

Automation Document Processing

Component of the IBM Cloud Pak for Business Automation

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Decisions need to be made quickly based on information that is buried in documents. Getting information takes a lot of time, effort, and multiple applications

1.4 days are lost per workweek

Due to information workers creating, reading, or searching for information related to their job

(Source: Forrester 2020)



Our Vision

Automate the conversion of the unstructured content buried in business documents into **structured data that is useful for business processes**. Use AI to empower business users to produce data they can depend on **without requiring a data scientist**.



Component of the Cloud Pak for Business Automation

IBM Automation Document Processing

AI-powered services to produce data you can trust to drive business outcomes

Read

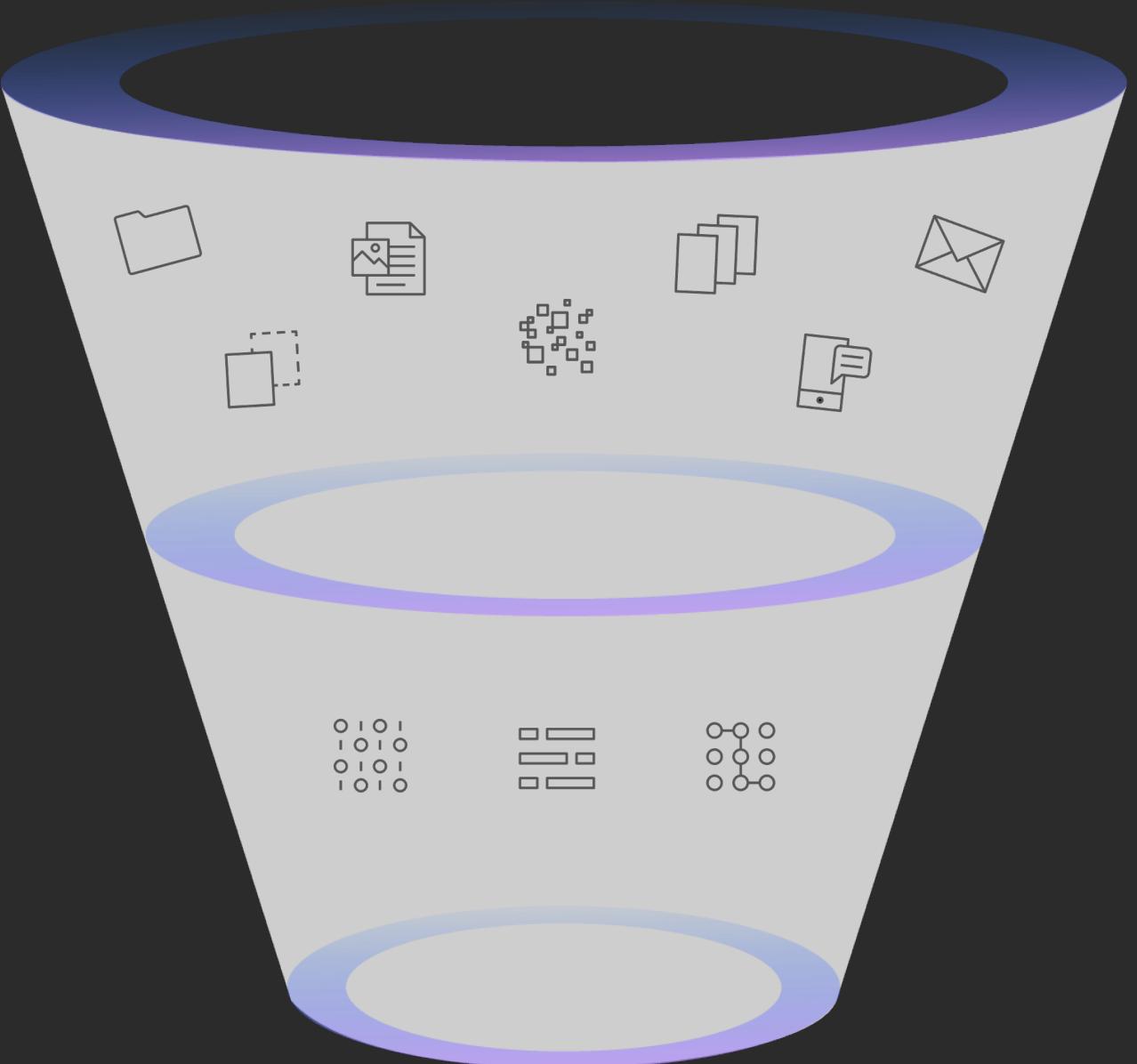
Extract the information you need

Refine

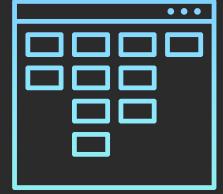
Automatically correct errors that create bottlenecks

Apply

Get your data where it needs to go



What are the **key strengths** of Automation Document Processing?



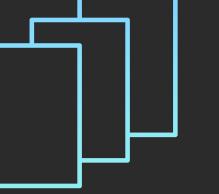
NO CODE SET-UP EXPERIENCE

Create a document processing flow with a visual, click-through approach to building applications



DATA EXTRACTION

Extract data from structured, semi-structured, and unstructured documents



CLASSIFICATION & CATEGORIZATION

Identify different documents and sort documents into the appropriate buckets



AUTOMATIC ERROR CORRECTION AND DATA ENRICHMENT

Detect and correct data that has been extracted incorrectly or should be enriched

How do I know if Automation Document Processing is **right for me?**



“It takes a lot of time, human effort, and multiple applications to get all of the information I need from my business documents.”



“I can’t automate a task, because the data I need to automate that task is locked inside of a document.”



“I want to grow what I’m already doing with capture and document processing, but my IT team doesn’t have time to build another point solution.”

“I have a lot of documents that I don’t have time to read.”

Why should I use Automation Document Processing?

Artificial Intelligence at every stage

Infuse AI throughout a business process, from data collection and enrichment to the training of new document types

Adaptable for your scenario

Out-of-the-box templates allow you to tailor a process relevant to your documents

Easy-to-Use with no technical training

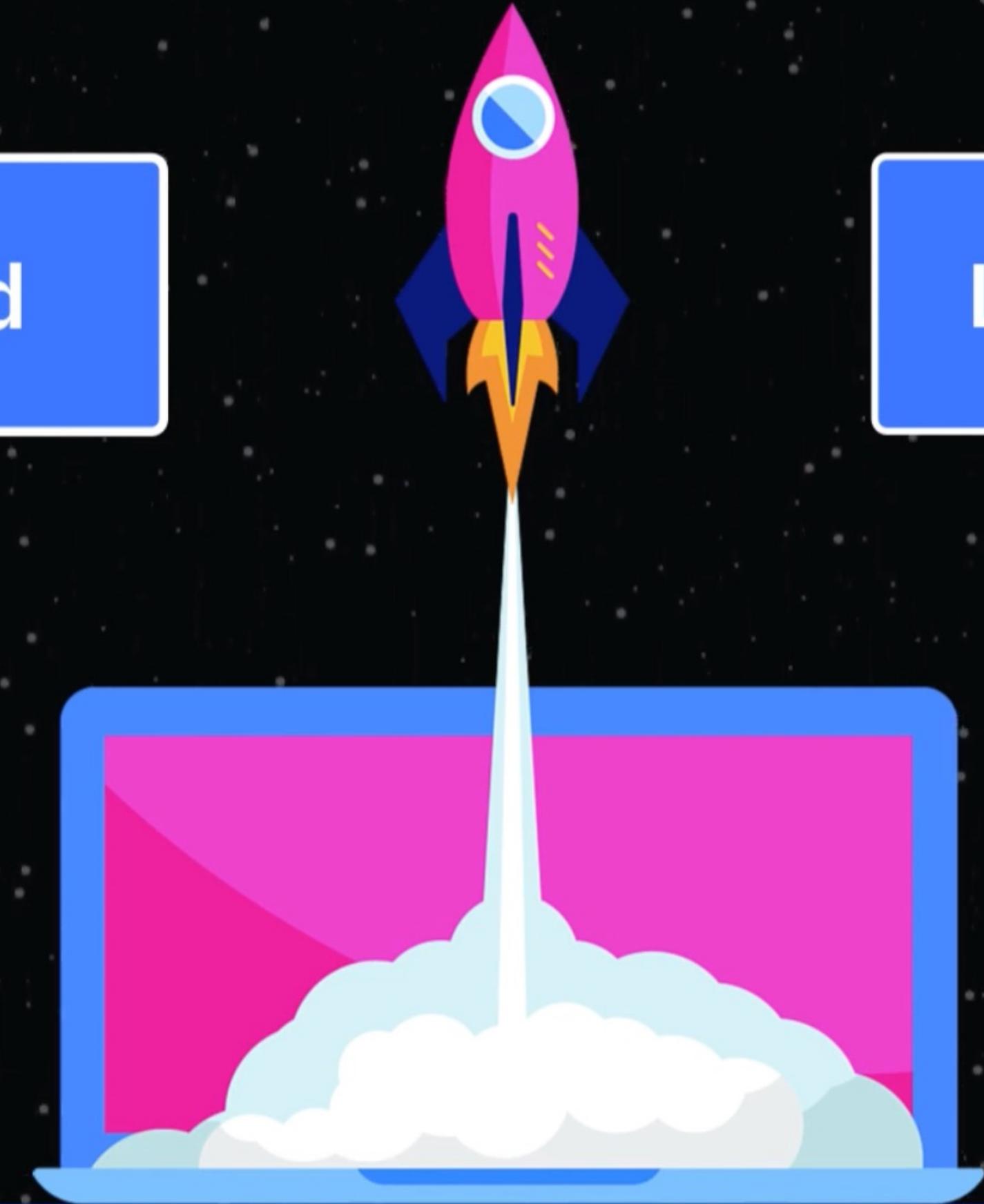
No data scientist required to set up an application or train a machine learning model, which gets your application into production faster

Cloud Pak for Business Automation

Once your data has been extracted, it needs to go somewhere to be made useful. Integrate with other components of the Cloud Pak for Business Automation to complete your end-to-end automation scenario

AI-powered

Low-code tool



IBM AUTOMATION DOCUMENT PROCESSING

How ADP works?



DESIGN PHASE

Business
analyst





DESIGN PHASE

Business
analyst

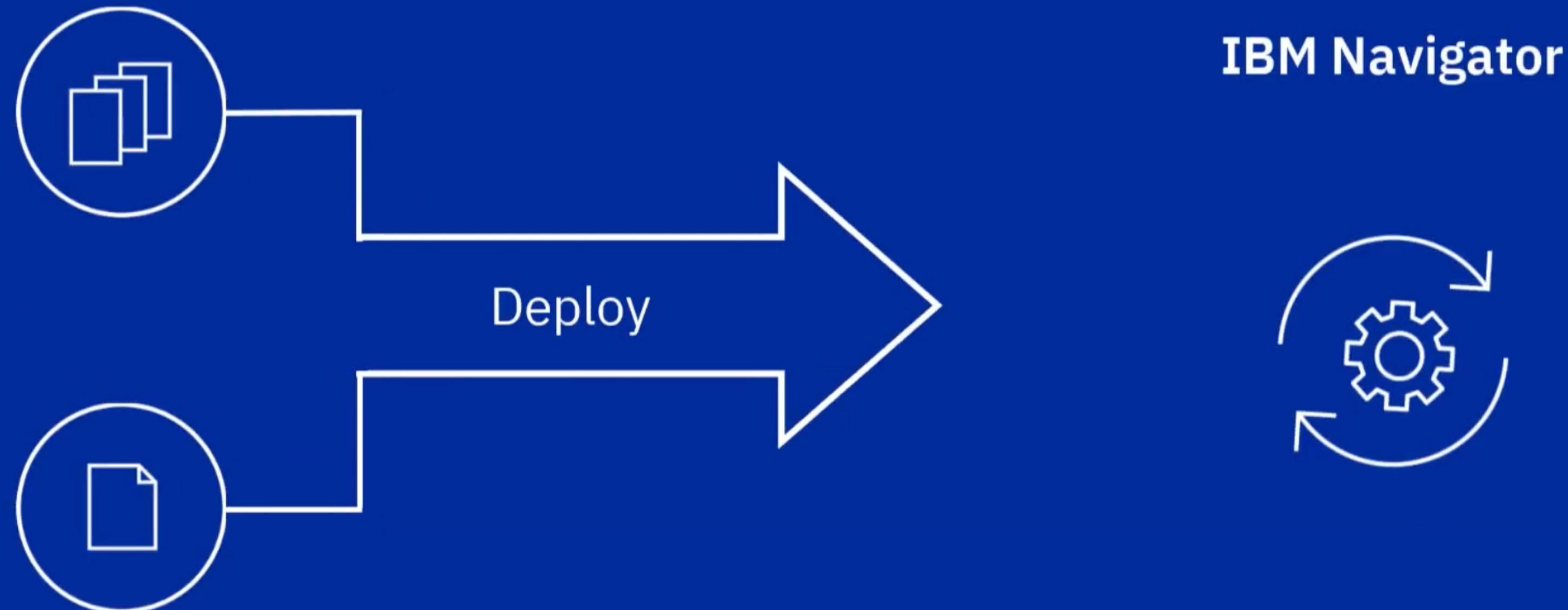
Template Applications



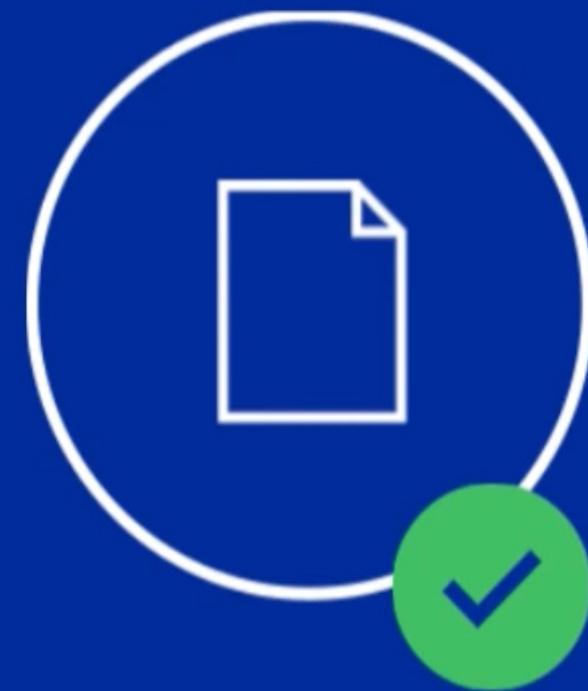
BUILD



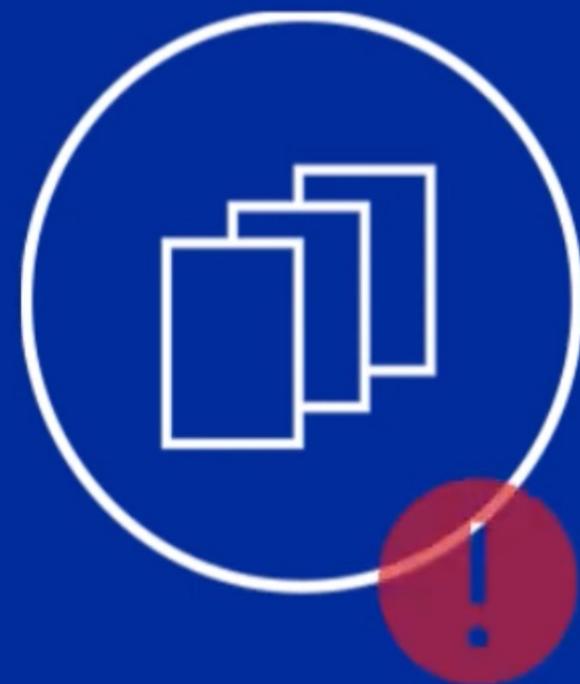
RUNTIME



IBM Navigator



IBM Navigator



IBM Navigator



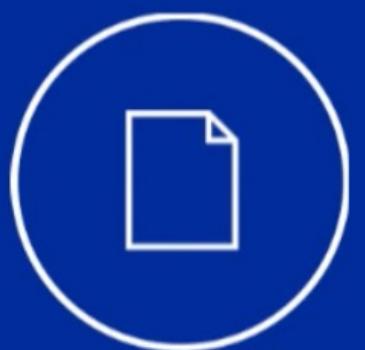
IBM Navigator



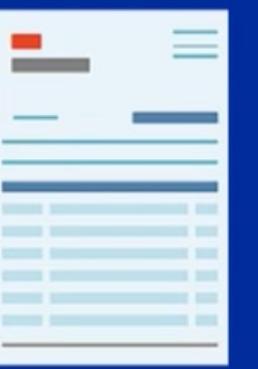
Business Analyst

- Quality
- Transparency

TYPES OF APPLICATIONS



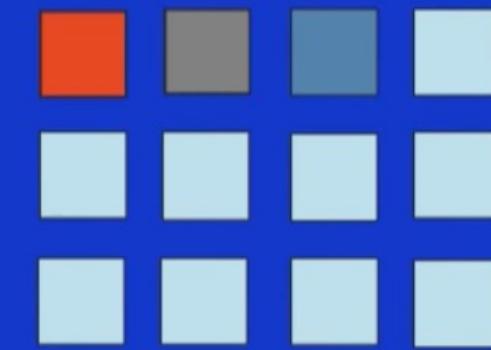
Single



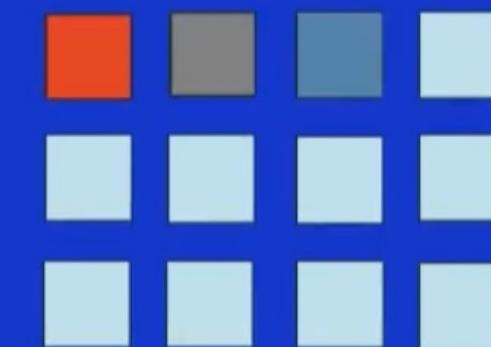
Batch



Invoice



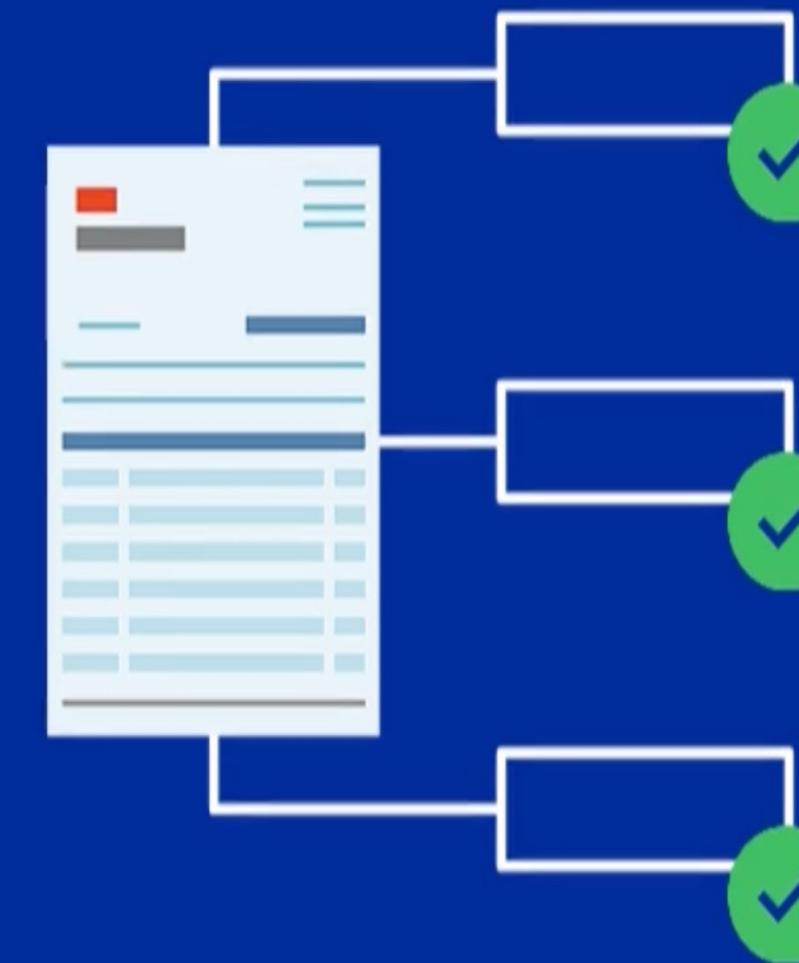
Invoice



Utility bill

Claim form

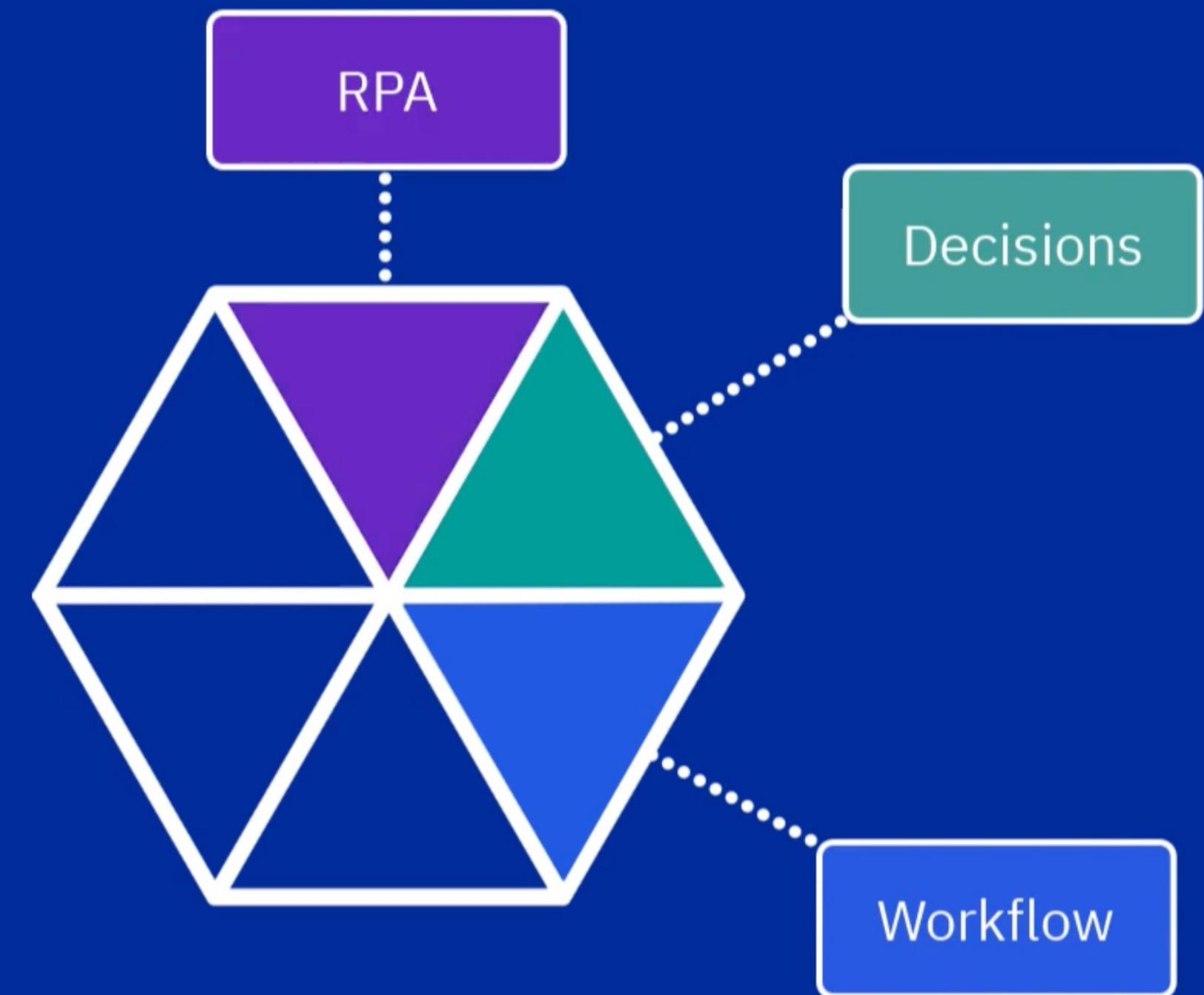
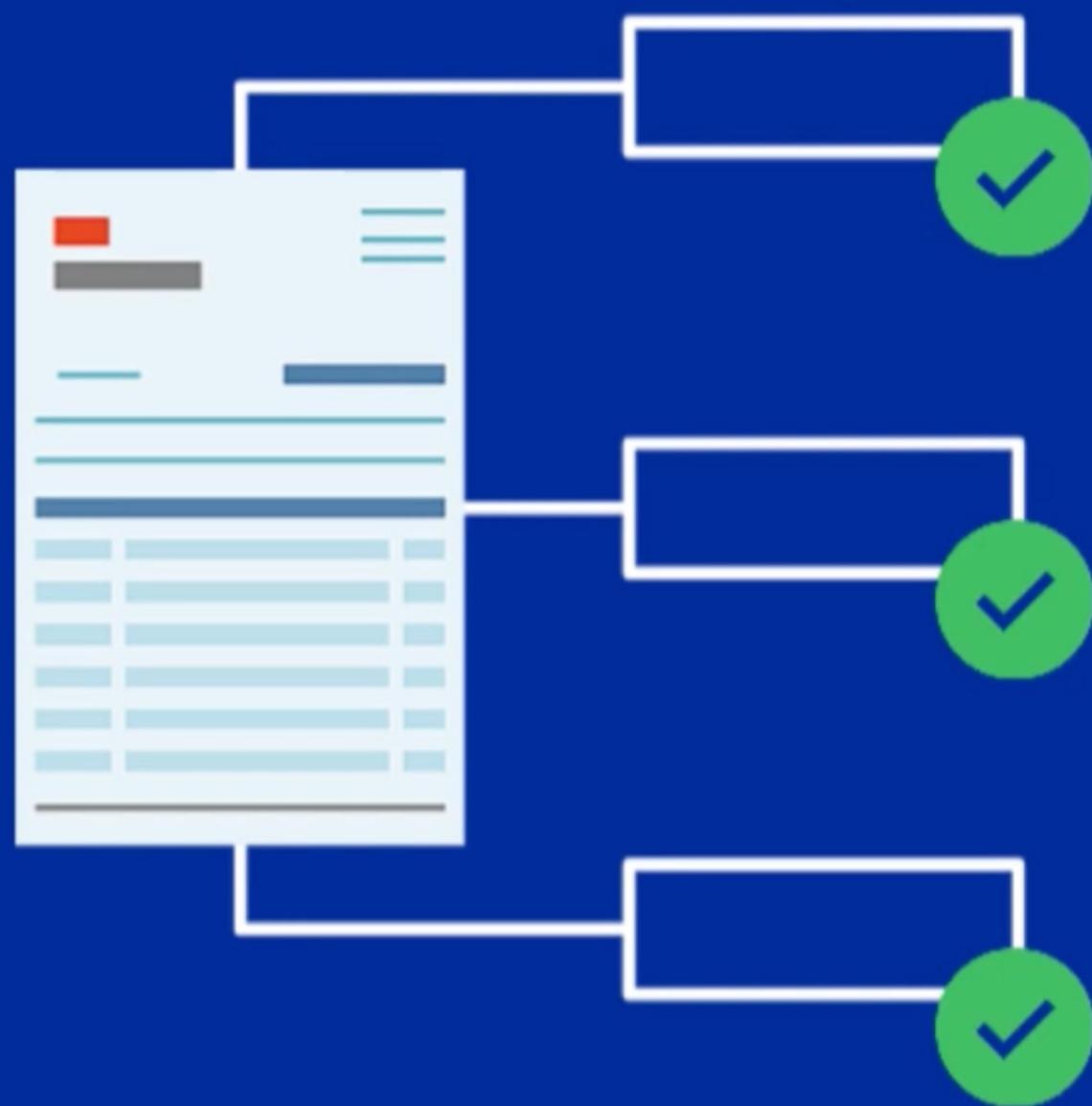
FINALIZATION



- High Quality
- Structured

Content repository

INTEGRATION WITH – RPA , WORKFLOW, DECISION



An end-to-end document processing solution that is easy-to-build, maintain, and scale

READ

Rapidly consume data from structured, semi-structured, and unstructured business documents – regardless of form



CLASSIFY & ORGANIZE

Identify types of documents and sort into categories. Classify documents by type to determine the data fields to extract

REFINE

Automatically detect and correct errors in extracted data or document classification



ENRICH

Format or convert text from a document to standardize the data

EXTRACT

Read and extract the information you need regardless of the document format

VALIDATE

Use human-in-the-loop to flag issues and verify your extracted data as needed

APPLY

Feed data to workflows, RPA bots, or business applications. Archive or declare documents as records for long-term retention

Read

Extract data from forms, statements, and unstructured documents

- Text Fields
- Simple Tables
- Checkboxes
- Natural Language
- Detect Signature Presence
- Barcodes

The screenshot shows the IBM Automation interface for extracting data from a PDF document named 'INV_023_2.pdf'. The document type is identified as 'Invoice'. The main view displays the invoice details and a table of items. The right side shows a 'Fields to extract' panel with 11 fields listed, each with a checkbox and a preview of the extracted value.

Fields to extract (11)

The following fields will be extracted from this document type. If you want multiple fields to be extracted together, you can select and group them into a [Define new field](#) composite field.

Field	Data in document
<input type="checkbox"/> Vendor name	abc Audacity Brewing Company
<input type="checkbox"/> ^ Invoice item table	Table Area
<input type="checkbox"/> Line item	Header Row Item price 3 abc \$25.27
<input type="checkbox"/> Invoice number	abc 3345742
<input type="checkbox"/> Invoice date	abc 04/11/2020
<input type="checkbox"/> Payment due date	abc 04/16/2020
<input type="checkbox"/> Purchase order number	abc PO798072
<input type="checkbox"/> Payment terms	abc Net 15
<input type="checkbox"/> ! Subtotal	abc \$5,703.85
<input type="checkbox"/> ! Tax amount	abc \$285.19
<input type="checkbox"/> Shipping amount	abc \$200.00

Document Preview:

INV_023_2.pdf | Document type: Invoice

100 Characters / View

Hamilton, ON N4K 2N8
Phone: 905.379.4437

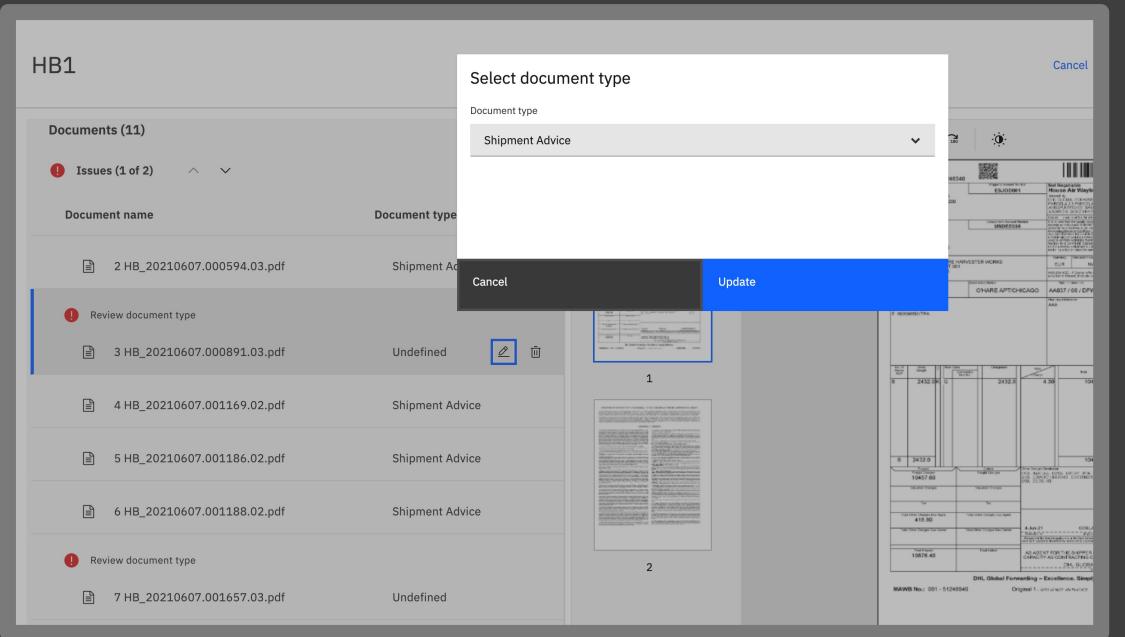
Item ID	Qty	Description	Unit Price	Total
001	20	EL JIMADOR REPOSADO TEQ W/GLASS	\$26.60	\$532.00
002	15	HENNESSY VSOP PRIVILEGE W/2 GLASS	\$66.60	\$999.00
003	5	JAMESON IR W/2 SHOT GLASSES	\$39.93	\$199.65
004	50	SAUZA CIEN ANOS GOLD TEQ W/GLASSES	\$25.27	\$1,263.50
005	50	BOMBAY SAPPHIRE GIN W/PITCHER	\$35.93	\$1,796.50
006	40	CUERVO ESP TEQ W/LIGHT MARG MIX	\$22.83	\$913.20

Subtotal: \$5,703.85
Sales Tax (5%): \$285.19
Shipping Fee: \$200.00
Total Due: \$6,189.04

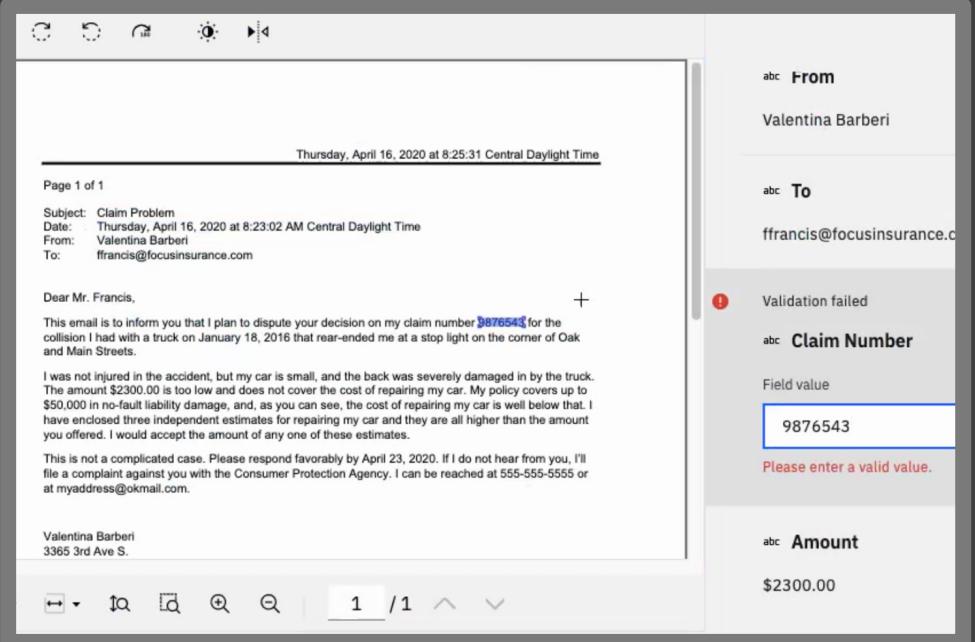
Read

Extract data from forms, statements, and unstructured documents

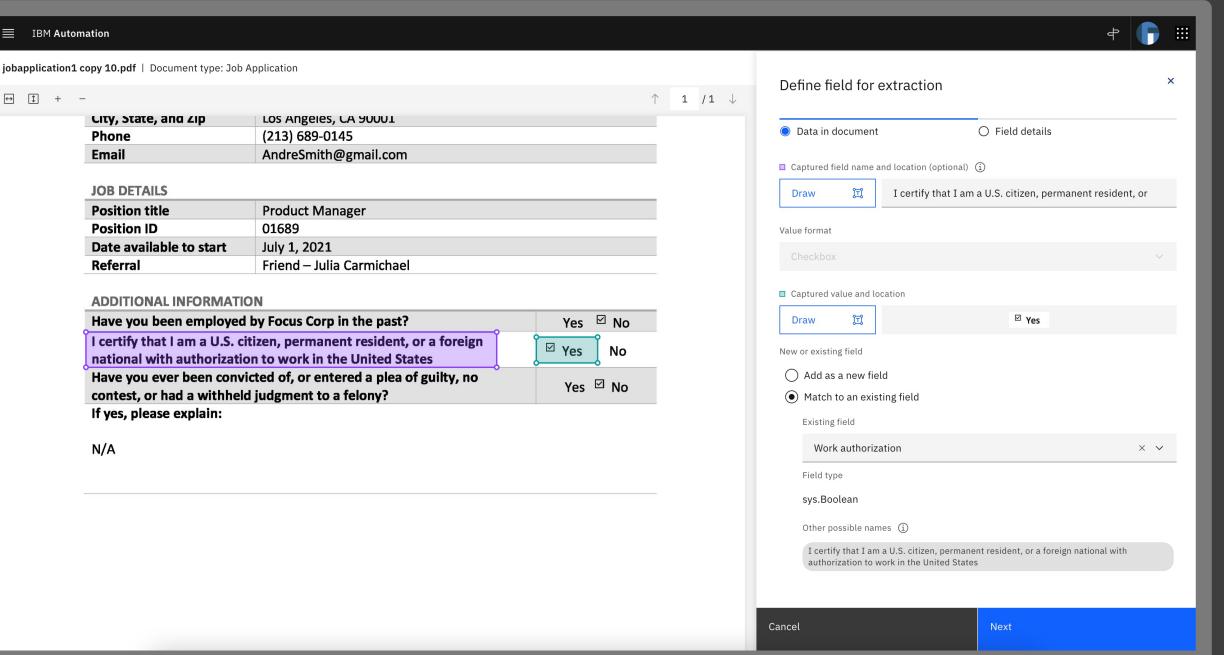
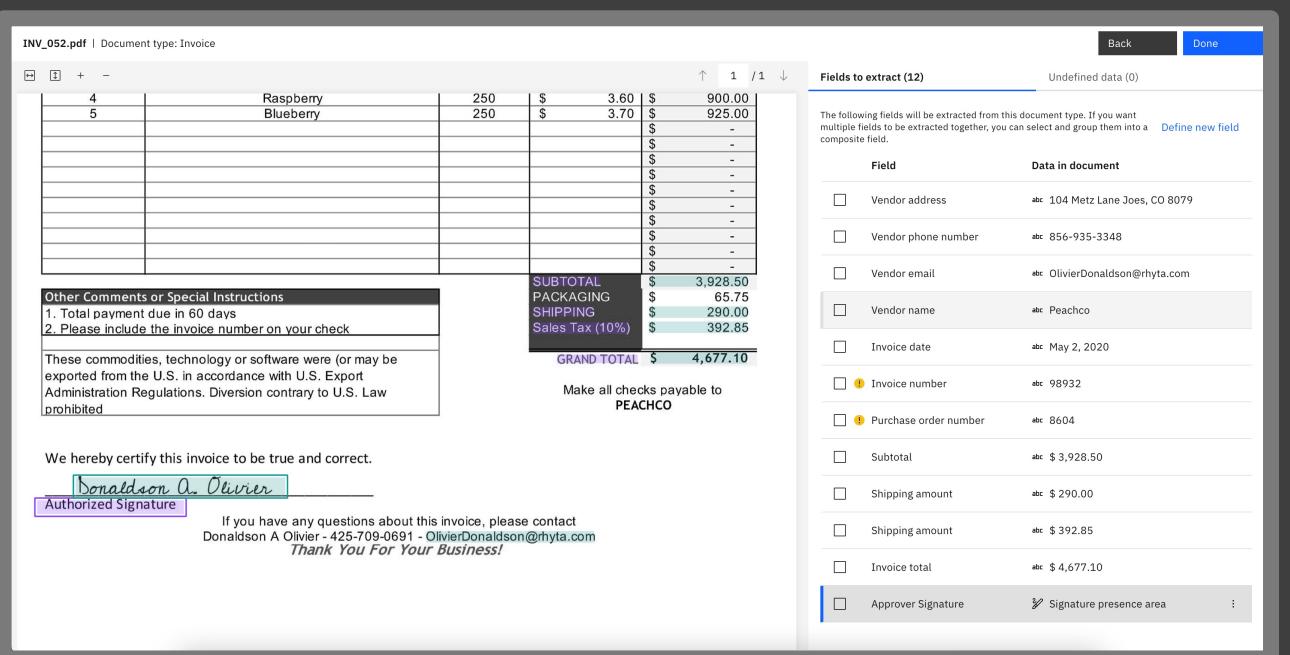
Submit
documents into
Automation
Document
Processing and
receive the key
data inside



Automation Document Processing combines multiple extraction methods: machine learning models extract data from forms and statements, while natural language processing extracts data from conversational text



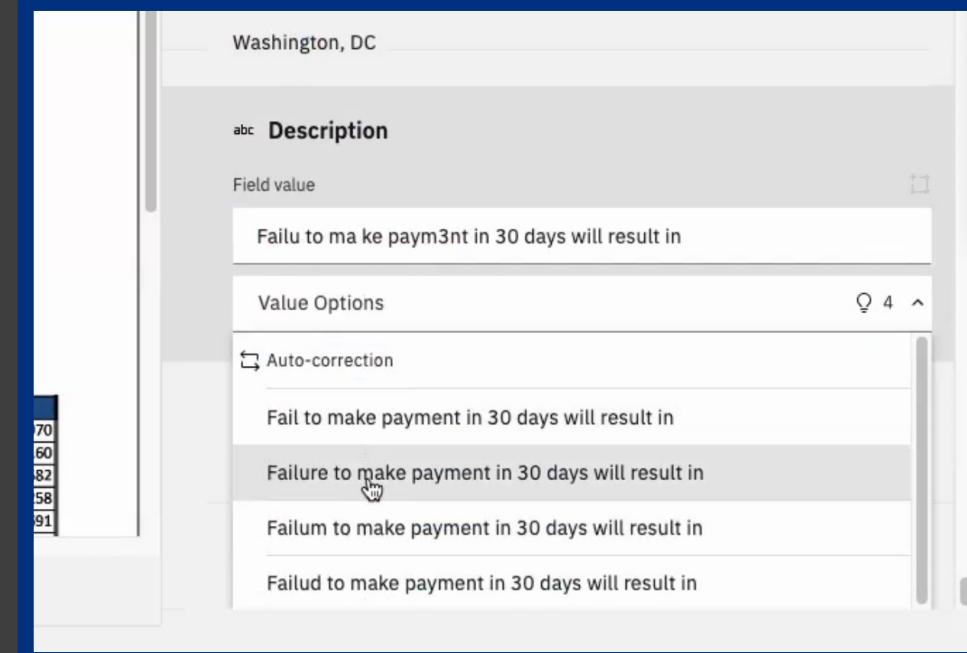
Determine whether a document has been signed or a box has been checked



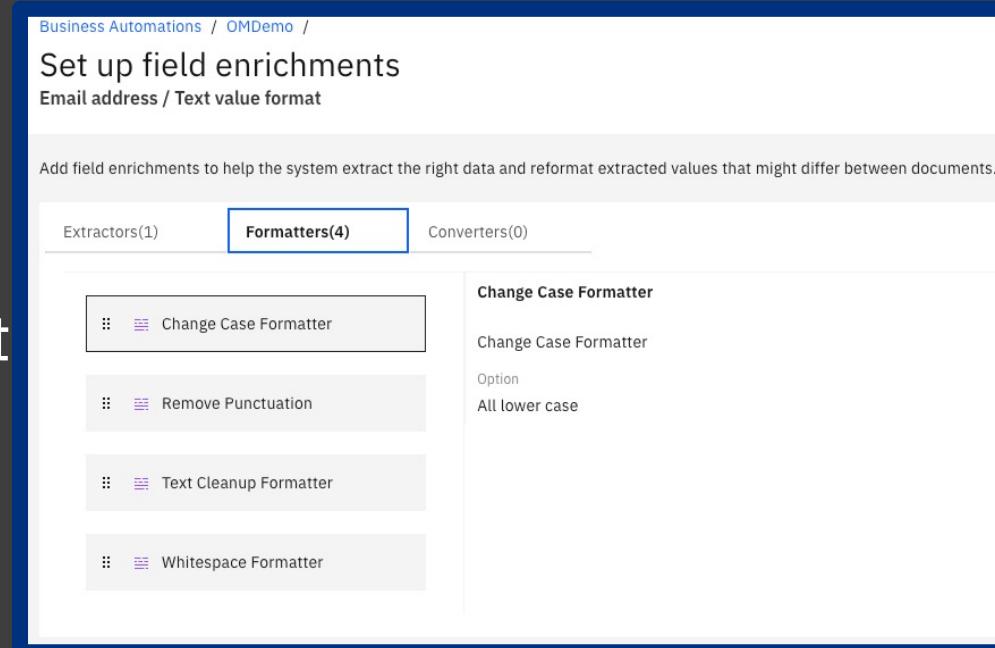
Refine

Correct and standardize data, automatically or with human in the loop validation

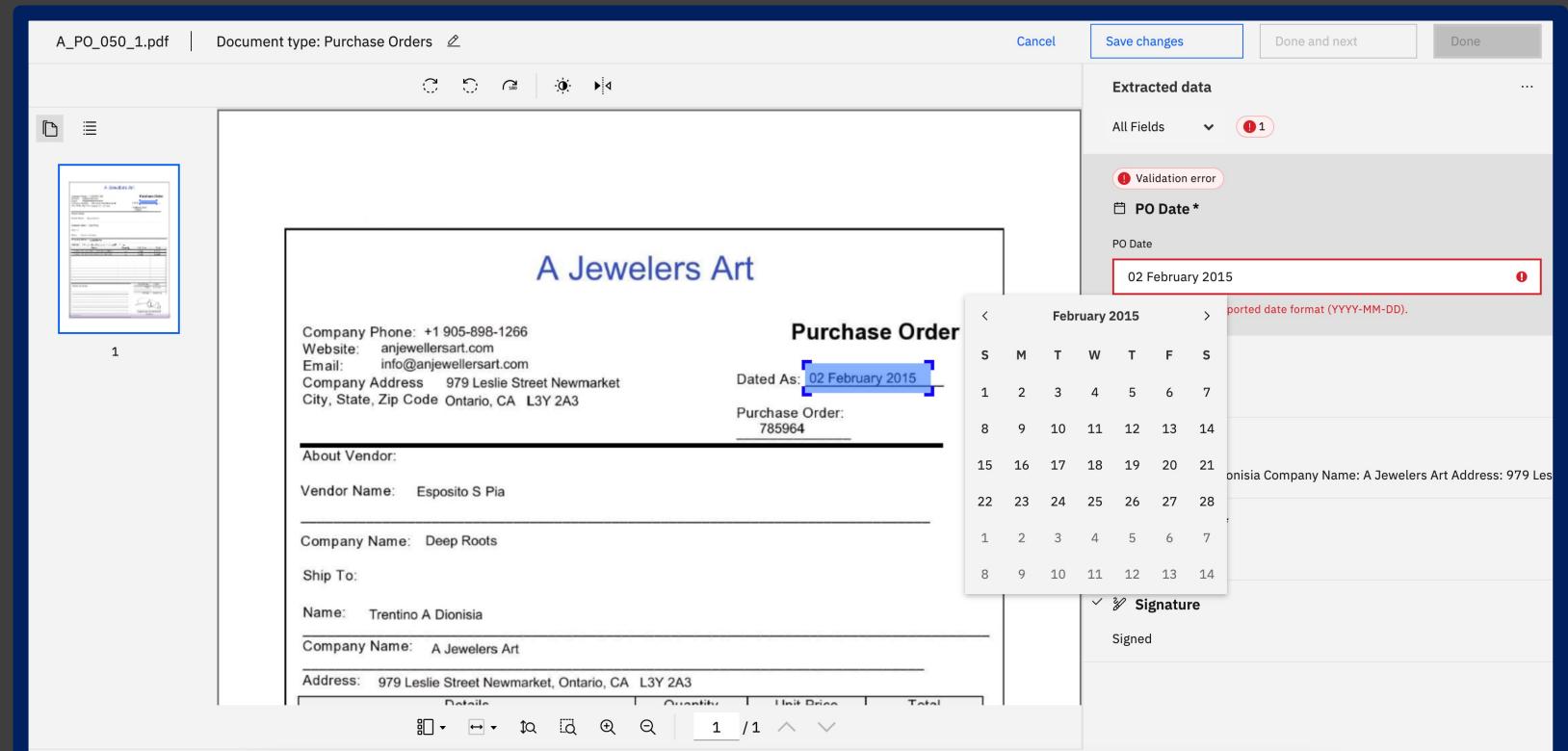
Refine:
Automatic data correction and suggestion of alternative data values



Enrich:
Standardize what your data looks like



Validate: Human in the loop validation enables you to correct errors and enter missing data



Apply

Governance and lifecycle management to classified documents and extracted data

RECORDS DECLARATION AND RETENTION

Set retention policies that comply with regulatory requirements or automatically declare records in real-time through **integrations with IBM Enterprise Records** and **IBM FileNet Content Manager**

SECURITY

Set permissions or redact sensitive information based on user roles

AUDITING

Advanced reporting and auditing capabilities with **IBM FileNet Content Manager** show changes to documents and prove proper lifecycle governance

ADVANCED SEARCH

Perform searches with classification and metadata properties to get information faster



Apply

Extracted data from documents to **downstream applications and business processes**

IMPROVE PRODUCTIVITY

Send data output to business applications and processes to allow for faster processing of transactions without manual set up, data entry, and validation

ENHANCE TASK-PROCESSING

Enable continuous task operation at scale by feeding validated data to RPA bots

DRIVE BUSINESS INSIGHTS

Use data to uncover patterns and insights to drive more informed decisions



Use Case: Accelerated account servicing for finance

A bank has **20 different account servicing forms** used by account-holders to either make changes to or close their accounts.

A sizable team of agents is required to read submitted forms, verify the data, then **manually enter the data** into the bank's account management system.

BUSINESS BENEFITS

Automation Document Processing **jump-starts the document training process** by reading common fields like, “Customer Address,” and, “Account Number,” or directly reading PDF form definitions. RPA can **automate the entry of extracted fields into the bank’s back-end system.** **Document classification** algorithms in Automation Document Processing can also **identify account-closing requests** and direct them to agents for special handling to increase customer retention.

EXAMPLE USERS

Business Analyst
Financial Analyst
Task Worker

KEY FUNCTIONALITY

Data Extraction
Out-of-the-Box Machine Learning Models
Document Classification

KEY METRICS

Faster Response Times
Higher Customer Retention
Reduced Costs

Use Case: Automating enrollment in social services for local government

Enrollment for dozens of local government programs require inefficient, **manual spreadsheet processing**. IT teams do not have resources to build the required solutions.

BUSINESS BENEFITS

Business users are guided through a step-by-step process to train the system to recognize key fields from enrollment forms. The easy-to-configure validators ensure data and currency fields are accurately recognized, and custom validators can also be created to handle unique fields like, “Social Security Number.” With Automation Document Processing and its integration to FileNet Content Manager in Cloud Pak for Business Automation, retention policies on documents can also be set using extracted data.

EXAMPLE USERS

Business Analyst
Task Worker
Coordinator

KEY FUNCTIONALITY

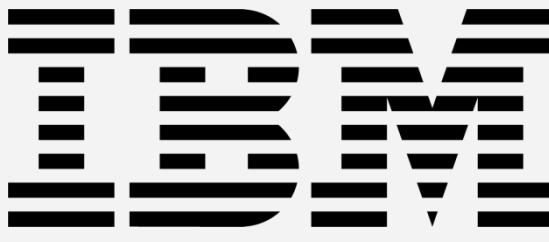
No-Code Set-Up
Automatic Data Error Detection & Correction

KEY METRICS

Faster Turn-Around Times
Cost-Effective Deployment

Convert unstructured content into structured data. Produce data you can trust to drive business outcomes.

Demo



Terms We Use

Structured Document

Information is contained in structured boxes in a fixed layout

Examples:

- Questionnaires
- Insurance Claim Forms
- Medical or Vehicle Registration Forms
- Government Forms

Semi-Structured Document

The same type of information, (like a name, address, or phone number) is collected, but the style of the document (and where that information is) might look different between one document and another

Examples:

- Invoices
- Purchase Orders
- Bill of Lading
- Explanation of Benefits
- Financial Applications
- Paystubs
- Checks

Unstructured Content

Any information that does not fit nicely into a column or row

Structured Data

Information that is in a standardized format and fits nicely into columns and rows

Artificial Intelligence (AI)

Any technology capable of mimicking human behavior (e.g. personal assistants like Siri or Alexa, robotics applied to manufacturing lines)

Machine Learning (ML)

Algorithms identify patterns, make decisions, and learn

Human-in-the-Loop

When an AI technology looks to automate work, but requires assistance from a human to complete the task

Natural Language Processing

When a computer can understand text in the same way that a human being can