Part of the process for aligning master data to manage trade items at different packaging levels as they move through the supply chain (e.g., receive items into a warehouse at the case level, pack them at an inner pack level)

⁵ GS1 Spain. (2015, June). GS1 Standards Implementation Guide Healthcare Deployment Guide. Retrieved from https://www.sergas.es/Recursos-Economicos/Documents/23/SuppliersLoadingBookletHealth_GS1_1_1C.pdf

is managing each trade item uniquely but establishing the parent-child relationships between those trade items in the product master data. The barcode on the physical package containing the GTIN is what links the physical item with the master data about that item in the system.

Figure 3. Example of the Trade Item Packaging Hierarchy for Health Care Products



Trade item master data should be managed in a way that links the primary, secondary and tertiary GTINs of each trade item and its variants. This creates a hierarchical, parent-child relationship between a containing object (i.e., parent) and one or more objects (i.e., children) that are contained. Table 1 demonstrates how GTINs can be associated with one another to represent a packaging hierarchy.

Table 1. Example for GTIN Hierarchy Attributes for a CASE with Four Packs of 50 Each

Pack Level	GTIN	Child GTIN	Quantity of next level trade item	Net content
Case (CA)	20614141123456	10614141123459	4	200
Pack (PK)	10614141123459	00614141123452	50	50
Each (EA)	00614141123452	N/A	N/A	1

GTIN Data Collection Tool Standards Operating Procedure

Before You Start

There are four prerequisites to begin using the GTIN Data Collection Tool, including defining your product data model for the desired future state of master data including required attributes; installation of the tool on your local computer; acquisition and configuration of the scanning device; and obtaining product master reports that contain the products to be scanned.

Defining the Product Master Data Model

This is a key activity that will define how GTINs will be associated with current product master data records, including how different manufacturers of the product and their respective GTINs and packaging hierarchies will be associated to the product. This activity can be supported using the GS1 Data Discovery Framework.⁶

Installing the GTIN Data Collection Tool

1. You can locate the GTIN Data Collection Tool zip file located here: <http://ghsupplychain.org/GS1GTINDataCollectionTool>.
2. Download the 'GS1-GTIN-Capture.zip' file onto your **Windows laptop computer** for easy portability to enable scanning and data collection where the products are stored.
3. Unzip the 'GS1-GTIN-Capture.zip' folder in a desired location on your computer. Navigate to the unzipped folder and double click on the 'GTIN_collection_gui.exe' file to run the application.

Acquire and Configure Scanning Device

Acquire a barcode scanner that can read a GS1 2D DataMatrix, GS1-128 linear, and UPC/EAN data carriers. Zebra and Honeywell are well-known, reliable brands that support the standard. During development and testing of the Data Collection Tool the [Zebra DS2278](#) was used which is a low cost, easy to use device that connects to the laptop computer and is interchangeable with keyboard input. Any hardware product used for scanning will require some configuration out of the box to ensure set up supports scanning of standardized barcodes. Please see the configuration guidelines for the specific brand and model being used, usually readily available online, and email globalstandards@ghsc-psm.org if further support is needed.

Obtain Product Master Data Reports

The GTIN Data Collection Tool uses any product master data report that contains distinct rows of products with a unique product identifier, such as Product Key, Part Number, or SKU. The report could be a product master report or an in-stock inventory report containing product attributes such as generic name, description, categorizations, or other attributes that help you identify the correct product. The report must be accessible to the laptop computer on which the GTIN Data Collection Tool is installed, either locally or on an accessible network.

⁶ The GS1 Data Discovery Framework is available: <https://www.ghsupplychain.org/gsl-data-discovery-framework>

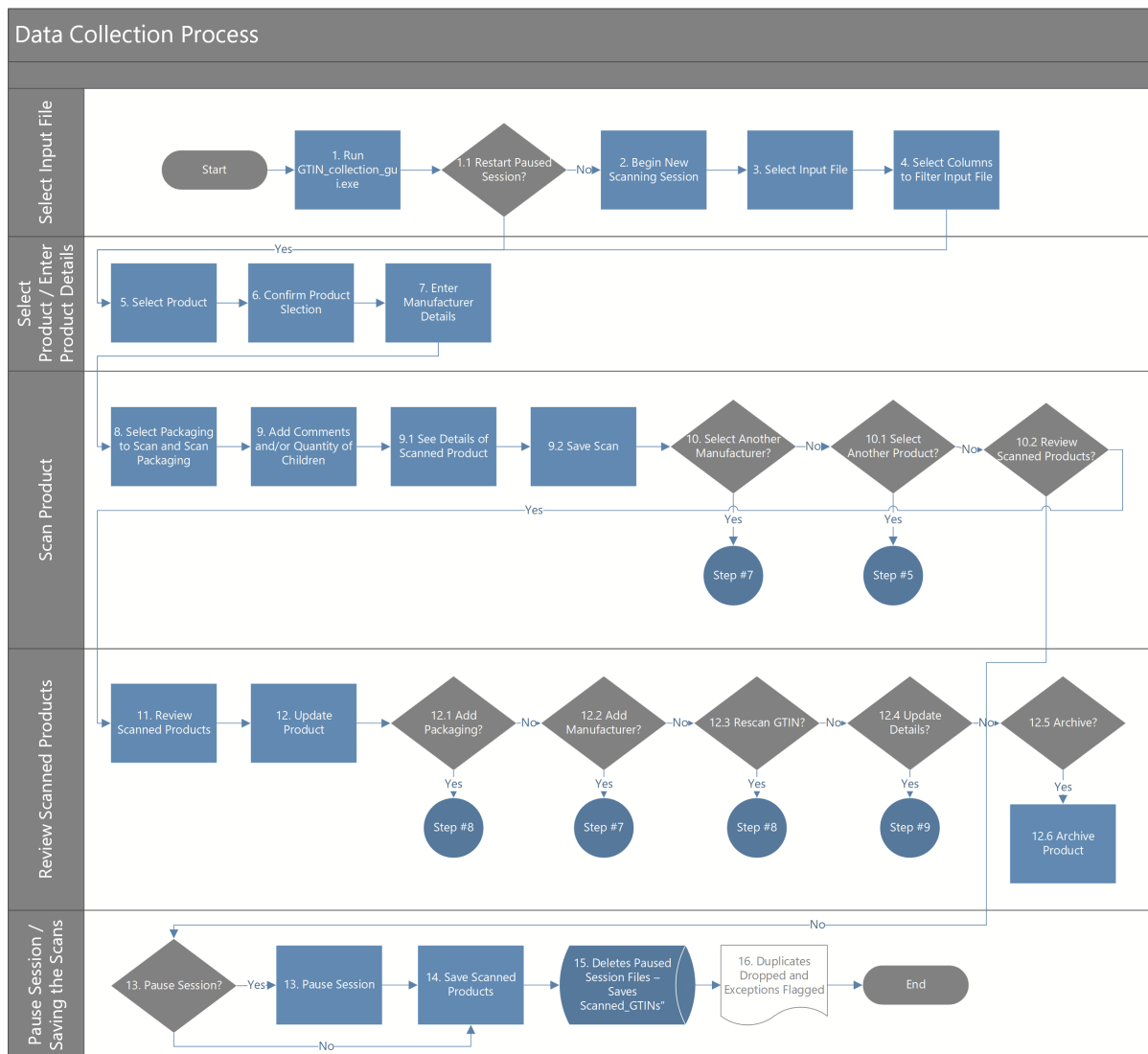
Multiple Operators

If there are multiple operators performing data collection, each operator will require a laptop computer with the GTIN Data Collection Tool installed, a scanning device, and a specific report of products for each operator to perform data collection. Because the operators cannot share a single report file, it is helpful if the product master report can be split into specific rows for each operator.

GTIN Data Collection Process

The Data Collection Process can be viewed in the diagram below. Each step is described in detail in the remainder of this section.

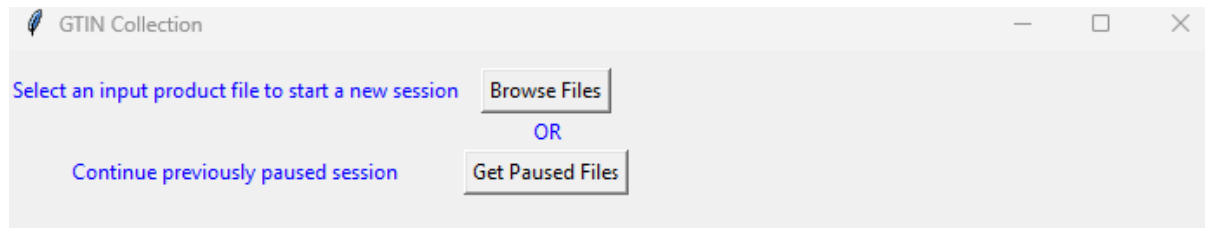
Figure 4. Data Collection Process Flow



Select and upload an input file

1. On the laptop computer, go to the directory where the GTIN Data Collection Tool was unzipped, and click on the 'GTIN_collection_gui.exe' file to run the application.
2. A graphical user interface (GUI) opens and asks the user to either select a new file and begin a new session of scanning products or continue from a previously saved session. When running the first time, select "Browse Files".

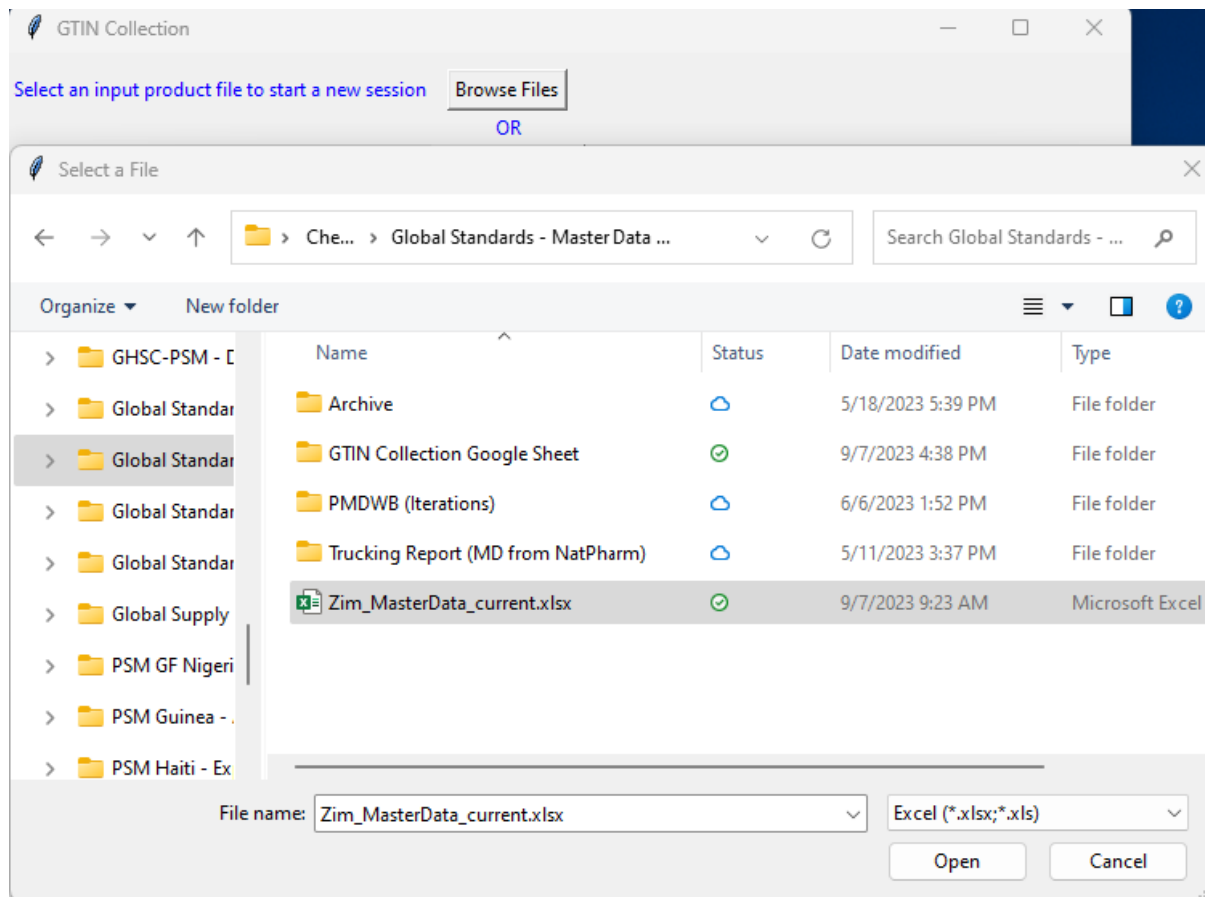
Figure 5: Option to start new session or begin from a previous one



Starting a new session

3. Clicking the “Browse Files” option will prompt users to select an existing ERP/WMS product master file as an input file accessible on/from their laptop computer. This is the existing product master file described in Getting Started, which can be a product master list from the ERP or an in-stock inventory report from the WMS, which includes at least one unique identifier such as a Product Key. Navigate and select a file.

Figure 6: Navigate to Input File



4. Next, the app requires the user to identify a few columns in the selected input file. These columns will help in identifying a product. Some good examples could be product category, generic name, product description, strength, product form etc. Once done, click Confirm Selections.
 - a. *Important Note: Unique ID field acts as a key identifier and needs to have unique values.*
 - b. *Important Note: The app requires at least one column to identify products. Providing the tool with additional columns makes identification faster and easier.*
 - c. *Important Note: The drop-down selections should cascade your selection from larger sets of records to smaller sets of records; for example, a product category might drive to a large*

set of records such as Family Planning, and Generic Name drives to a smaller set of those records, Condom, and Product Description might filter those records to a specific Product ID. Always start your selection from Column 1.

Figure 7: Identify Columns from Selected Input File

GTIN Collection

File Opened: Zim_MasterData_current.xlsx

Browse Files

OR

Get Paused Files

Continue previously paused session

Identify Columns

Unique ID (Required Field)

Select columns to identify product. (e.g.: product description, generic name, strength etc.)

Column 1 (Required Field)

Column 2

Column 3

Confirm Selections

Selecting/Entering Product Details

5. The user can now select a product to scan from the dropdown lists of the columns selected in the previous step. The Find Product button will list out all the products that match the user selection.

Note: User can start typing in the fields to filter the drop-down lists to what user is looking for.

Figure 8: Select a Product

GTIN Collection

Back

Pause Session

Select a Product

GENERIC_NAME

STRENGTH

PRODUCT_FORM

Find Product

Product not listed

6. Use the radio button to narrow down the selection to one product and press confirm.
Note: If the product does not exist in the dropdowns, 'Product not listed' can be selected to manually provide the details of the product. A system generated unique id is then generated for this product in case one is not provided by the user.

Figure 9: Confirm Selected Product

GTIN Collection

Back Pause Session

Select a Product

GENERIC_NAME	STRENGTH	PRODUCT_FORM
Abacavir+ Lamivudine	120/60 mg	Tablet

Find Product

Product not listed

Confirm Selected Product

PRODUCT_KEY	GENERIC_NAME	STRENGTH	PRODUCT_FORM
100003	Abacavir+ Lamivudine	120/60 mg	Tablet

Confirm

7. Provide the manufacturer's name and manufacturer's country (if known). Press Next.
Note: Program keeps adding entered values to the drop down, for the user to select from, for the next products.

Figure 10: Add Manufacturer Name and Country

GTIN Collection

Back Pause Session

Select a Product

GENERIC_NAME	STRENGTH	PRODUCT_FORM
Abacavir+ Lamivudine	120/60 mg	Tablet

Find Product

Product not listed

Confirm Selected Product

PRODUCT_KEY	GENERIC_NAME	STRENGTH	PRODUCT_FORM
100003	Abacavir+ Lamivudine	120/60 mg	Tablet

Confirm

Manufacturer Info

Enter Manufacturer's Name (Required) Enter Manufacturer's Country

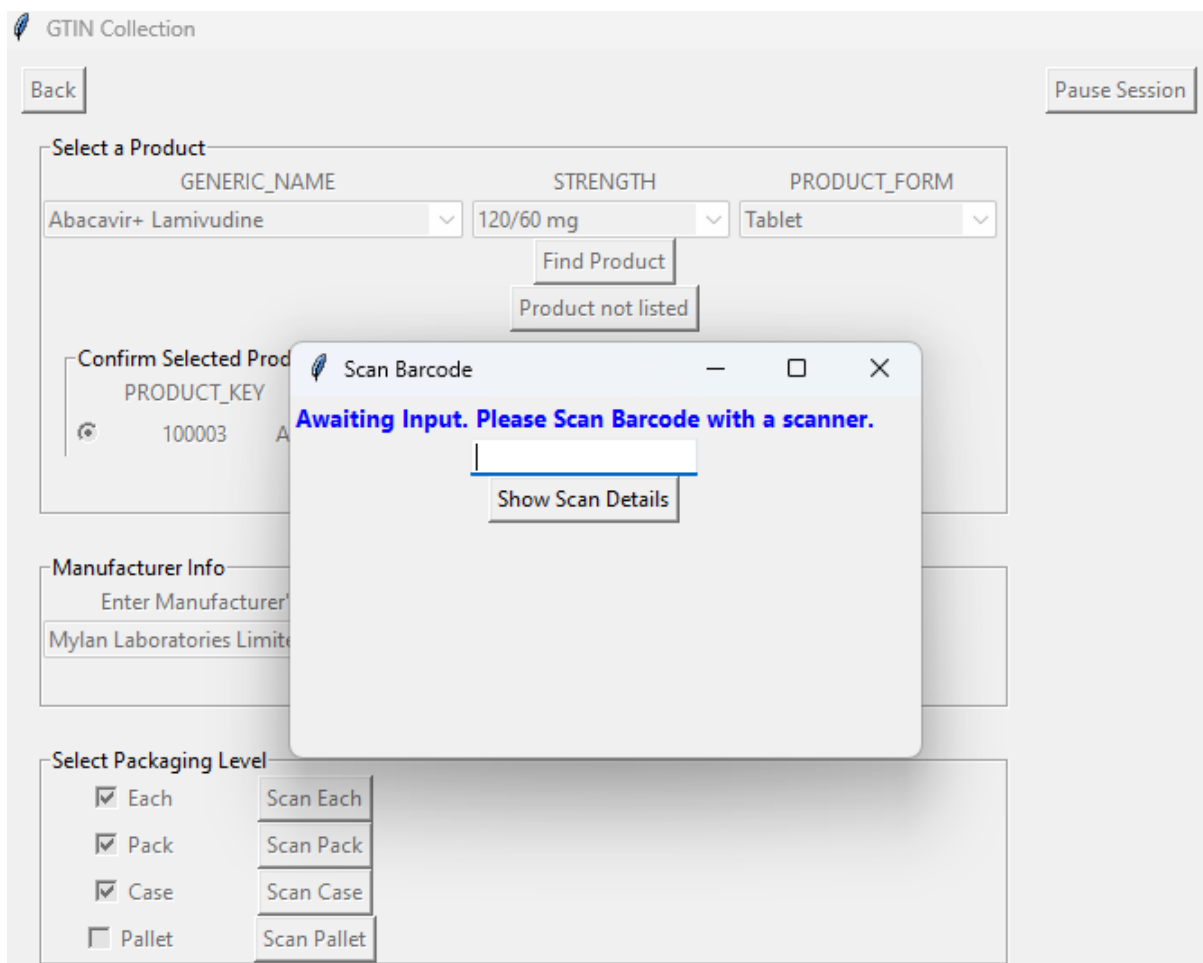
Mylan Laboratories Limited	India
----------------------------	-------

Next

Scanning

8. Users can now select all the pack sizes available for this product and one by one select the appropriate button to scan. Click ok on the 'Please Scan' prompt and use scanner to scan product.

Figure 11: Selecting and Scanning a Package Size



9. The app then displays all the details of the scanned product. The user can add a comment or the quantity of children at this point. If the details look right, press save scan.
Note: a. For pack, case and pallet, quantity of children is the number of items in its lower hierarchy. For example: For a pack, quantity of children would be the number of eaches in a pack.
b. Once the scan is saved, the application drops this product from the table.

Figure 12: Details of Scanned Package

GTIN Collection

Back Pause Session

Scanned Product - □ ×

Scanned Barcode	JC10130382902451229
GTIN	30382902451229
PRODUCT_KEY	100003
GENERIC_NAME	Abacavir+ Lamivudine
STRENGTH	120/60 mg
PRODUCT_FORM	Tablet
Manufacturer	Mylan Laboratories Limited
Manufacturer's Country	India
Packaging Level	Case
Add Comment	<input type="text" value="tic unit to access case."/>
Add Quantity of Children	<input type="text" value="144"/> (*Please see instructions)

Select Packaging Level

<input checked="" type="checkbox"/> Each	<input type="button" value="Scan Each"/>
<input checked="" type="checkbox"/> Pack	<input type="button" value="Scan Pack"/>
<input checked="" type="checkbox"/> Case	<input type="button" value="Scan Case"/>
<input type="checkbox"/> Pallet	<input type="button" value="Scan Pallet"/>

Figure 13: Save Scanned Package

The screenshot displays the 'GTIN Collection' software interface. At the top left is a 'Back' button and at the top right is a 'Pause Session' button. The main area is divided into three sections:

- Select a Product:** Contains three dropdown menus for 'GENERIC_NAME' (Abacavir+ Lamivudine), 'STRENGTH' (120/60 mg), and 'PRODUCT_FORM' (Tablet). Below these are 'Find Product' and 'Product not listed' buttons.
- Confirm Selected Product:** A table with columns: PRODUCT_KEY, GENERIC_NAME, STRENGTH, and PRODUCT_FORM. The row contains: 100003, Abacavir+ Lamivudine, 120/60 mg, and Tablet. A 'Confirm' button is below the table.
- Manufacturer Info:** Two dropdown menus for 'Enter Manufacturer's Name (Required)' (Mylan Laboratories Limited) and 'Enter Manufacturer's Country' (India). A 'Next' button is below.

At the bottom left, the 'Select Packaging Level' section has four options with checkboxes and corresponding buttons:

- Each: Scan Each
- Pack: Scan Pack
- Case: Scan Case
- Pallet: Scan Pallet

A modal dialog box titled 'Scan Saved' is overlaid in the center, featuring an information icon, the text 'Scan Saved', and an 'OK' button.

10. Next the user has three options:

- a. Select another Manufacturer: Repeat from step 7 onwards for the same product.
- b. Select another Product: Repeat from step 5 onwards and select a new product.
- c. Review Scanned Products: ***Displays details of scanned products and provides option to make updates.*
***more details below*

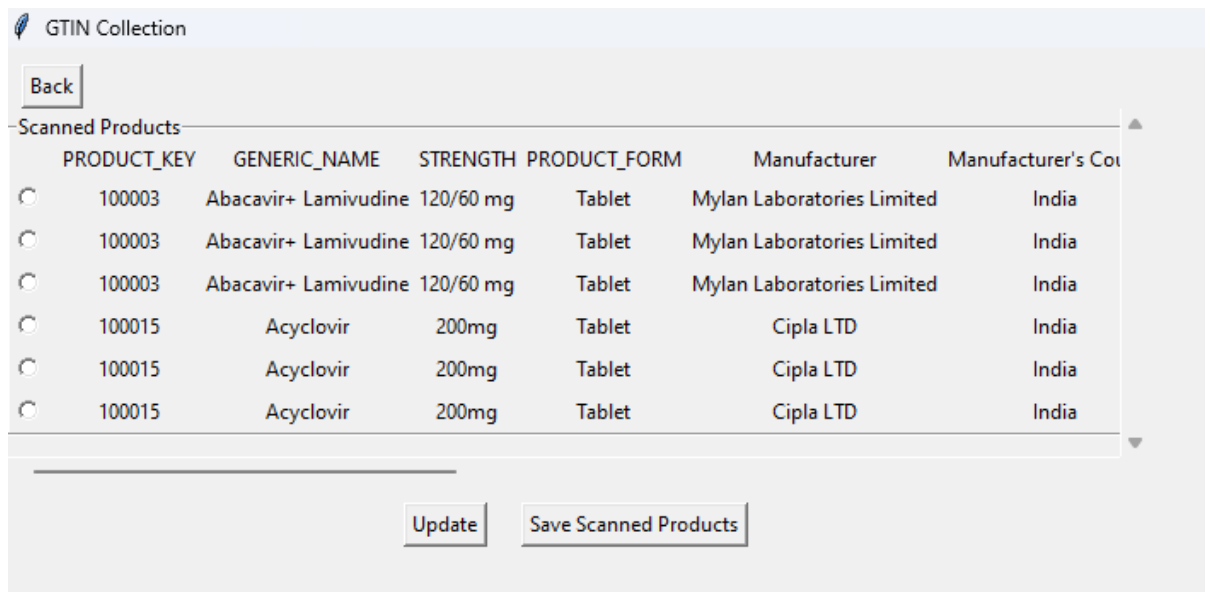
Figure 14: Select Next Action

The screenshot displays the 'GTIN Collection' interface. At the top left is a 'Back' button and at the top right is a 'Pause Session' button. The main section is titled 'Select a Product' and contains three dropdown menus: 'GENERIC_NAME' (Abacavir+ Lamivudine), 'STRENGTH' (120/60 mg), and 'PRODUCT_FORM' (Tablet). Below these is a 'Find Product' button and a 'Product not listed' message. A 'Confirm Selected Product' section follows, containing a table with columns 'PRODUCT_KEY', 'GENERIC_NAME', 'STRENGTH', and 'PRODUCT_FORM'. The table has one row with values: 100003, Abacavir+ Lamivudine, 120/60 mg, and Tablet. A 'Confirm' button is below the table. The 'Manufacturer Info' section has two dropdowns: 'Enter Manufacturer's Name (Required)' (Mylan Laboratories Limited) and 'Enter Manufacturer's Country' (India), with a 'Next' button below. The 'Select Packaging Level' section has four checkboxes: 'Each' (checked), 'Pack' (checked), 'Case' (checked), and 'Pallet' (unchecked). To the right of each checked checkbox is a 'Scan' button (Scan Each, Scan Pack, Scan Case, Scan Pallet). A 'Confirm all scans' button is at the bottom of this section. At the very bottom are three buttons: 'Select Another Manufacturer', 'Select Another Product', and 'Review Scanned Products'.

Review Scanned Products (Review/Update/Add Products)

11. On clicking 'Review Scanned Products', user has an option to review the list of scanned products by scrolling across using the scrollbar.

Figure 15: Review Scanned Products



12. The user can also make updates using the update button. This gives a few different choices to the user.
- Add Packaging:** In case user missed scanning another pack size for a scanned product, they can select 'Add Packaging' and click okay. This will let the user scan another package size for the selected product. Follow step 8 onwards and a new line gets added for the selected product with a new package size.

Figure 16: Add Packaging

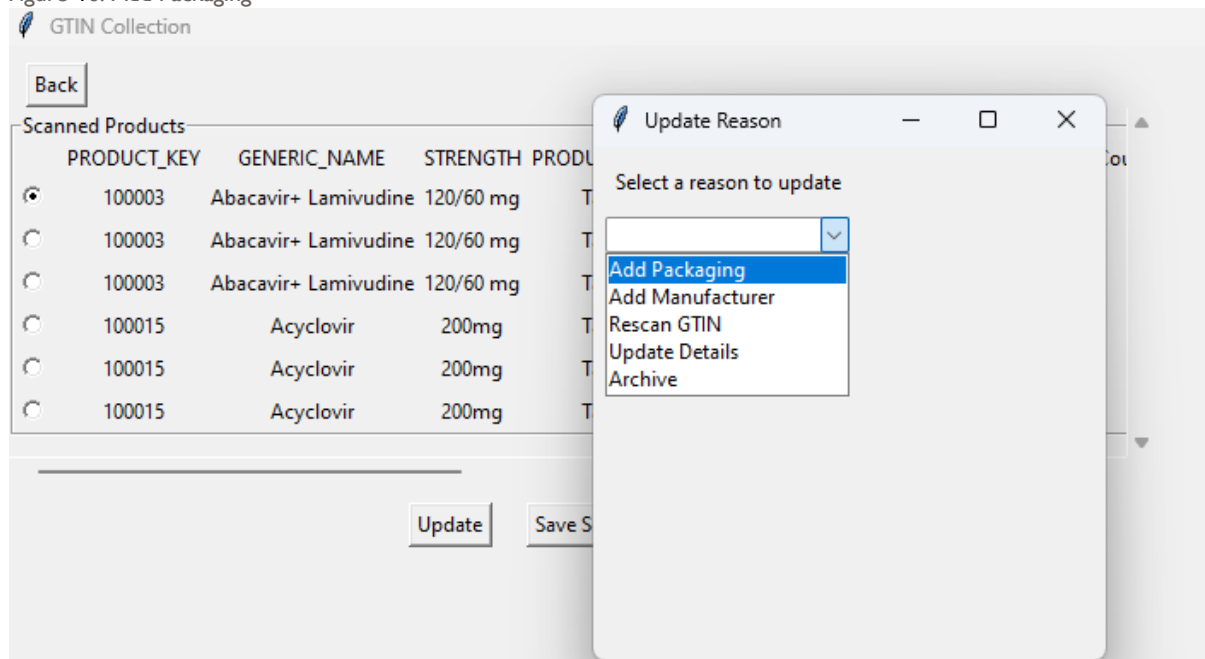
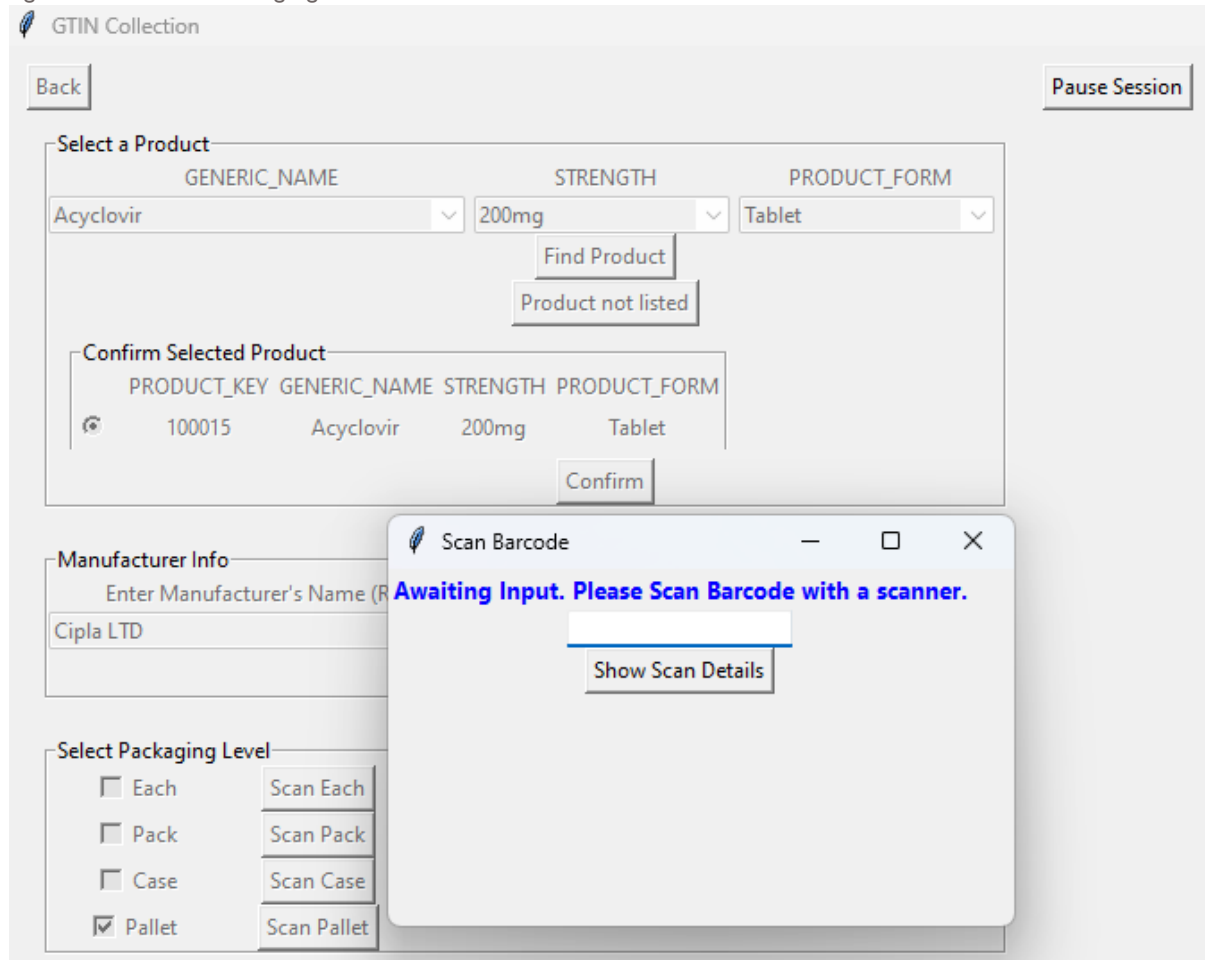


Figure 17: Selected Row Highlighted



- b. **Add Manufacturer:** User can select a row and add another manufacturer for the scanned product. Then follow steps 7 onwards and a new line gets added for another manufacturer for the selected product.

Figure 18: Add Manufacturer

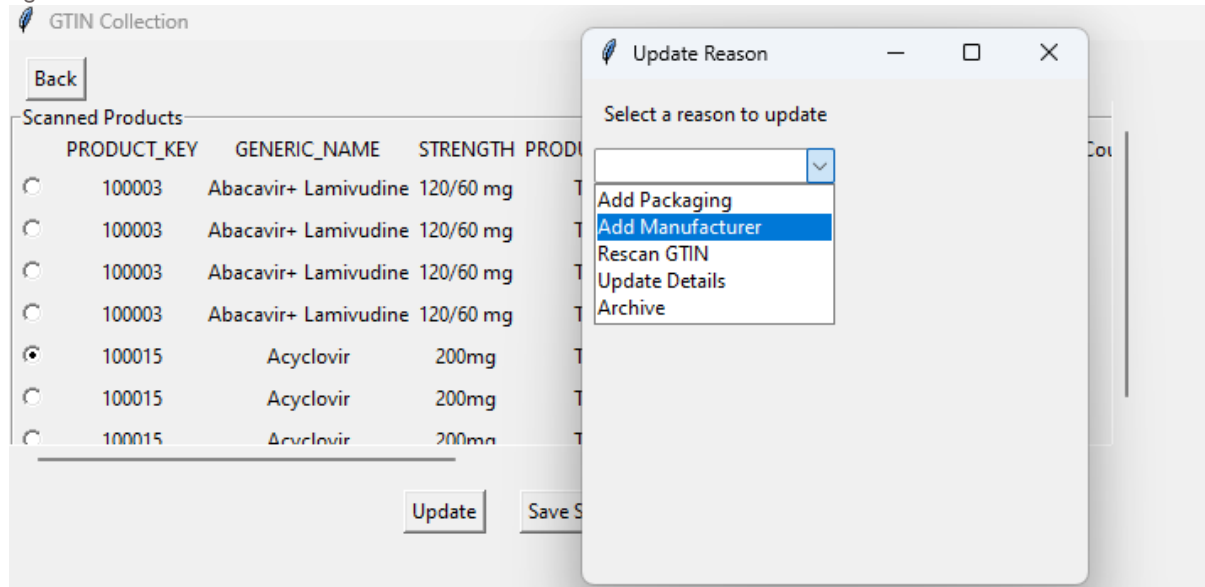


Figure 19: Selected Row Highlighted

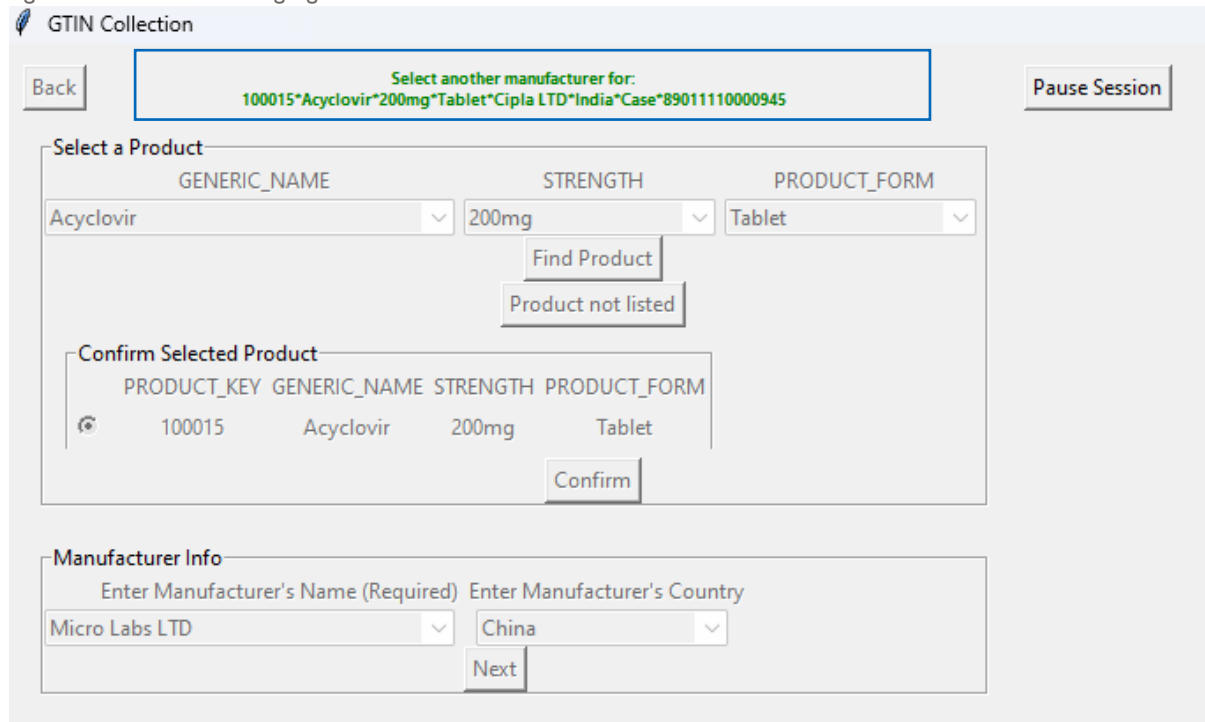
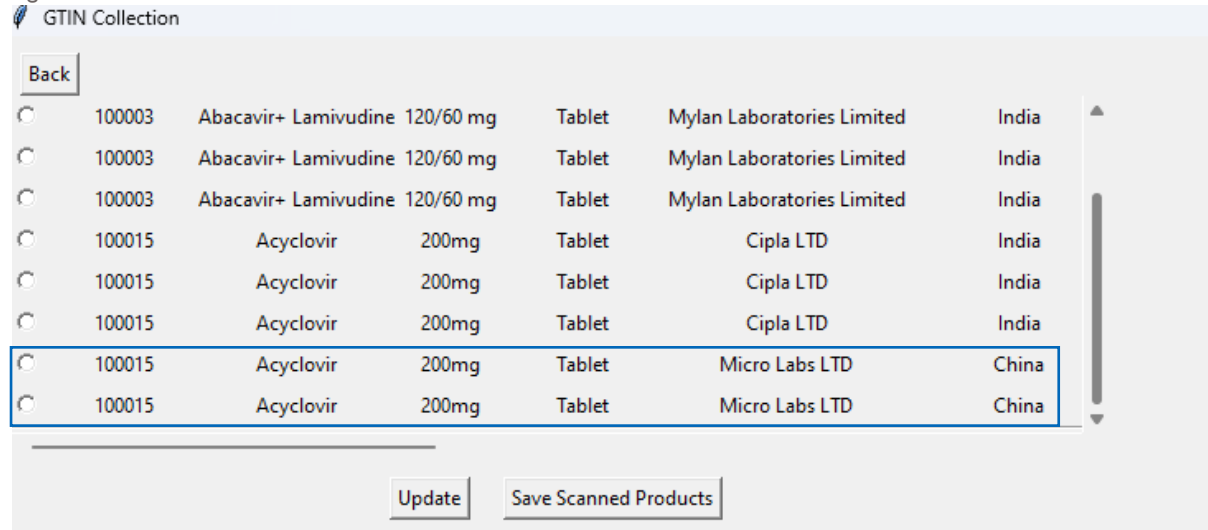


Figure 20: New Manufacturer for Selected Product Added



- c. **Rescan GTIN:** User can select a row and rescan a barcode for that row. This will update the barcode and the GTIN value for that product.

Figure 21: Rescan GTIN

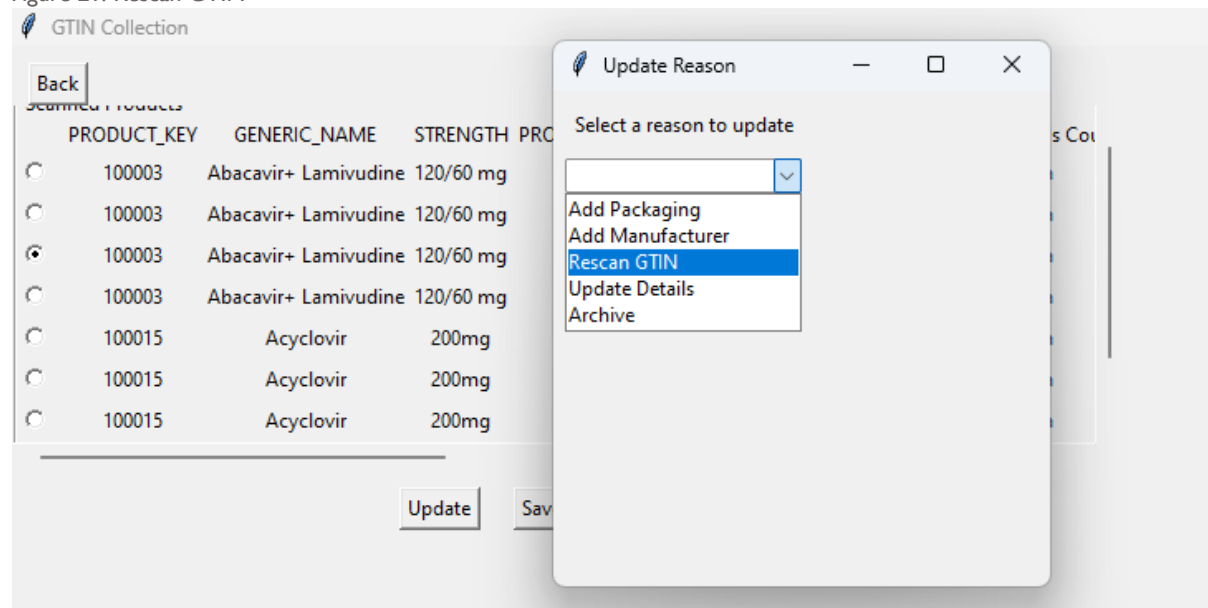


Figure 22: Highlights the Selected Row and prompts to Rescan

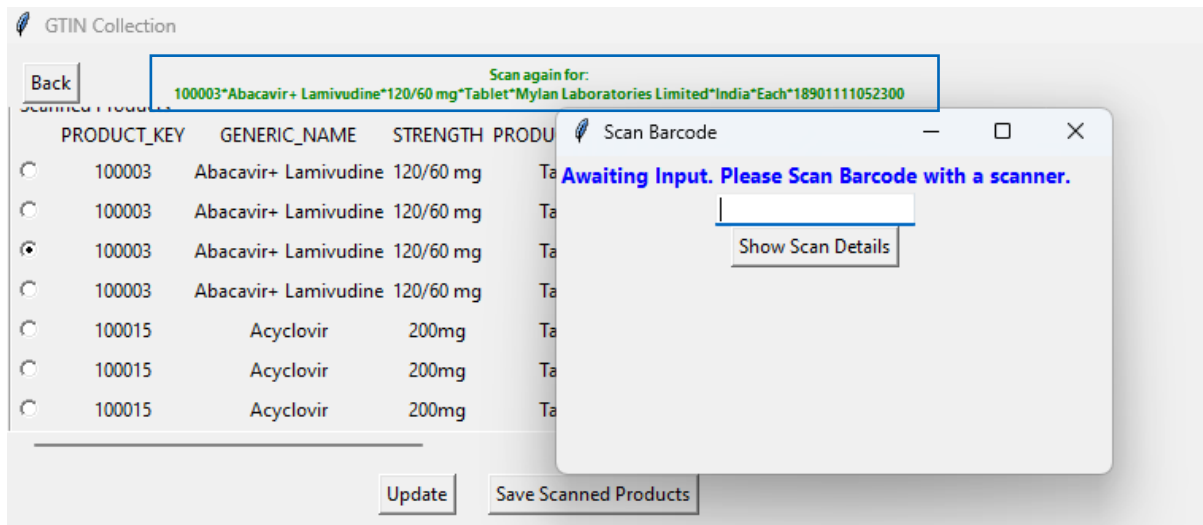
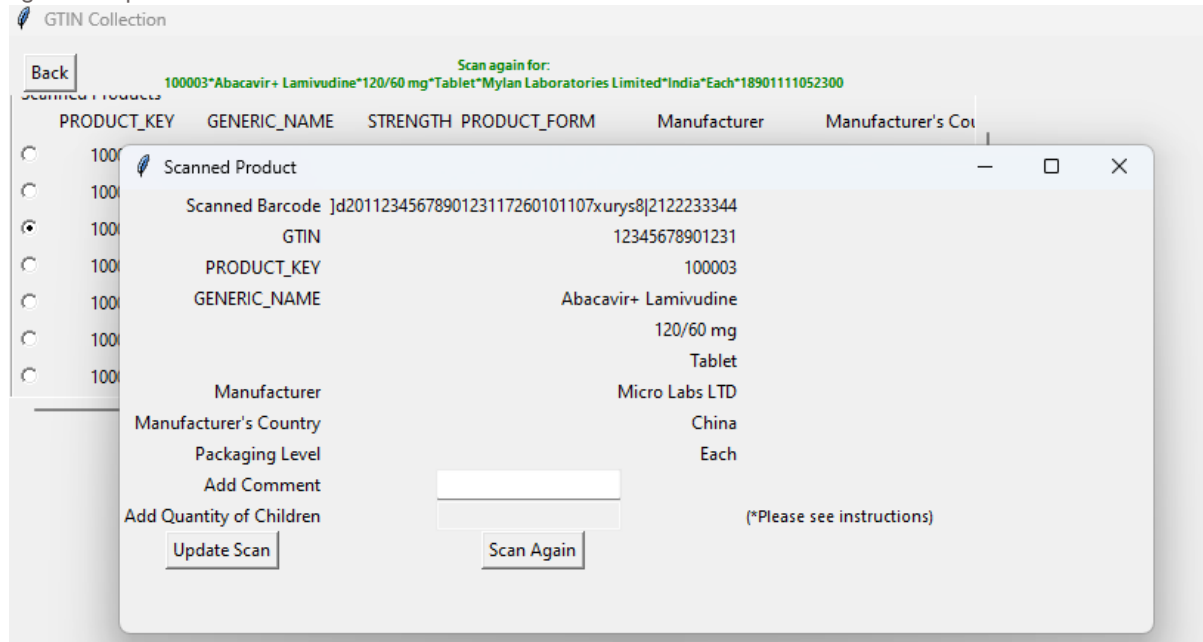


Figure 23: Updated Scan Details



- d. **Update Details:** User can select a scanned row and choose to update Manufacturer, Manufacturer's Country, Quantity of Children or Comment for that product.

Figure 24: Update Details

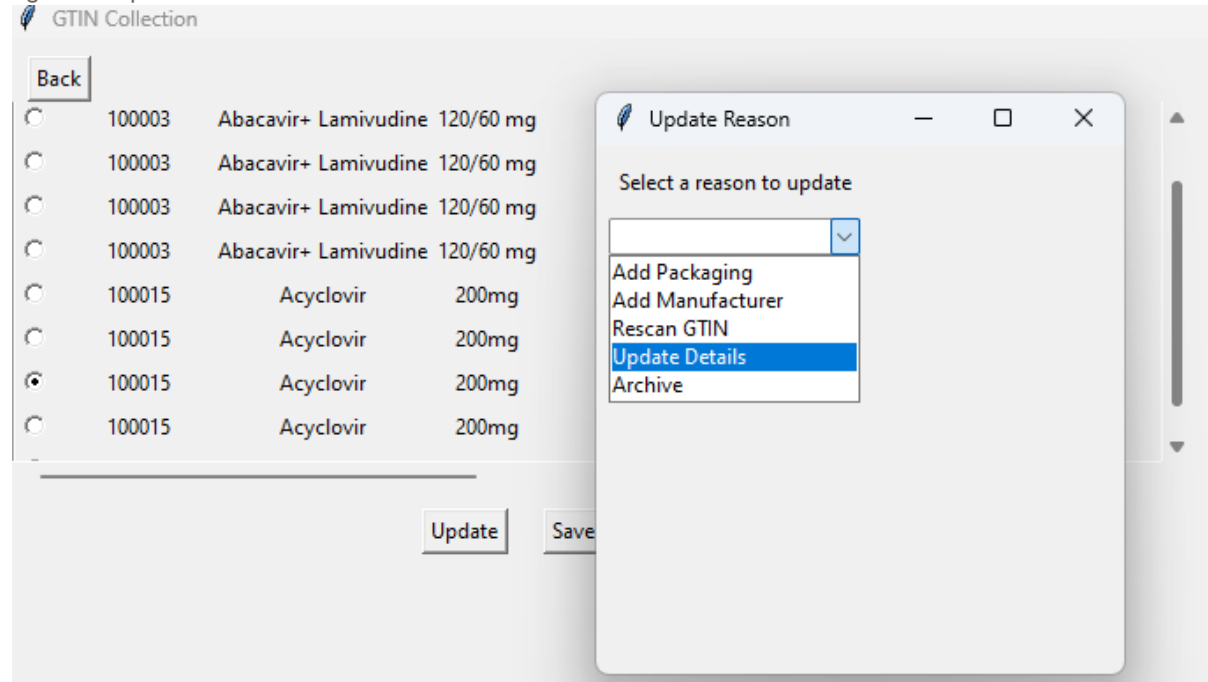


Figure 25: Update Details Entry

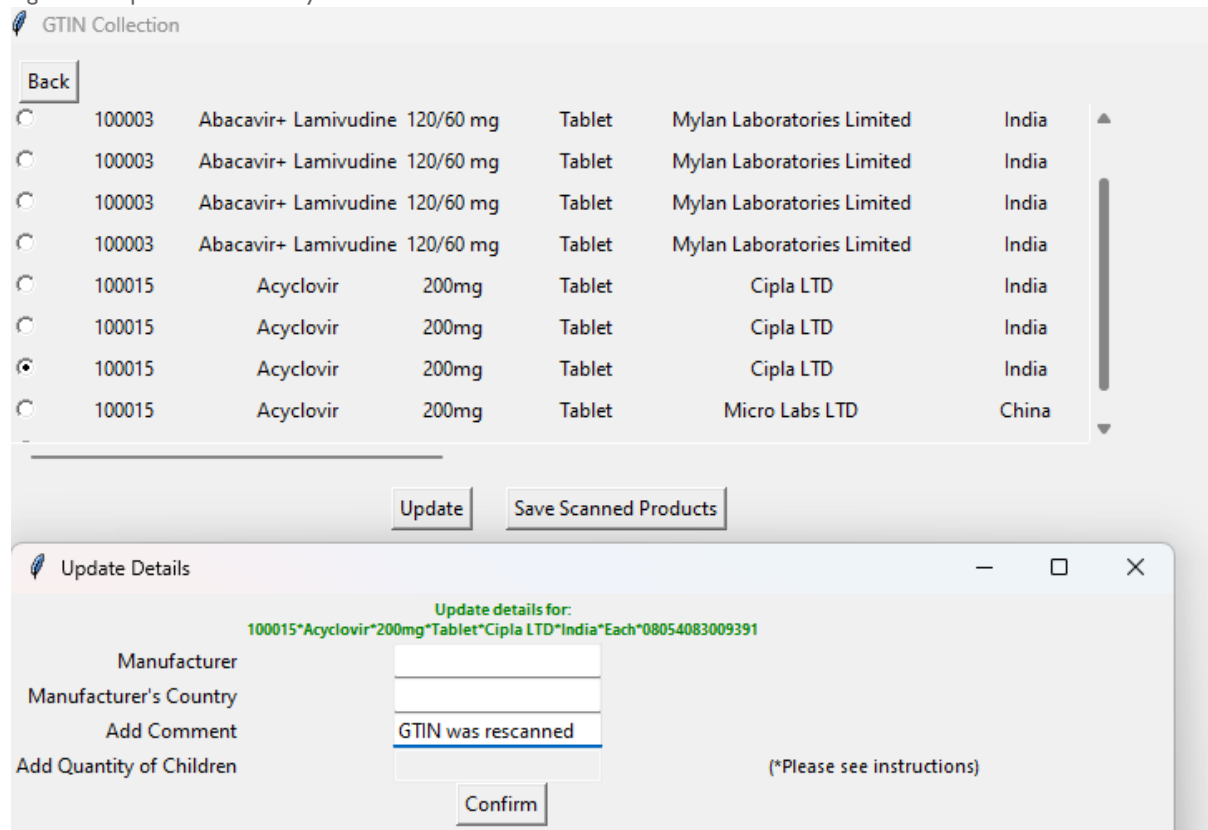
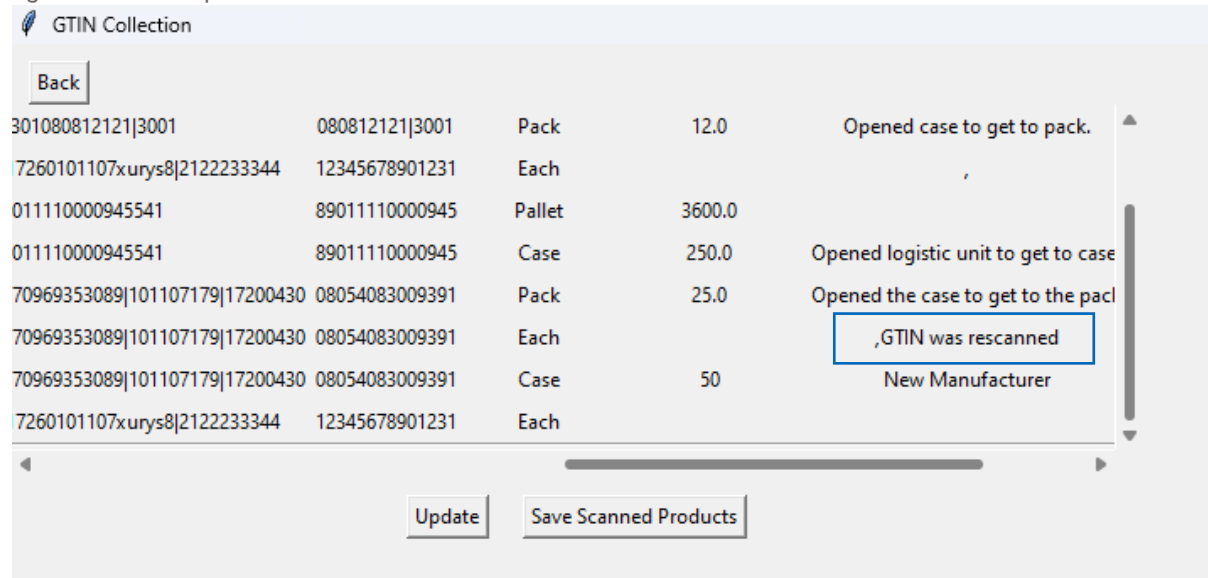


Figure 26: Details Updated



- e. **Archive:** Users can use archive to delete a row from the scanned products list. This row will get stored in the “Archive” tab of the final saved list of scanned products.

Figure 27: Archive Option

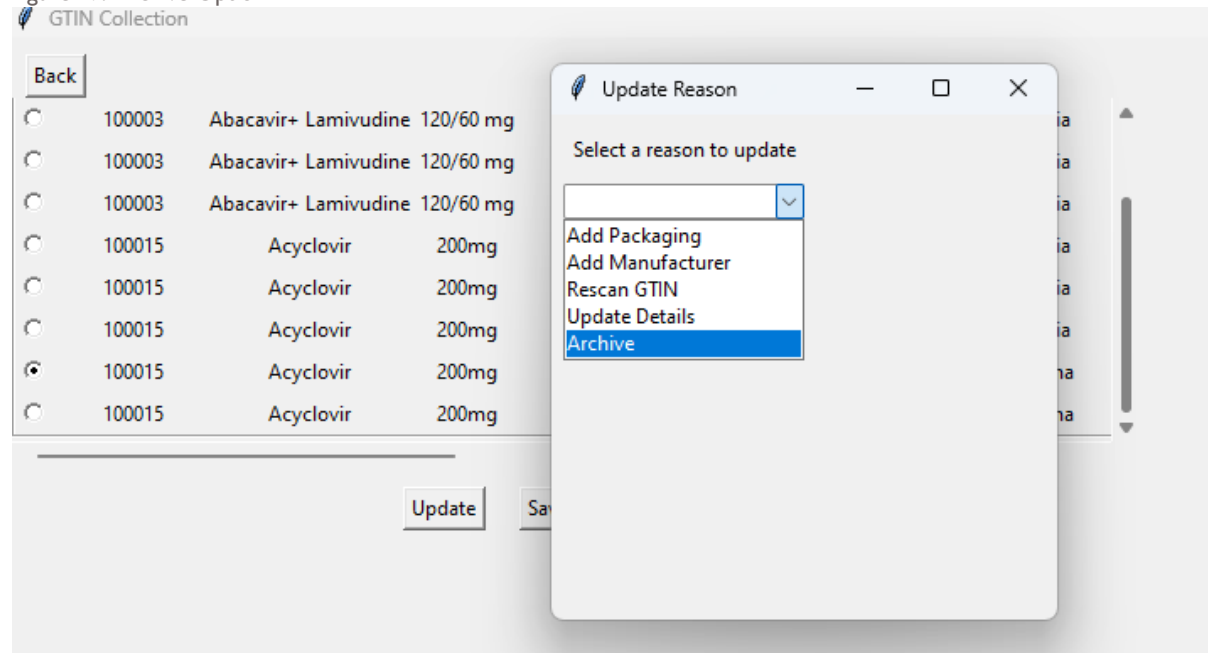


Figure 28: Selected Row Archived

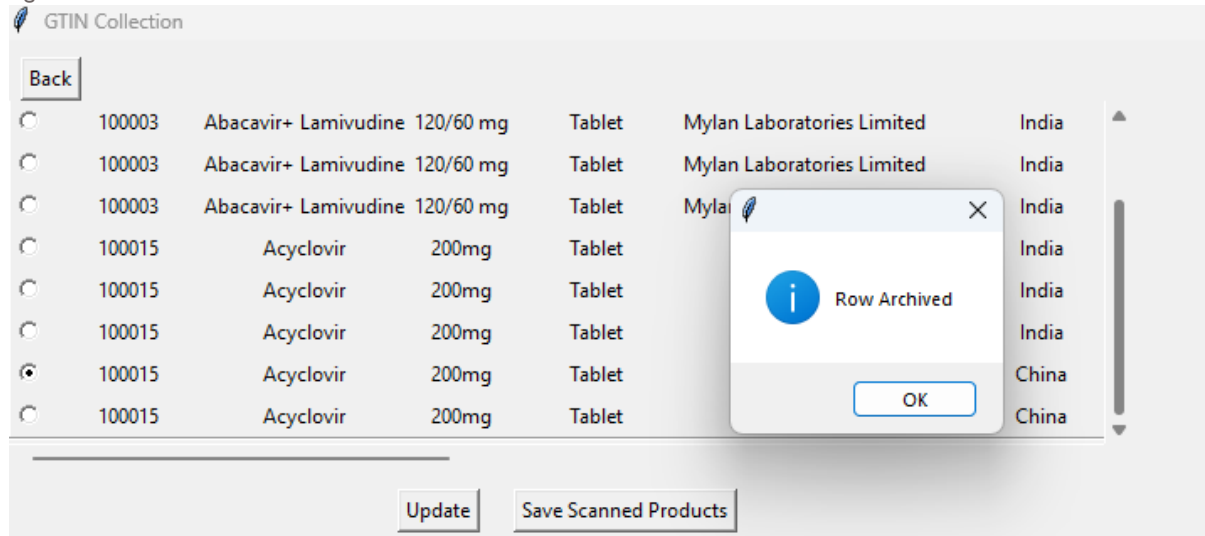
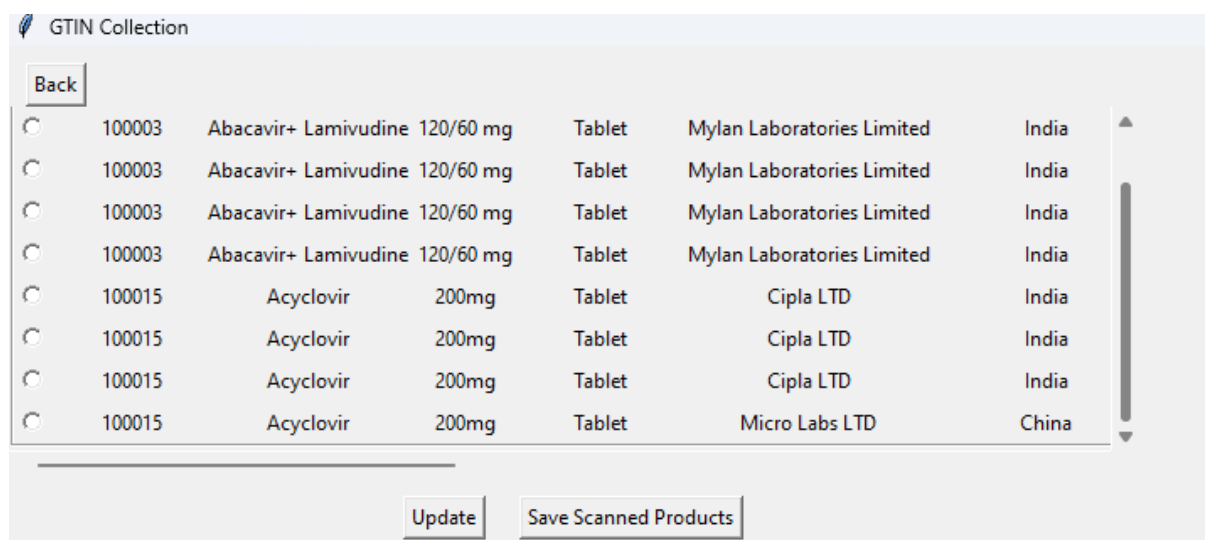


Figure 29: Archived Row Removed



Pause Session

- After scanning the first product, at any point the user can pause the scanning session by clicking the 'Pause Session' button at top right-hand corner.

This will close the application and save a copy of the input product master data file that user provided, consisting only the products that are not scanned yet. This file will be named 'inputfile(paused).xlsx' and gets saved in the paused_session directory.

The scanned products will also get saved in paused_session directory with the name 'scanned_GTINS(paused).xlsx'.

Important Note: If the user selected multiple packing sizes to scan for a selected product, all packages must be scanned before pausing the session as pausing the session will remove that item from the list of items to be scanned. If the pause must occur and the unscanned packaging is removed from the list on session restart, the user can add the packaging during the Review process.

Important Note: Next time user can select 'Get paused file' button in step 2 and the app will use these saved (paused) files as input file and keep adding scanned products to the scanned file.

Figure 30: Pause Session

The screenshot shows the 'GTIN Collection' application interface. At the top right, a 'Pause Session' button is highlighted with a blue border. The main interface is divided into several sections:

- Select a Product:** Contains three dropdown menus for 'GENERIC_NAME', 'STRENGTH', and 'PRODUCT_FORM'. Below them are 'Find Product' and 'Product not listed' buttons.
- Confirm Selected Product:** A table showing the selected product details:

Unique_Id	GENERIC_NAME	STRENGTH	PRODUCT_FORM
100015	Acyclovir	200mg	Tablet

 Below the table is a 'Confirm' button.
- Manufacturer Info:** Contains two dropdown menus for 'Enter Manufacturer's Name (Required)' (set to 'Micro Labs LTD') and 'Enter Manufacturer's Country' (set to 'China'). A 'Next' button is below.
- Select Packaging Level:** Contains four radio buttons: 'Each' (checked), 'Pack', 'Case' (checked), and 'Pallet'. To the right are four buttons: 'Scan Each', 'Scan Pack', 'Scan Case', and 'Scan Pallet'. A 'Confirm all scans' button is at the bottom.
- Bottom Navigation:** Three buttons: 'Select Another Manufacturer', 'Select Another Product', and 'Review Scanned Products'.

Saving the Scans

14. Once scanning is done and reviewed for all the products from the input file, user can save the final file by clicking 'Save Scanned Products' in the review scanned products tab.
15. System Process A. This will delete the paused session files and save a file named 'Scanned_GTINS(reviewed)*today's date*.xlsx' consisting of all scanned products, in the same directory where the application resides.
16. System Process B. The program drops duplicate rows scanned, flags rows of products having the same GTIN and duplicate products with different GTINs in the comment column of the final report.

Figure 31: Saving the Scans
 GTIN Collection

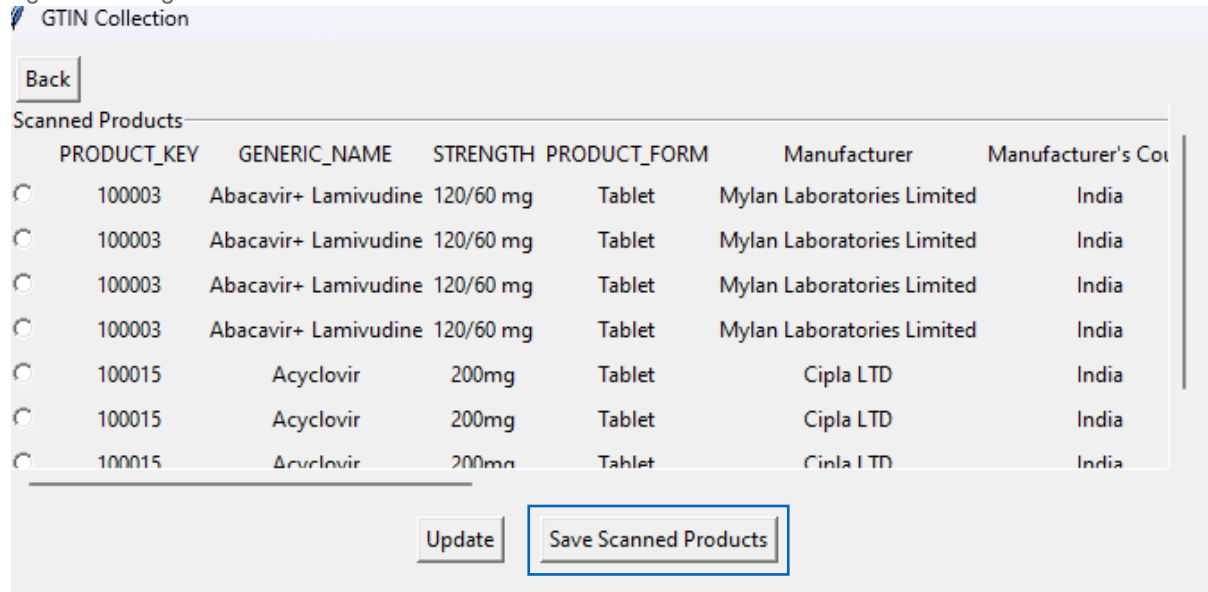


Figure 32: Save Scanned Products removes all files and saves the final list of scanned products

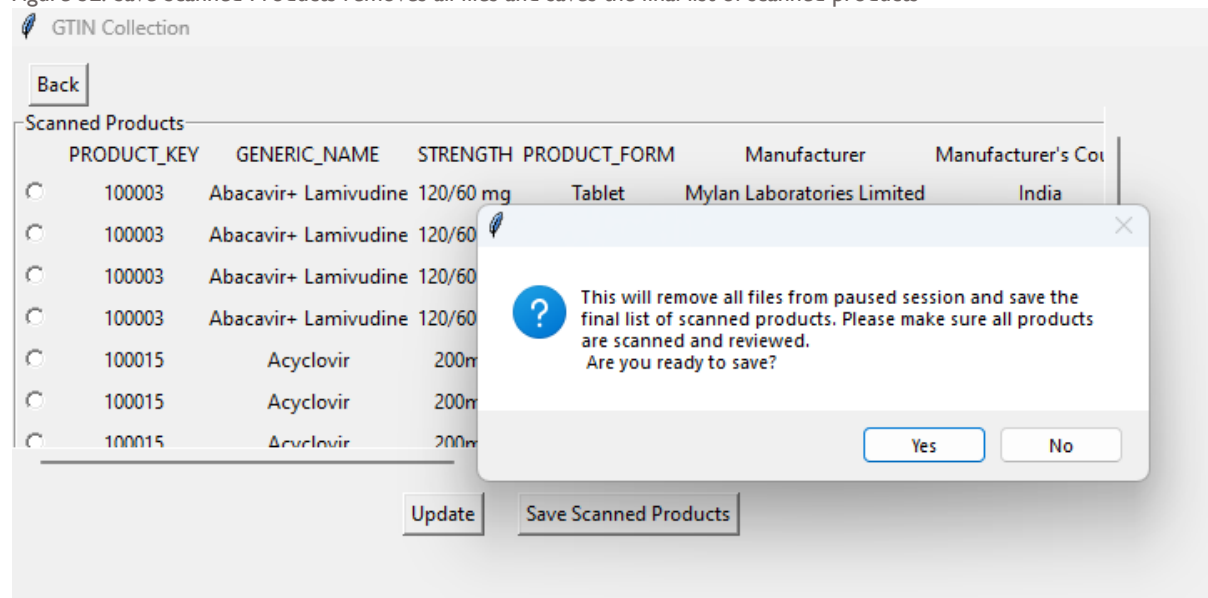


Figure 33: The final list of scanned products can be found in the GTIN_collection_gui executable

Name	Date modified	Type	Size
__pycache__	10/26/2023 3:44 PM	File folder	
Log	10/26/2023 3:44 PM	File folder	
myenv	10/26/2023 3:44 PM	File folder	
paused_session	10/26/2023 5:01 PM	File folder	
20220118 Zambia Master Data_PSM-8	10/26/2023 1:02 PM	Microsoft Excel Worksheet	989 KB
GTIN_collection_gui	10/26/2023 3:44 PM	Application	140,959 KB
GTIN_collection_gui	10/26/2023 3:44 PM	Python File	52 KB
GTIN_scanner_test	10/26/2023 3:44 PM	Python File	1 KB
README	10/26/2023 3:44 PM	Markdown Source File	1 KB
requirements	10/26/2023 3:44 PM	Text Document	1 KB
Scanned_GTINs(Reviewed)20_10_2023	10/20/2023 2:17 PM	Microsoft Excel Worksheet	7 KB
Scanned_GTINs(Reviewed)26_10_2023	10/26/2023 5:01 PM	Microsoft Excel Worksheet	7 KB

The final scanned list contains the Unique Identifier (Product_Key in the example), the columns used for selecting the records, and the GTINs and product details captured during the session. The tool will add comments when it detects exceptions, such as duplicate GTINs, and the user can see these during the Review Scanned Products step and update records with exceptions prior to the final Save Scanned Products step.

Figure 34. Example of the final list including trade item master data

PRODUCT_KEY	GENERIC_NAME	STRENGTH	PRODUCT_FORM	Manufacturer	Manufacturer's Country	GTIN	Packaging Level	Number of Children	Comment
100003	Abacavir+ Lamivudine	120/60 mg	Tablet	Mylan Laboratories Limited	India	30382902451229	Case	144.0	Opened logistic unit to access case.
100003	Abacavir+ Lamivudine	120/60 mg	Tablet	Mylan Laboratories Limited	India	080812121 3001	Pack	12.0	Opened case to get to pack.
100003	Abacavir+ Lamivudine	120/60 mg	Tablet	Mylan Laboratories Limited	India	12345678901231	Each		„Duplicate GTIN
100003	Abacavir+ Lamivudine	120/60 mg	Tablet	Mylan Laboratories Limited	India	89011110000945	Pallet	3600.0	„Duplicate GTIN
100015	Acyclovir	200mg	Tablet	Cipla LTD	India	89011110000945	Case	250.0	Opened logistic unit to get to case„Duplicate GTIN
100015	Acyclovir	200mg	Tablet	Cipla LTD	India	08054083009391	Pack	25.0	Opened the case to get to the pack„Duplicate GTIN
100015	Acyclovir	200mg	Tablet	Cipla LTD	India	08054083009391	Each		„GTIN was rescanned„Duplicate GTIN
100015	Acyclovir	200mg	Tablet	Micro Labs LTD	China	12345678901231	Each		„Duplicate GTIN

Additional Resources

Product Master Data Reference Guide and Toolkit

This guide outlines strategic considerations and guidelines for an accessible and consistent approach to communicate and manage accurate product information throughout the product lifecycle. It is recommended for use by teams to help define the Product Master Data Model.

Available: <https://www.ghsupplychain.org/PMDMReferenceGuide>

Data Discovery Framework

The Data Discovery Framework can help identify the gaps between your current data model and the target data model that includes trade item level identification and packaging hierarchies leveraging GTIN.

Available: <https://www.ghsupplychain.org/gs1-data-discovery-framework>

GS1 Supply Chain Information System (SCIS) Requirements

The GS1 SCIS Requirements can be used to identify the system capabilities needed to support GS1 standards-based product master data management.

Available: <http://www.ghsupplychain.org/GS1SCISReqs>

GS1-enabled Automatic Identification and Data Capture (AIDC) Implementation Guide and Generic SOP Booklet

The GS1-enabled AIDC Implementation Considerations resource describes the full set of policy, people, process, and technology components required to put into place a sustainable barcode scanning capability within an organization. This resource is supported by a GS1-enabled AIDC SOP Booklet contains example business processes that are deployed to support implementation of an AIDC solution.

Available: <https://www.ghsupplychain.org/GS1AIDCImplementationConsiderations> and <https://www.ghsupplychain.org/GS1AIDCSOPBooklet><https://www.ghsupplychain.org/GS1ADIDCSOPBooklet>

For any questions, comments, or feedback about this tool, please contact globalstandards@ghsc-psm.org.