

ABBYY DocAI API

Smart-Scan Logistics: Intelligent
Packaging List Automation with ABBYY
Document AI

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About Smart-Scan Logistics Solution

The Smart-Scan Logistics solution enables real-time digitization of packing lists during outbound shipments at logistics centres or warehouses. Using a mobile app, users capture a photo of the packing list, which is processed by ABBYY Document AI to extract key data fields. The extracted information is then used to instantly notify stakeholders and update inventory systems—reducing manual data entry, minimizing errors, and improving overall shipment visibility.

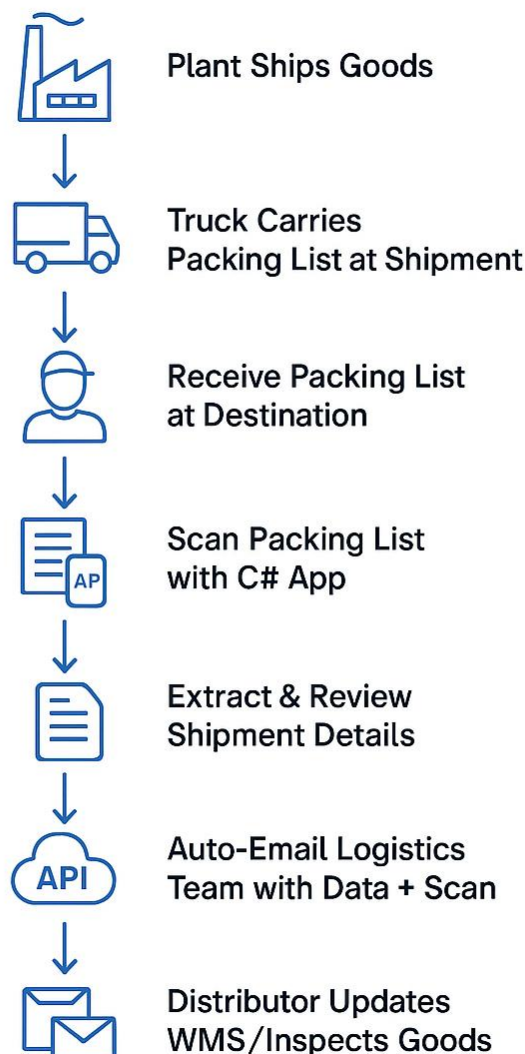
This automation not only enhances operational speed but also ensures accurate, consistent data flow into downstream systems for better decision-making and audit readiness.

Why This Automation & Smart Scan is Needed

- Eliminates manual data entry errors, ensuring higher accuracy and reliability
- Accelerates warehouse operations by automating data capture and processing
- Delivers instant digital records, improving traceability and audit readiness
- Boosts operational efficiency, reducing turnaround time and manual workload
- Enhances customer satisfaction through faster, error-free communication and fulfilment

Use-case Flow

End-to-End Process Flow



Smart-Scan Logistics Application Flow

- **Capture:** The user captures a photo of the packing list using the device's camera.
- **Extraction:** The image is sent to ABBYY Document AI, which extracts key fields from the document.
- **Optional Notes:** The user is prompted to enter optional delivery notes or comments.
- **Packing List Number Validation:** If the Packing List Number is missing from the extracted results, the user is prompted to enter it manually.
- **Display:** The extracted fields are shown on-screen for user visibility (no confirmation required).
- **Output Generation:** A structured JSON file containing all extracted fields is created.
- **Notification:** An email is automatically sent via Microsoft Graph API, which includes:
 - The JSON output file
 - The original packing list image as an attachment
 - Key extracted fields and any user-provided notes in the email body

Solution Benefits

- Minimizes manual data entry errors, improving accuracy and reducing rework
- Creates instant digital records of shipment documents for easy access and compliance
- Accelerates warehouse and logistics operations with faster document processing
- Enables seamless integration with ERP, inventory, and shipment tracking systems
- Improves supply chain visibility and supports real-time decision-making
- Reduces operational costs through automation and streamlined workflows

System Requirements

To deploy and run the Smart-Scan solution effectively, ensure the following system and infrastructure prerequisites are met:

ABBYY Document AI

- Active ABBYY Document AI account with access to create and deploy Document Skills
- API access enabled for integration with external systems (e.g., Microsoft Graph API)

Microsoft Azure

- Active Azure AD account with permissions to register applications
- Generated Client ID, Client Secret, and Refresh Token for Microsoft Graph API

Device Requirements

- Device with camera capability for capturing packaging list images
- Network connectivity to send images to ABBYY Document AI API and receive results

Development Environment

- Visual Studio 2022 or later
- .NET 7.0 SDK or higher

Setup & Customization

1. Configure ABBYY Document AI API

Begin by following the standard setup for ABBYY Document AI API. Visit developer.abbyy.com to generate your API key. Store this key securely as it will be required for all document processing operations.

2. Set Up Microsoft Graph API Integration

To enable email notifications, generate the following Azure AD credentials:

- Client ID
- Client Secret
- Refresh Token

Update these credentials directly in your application code.

Optionally, for better security and maintainability, you can also store these sensitive values in a separate configuration file and reference them from your main codebase.

Update Abbyy Document AI API key and MS Graph credentials generated above in MainProgram.xaml.cs file of the C# application.

For more technical details, please refer to the SmartScan_Readme.pdf file.

3. Customize Workflow Logic (Optional)

The solution is fully customizable. You can tailor scripts, output formatting, and integration points to suit your operational needs.

4. Deploy and Run the Application

Deploy the app to a camera-enabled device. Once running, the application will capture packing list images, process them using the ABBYY Document AI API, and trigger email notifications via Microsoft Graph API.

Customizing the solution

The application is built for flexibility and can be tailored to suit your specific business processes. You can:

- **Append additional fields** to the email body to include relevant context or metadata
- **Trigger downstream workflows**, such as inventory updates or ERP synchronization, after sending the email
- **Apply conditional logic** based on extracted field values to control processing behaviour
- **Dynamically modify the email subject or recipient** by integrating with your database or business rules
- **Capture optional user inputs**, such as delivery comments or custom notes, before final submission

For advanced customization and scripting, refer to the [ABBYY Document AI API developer documentation](#).