

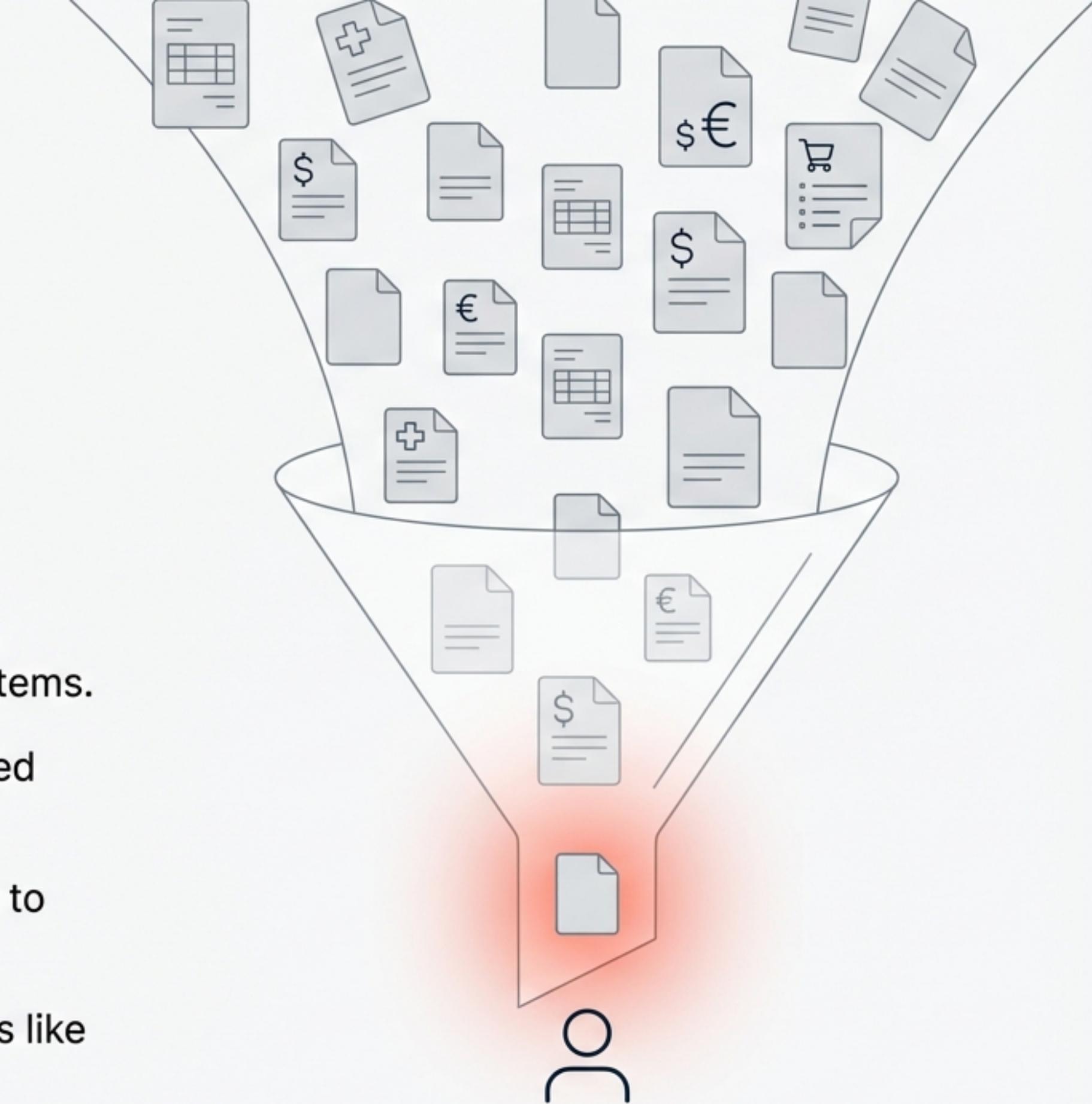
Accelerate Data Ingestion with Azure AI Document Intelligence

From Manual Processing to Intelligent Automation

The Challenge: Manual Document Processing is a Bottleneck

Many industries rely on processing documents from customers, partners, and vendors: health records, financial applications, purchase orders, invoices. The traditional approach involves people manually reading documents and retying information into backend systems.

- * **Time-Consuming & Labor-Intensive:** Diverts skilled employees to low-value data entry.
- * **Error-Prone:** Manual transcription inevitably leads to mistakes.
- * **Slow:** Creates delays in critical business workflows like loan approvals or invoice payments.



The Blueprint for Intelligent Automation

A successful automation workflow follows a clear, three-stage process.



Documents are digitized and collected.
(Sources: Web portals, email attachments, physical mailroom scanners).

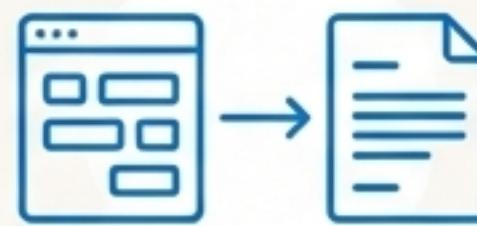
The type of document is identified, and key data is extracted and structured using machine learning models.

Extracted data is validated against internal systems and sent to downstream applications for decision-making.
(Emphasize: "**Keep humans in the loop** for high-stakes scenarios like loan approvals or insurance payouts").

Your Solution: Azure AI Document Intelligence

A unified service to extract text and structure from any document.

Versatile: Analyzes both structured forms and unstructured documents like letters or contracts.



Secure & Private: Enterprise-grade features including private endpoints, RBAC, and managed identities. Your data is never used to train Microsoft's base models.



Developer-Friendly: Integrate using REST APIs or SDKs for Python, C#, Java, and JavaScript.

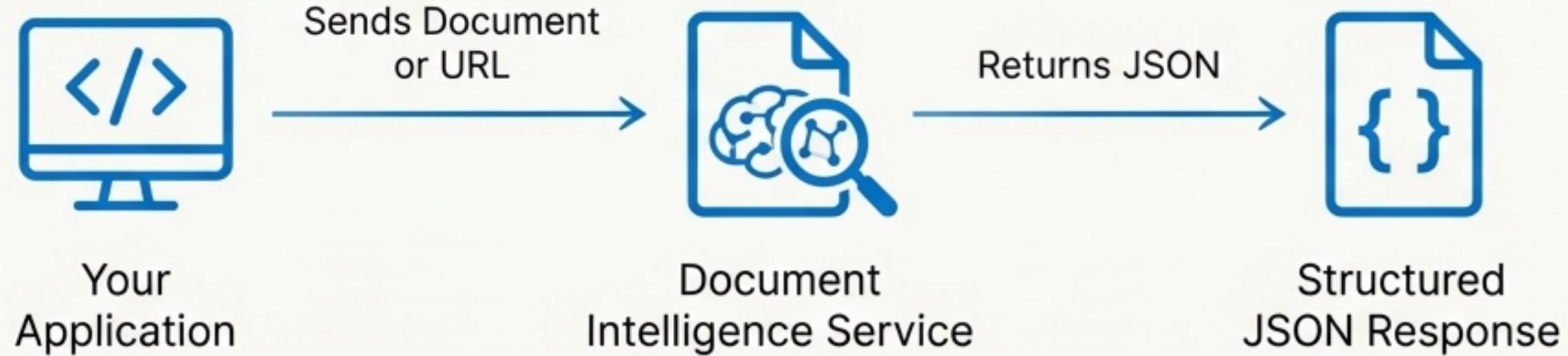


Extensible: Often used in conjunction with Azure OpenAI to power summarization and advanced Q&A on your documents.



Transforming Documents into Actionable JSON Data

The service receives a document and returns a structured JSON object containing layouts, tables, and key-value fields with confidence scores.



```
{  
  "documents": [  
    {  
      "docType": "invoice",  
      "fields": {  
        "invoiceDate": {  
          "type": "date",  
          "value": "2023-10-26",  
          "confidence": 0.98  
        },  
        "customerName": {  
          "type": "string",  
          "value": "Contoso Ltd.",  
          "confidence": 0.95  
        }  
      }  
    }  
  ]  
}
```

A Model for Every Document Need

Document Intelligence offers three categories of models to fit your specific use case, from general analysis to highly customized forms.



General Document Analysis

For extracting raw text (OCR) and structural elements like tables and layout from any document.

PDF, JPEG, PNG, BMP, TIFF,
DOCX, XLSX, PPTX



Pre-built Models

For common document types.
Trained by Microsoft on thousands
of examples, ready to use
immediately.

PDF, JPEG, PNG, BMP, TIFF



Custom Models

For your unique documents. Train a
model to understand your
specific layouts and fields.

PDF, JPEG, PNG, BMP, TIFF

Start Immediately with Powerful Pre-built Models

No training required. Use expertly pre-trained models for a wide range of standard documents.



Invoices

Vendor, Customer, Line Items, Totals



Receipts

Merchant Info, Tax, Tip, Total



ID Documents

Passports, Driver's Licenses



Health Insurance Cards



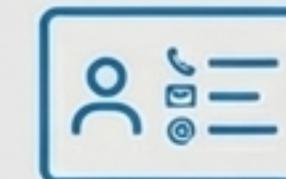
Contracts & Legal Agreements



US Tax Forms



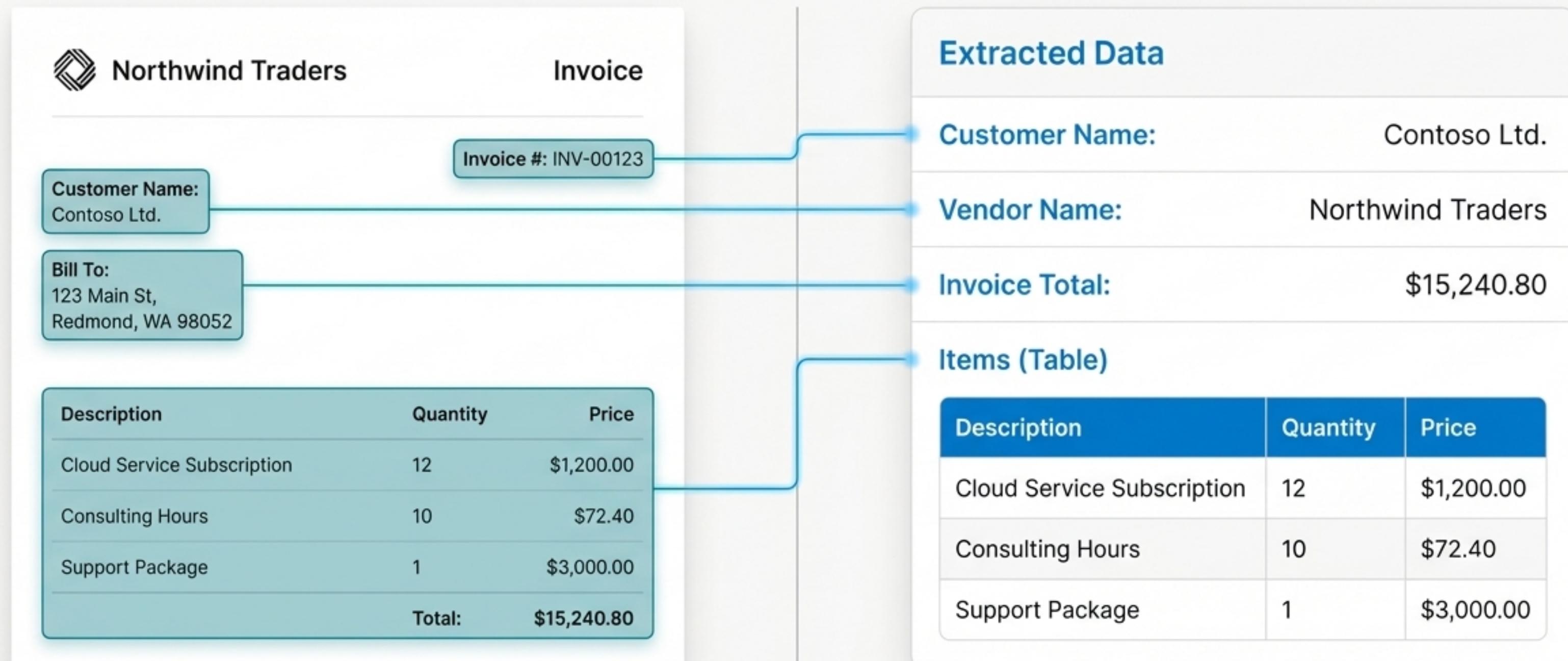
Corddarats



Business Cards

Example in Action: The Pre-built Invoice Model

The model automatically identifies and extracts standard invoice fields, including line items from tables, without any custom training.



Go Beyond Standard Forms with Custom Models

When pre-built models don't fit your unique or complex documents, train a model that understands your specific layout and fields.



Custom Template Model

Use Case:

For documents with a consistent, static visual layout (e.g., printed government forms).

Benefit:

Highly accurate for fixed formats. Supports signature detection.



Custom Neural Model

Use Case:

For structured, semi-structured (e.g., invoices with varying layouts), and unstructured documents (e.g., letters).

Benefit:

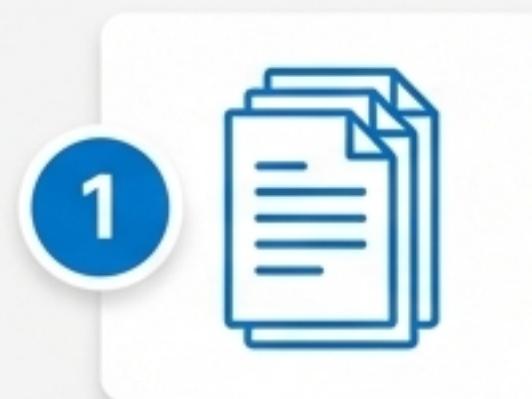
More resilient to variations in format.



****Best Practice**:** Start with a Custom Neural model unless you specifically need a feature only available in the Template model (like signature detection or a specific language).

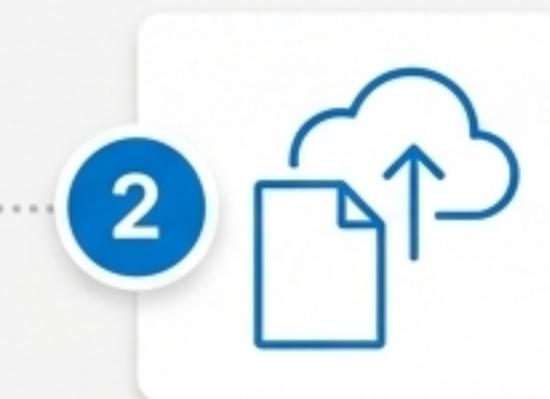
Your 5-Step Path to a Trained Custom Model

The Document Intelligence Studio provides a guided visual experience for training, testing, and managing your models.



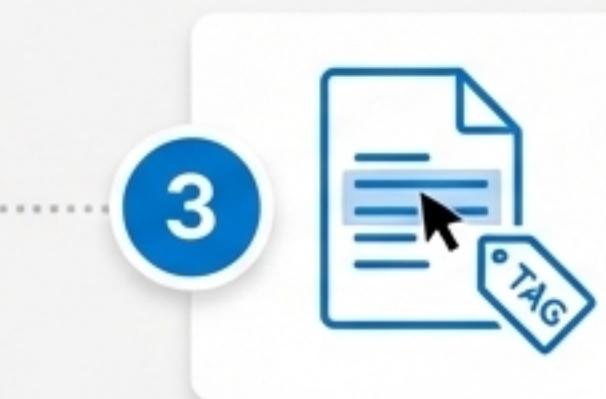
Collect Documents

Gather at least 5 sample documents for a Template model (or 1 for a Neural model). Use diverse examples with all fields filled in at least once.



Upload to Storage

Place your training documents in an Azure Blob Storage container.



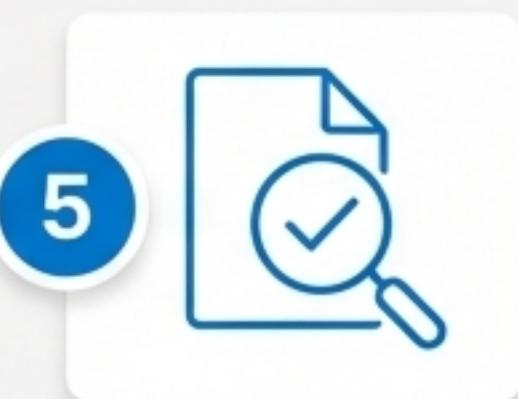
Define & Tag

In the Studio, create your list of fields (e.g., 'CustomerName', 'InvoiceDate') and tag the corresponding text on each sample document.



Train

Click the 'Train' button. The service analyzes your tagged samples to create the model (seconds for Template, minutes for Neural).



Test & Validate

Upload a new, unseen document to test the model's accuracy and review the JSON output.

The Core of Custom Training: Visual Tagging in the Studio

Visually map the data on your forms to the fields you defined. The Studio's interface streamlines this critical step.

The screenshot shows the Document Intelligence Studio interface with the following elements:

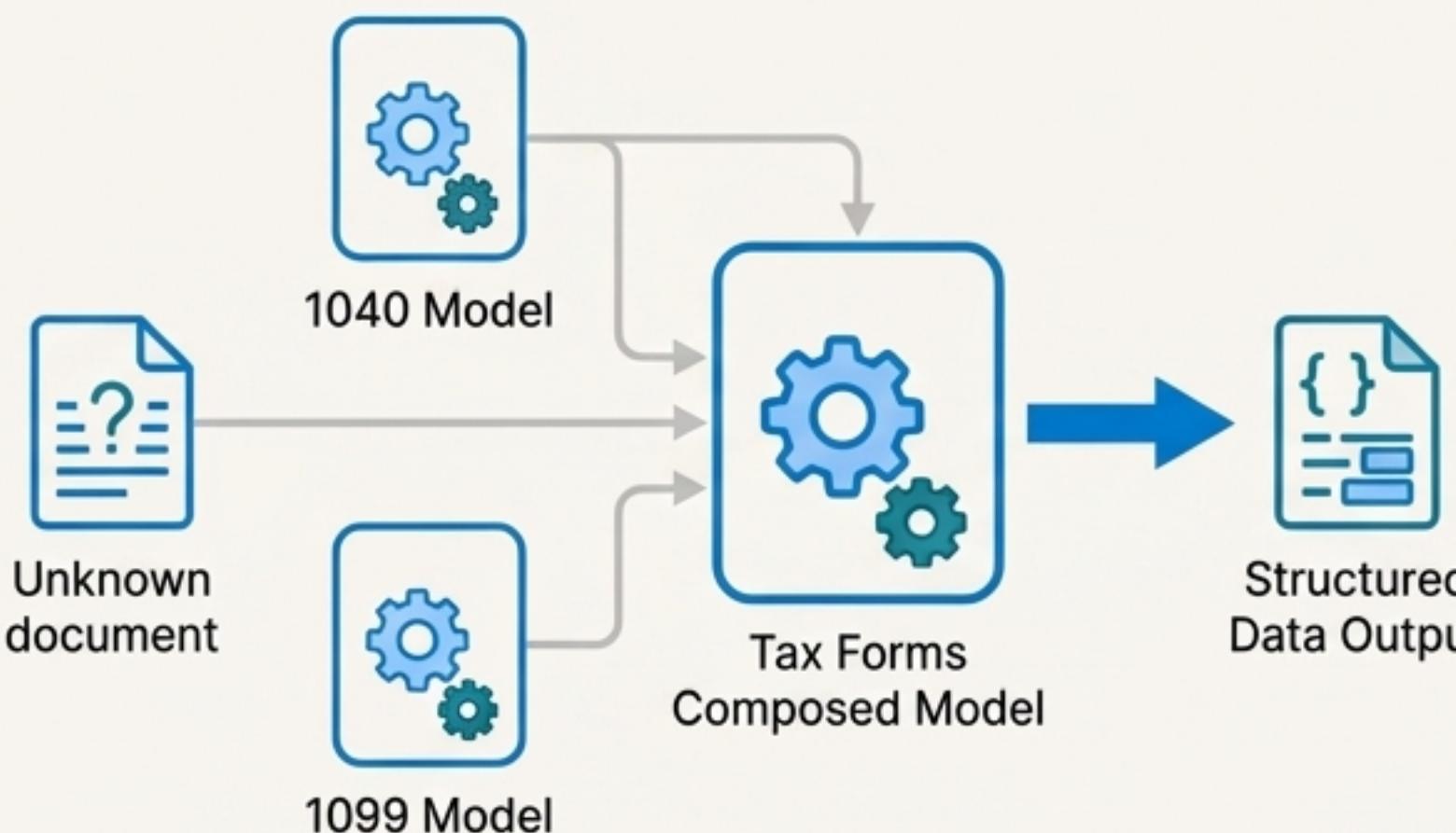
- Header:** Document Intelligence Studio, Document Intelligence > Applicant form, Applicant form.
- Form Preview:** An "Application Form" document is displayed. A specific address field, "123 Quantum Way, Seattle, WA 98109", is highlighted with a blue box and a large blue arrow pointing from it towards the "Fields to Extract" panel.
- Fields to Extract:** A sidebar panel titled "Fields to Extract" lists user-defined fields:
 - User defined fields (Search fields): FieldID, ApplicantDate, ApplicantAddress, ApplicantName, ApplicantAddress.
 - Other fields: ApplicationName, City, Date, SubstitutionAddress, FieldName.
- Buttons:** "Pronart field" and "Train" buttons.

Handling Multiple Document Types with a Single Endpoint

Instead of building pre-processing logic to route documents, let Document Intelligence automatically identify and analyze different form types.

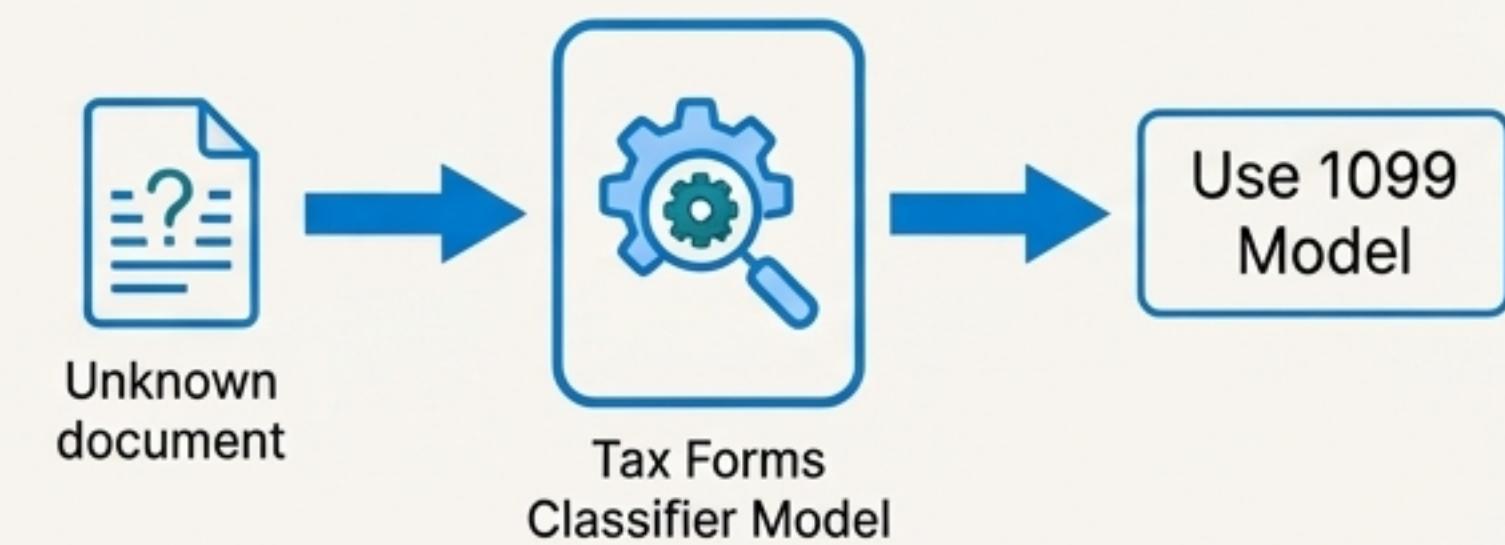
Composed Model

Analyzes and extracts data in a single call.

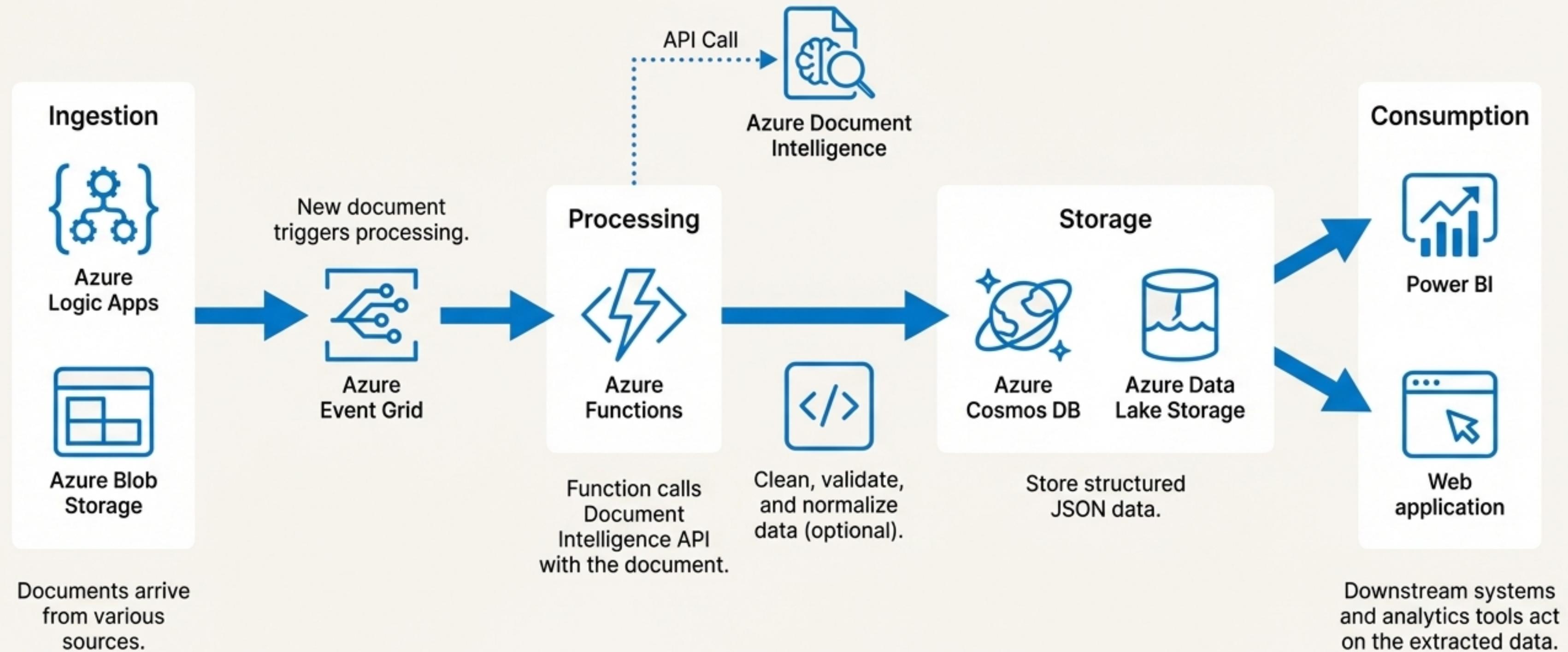


Classification Model

Identifies the document type, giving you control over the extraction step and associated costs.



A Modern Architecture for Document Processing on Azure



Documents arrive from various sources.

Function calls Document Intelligence API with the document.

Clean, validate, and normalize data (optional).

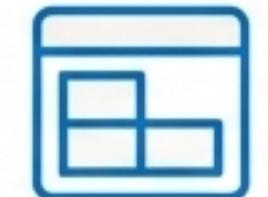
Store structured JSON data.

Downstream systems and analytics tools act on the extracted data.

Ingestion



Azure Logic Apps



Azure Blob Storage

New document triggers processing.



Azure Event Grid

Processing



Azure Functions



Azure Document Intelligence

Storage



Azure Cosmos DB



Azure Data Lake Storage

Consumption



Power BI



Web application

Key Considerations & Best Practices

Practical advice for maximizing the accuracy and efficiency of your models.



Handwriting

Both Template and Neural models support handwriting recognition. Quality depends heavily on the clarity of the original writing.



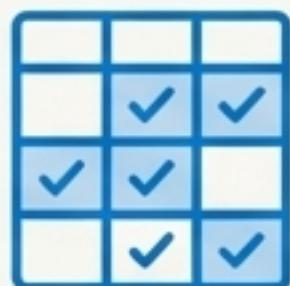
Model Cost & Granularity

Pricing is per page. To get cost per model, consider creating a separate Document Intelligence resource for each distinct workload.



Language Translation

For multilingual documents, first extract the text with Document Intelligence, then pass the extracted text to the Azure AI Translator service.



Complex Tables & Checkboxes

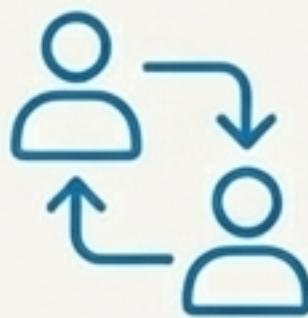
For forms with many checkboxes, it is often more reliable to define each checkbox as a separate field in your custom model rather than treating them as a single table.

Pre-classification

For cost optimization, you can run a simple, lower-cost OCR pass first to find a form code on the page, allowing you to select the correct custom model to call.

The Outcome: From Data Entry to Data-Driven Decisions

Azure AI Document Intelligence is more than an extraction tool; it's a foundational service for modernizing business processes.



Free Up Your People

Shift employees from tedious data entry to high-value work like data review, analysis, and decision-making.



Build Smarter Applications

Feed clean, structured data directly into your critical systems, accelerating workflows and reducing errors.



Unlock Deeper Insights

Combine extracted data with services like Azure OpenAI to enable natural language search, summarization, and interactive Q&A across your entire document library.

