Intelligent Automation (IA) enables Artificial Intelligence (AI)

Oil & Gas Industry

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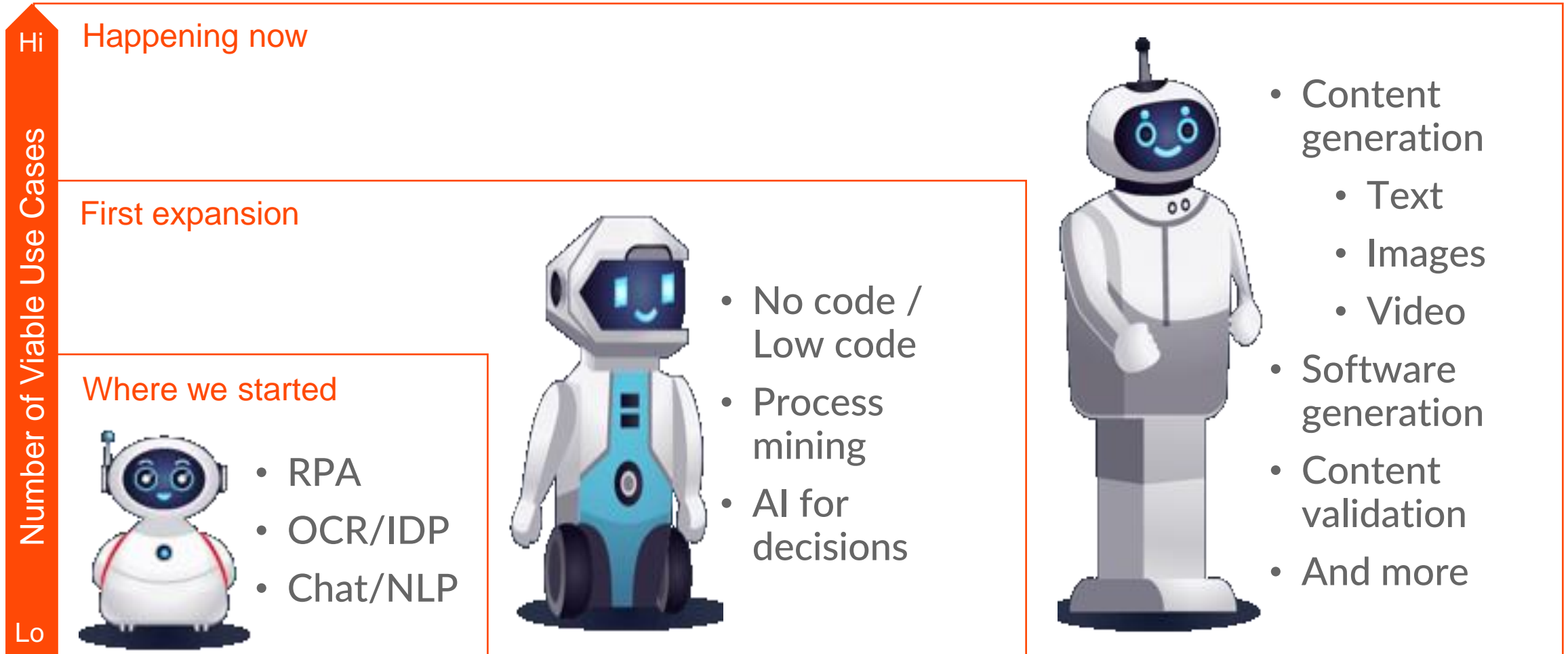
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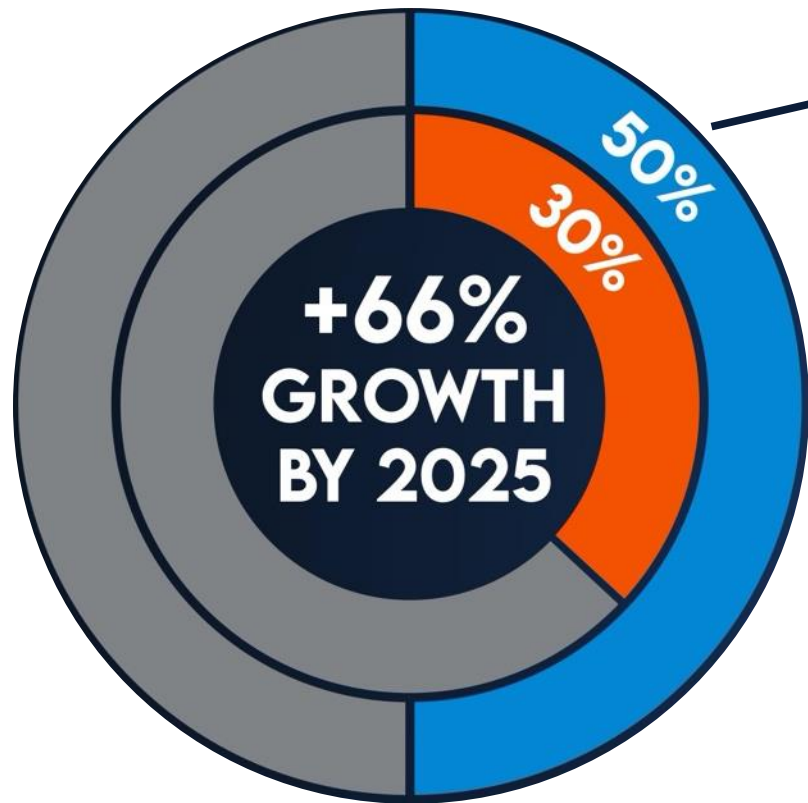
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AI is increasing Intelligent Automation use cases

Number of Viable Use Cases (Lo → Hi)

Happening now

First expansion

Where we started
- RPA
- OCR/IDP
- Chat/NLP

- No code / Low code
- Process mining
- AI for decisions

- Content generation
  - Text
  - Images
  - Video
- Software generation
- Content validation
- And more

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What analysts have said about intelligent automation growth

+66% GROWTH BY 2025

50%
30%

Late 2023   **By 2025**

Potential impact to day-to-day business from intelligent automation

Operational costs decreases by 30% from IA paired with process redesign (by 2024)

>70% of large global enterprises to have 70 concurrent IA initiatives needing governance (by 2024)

50% of enterprises have devised AI orchestration platforms to operationalize AI (by 2025, up from <10% in 2020).

Source: Assorted Gartner Articles

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We're still just getting started with AI!

AI Penetration

33%
IT processes

28%
Business Processes

Historically, AI supports decision-making and is focused on pattern and exception recognition.

AI Examples

29%
IT Security and Threat Detection
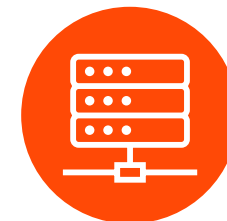
26%
Business Analytics or intelligence

22%
Financial Planning and Analysis

23%
Fraud Detection

22%
Sensor Data Analysis

22%
Monitoring and Governance

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The revolution has begun...

THEN
People needed to learn the languages of computers

NOW
Computers have learned to 'speak' in our languages

... it's true impact is still unclear

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AI: Guru or Conman

Business Improvement

Tracks activities and tells leaders what's really happening and where to focus for improvement

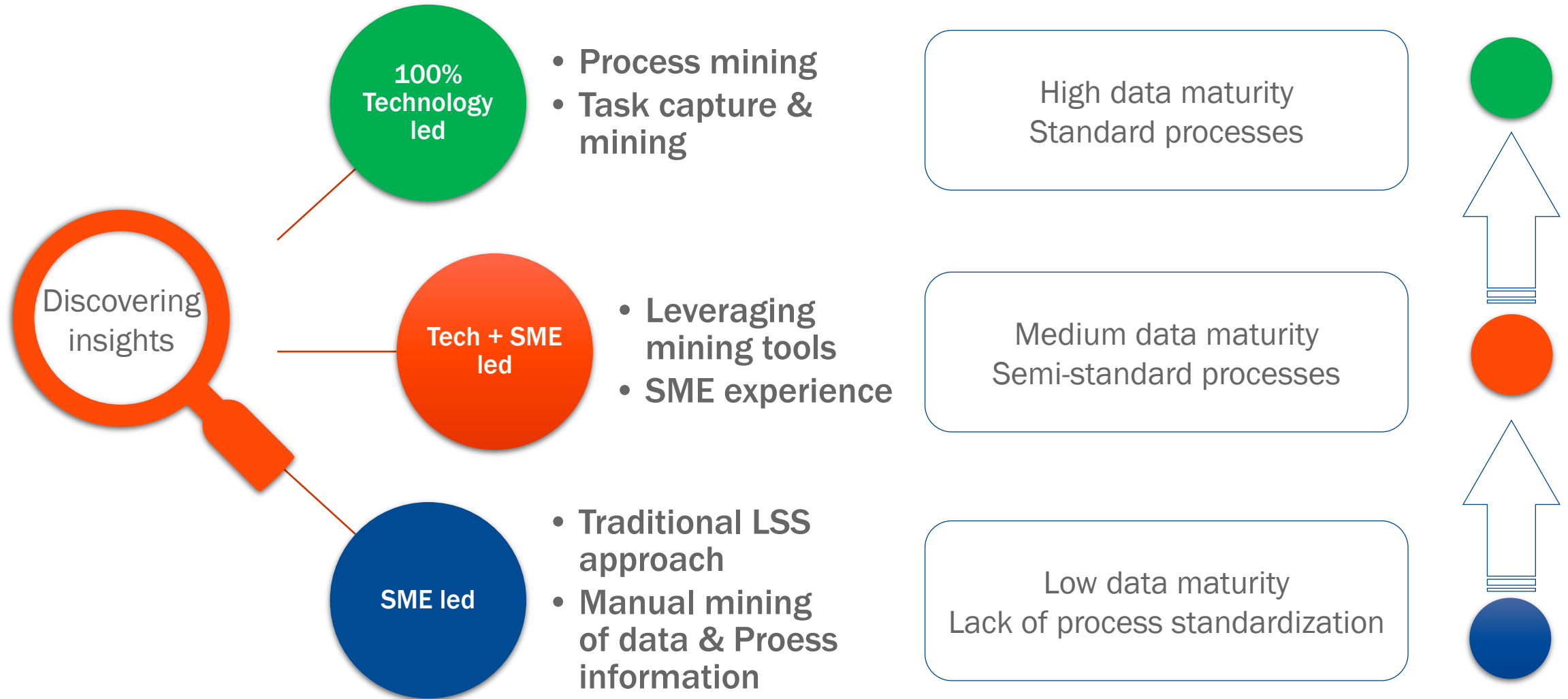**Six 'Bogus' Citations**

Generate documents containing judicial precedents in support of plaintiff's case

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Three Avenues to start Process Improvement

Discovering insights

100% Technology led
- **Process mining**
- **Task capture & mining**

High data maturity
Standard processes

Tech + SME led
- **Leveraging mining tools**
- **SME experience**

Medium data maturity
Semi-standard processes

SME led
- **Traditional LSS approach**
- **Manual mining of data & Proess information**

Low data maturity
Lack of process standardization

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Aggregate your organization's previously unavailable data

Leverage best-of-breed discovery technologies to identify processes and tasks performed within your organization

How it works

- Identify a targeted area for evaluation, or roll out to the entire enterprise

- Collect system event logs from your applications to help identify end-to-end processes

- Install a recording agent on employee machines to track process and task-related activity

- Run models to identify processes and generate an initial set of process metrics and SOP documentation (PDD)

- Unwanted applications and websites can be blacklisted, to only track what you want

ETL Essentials – Extract, Transform, Load

ETL Essentials are the critical steps to collect, collate, clean, and format application logs from your source systems into a structure that facilitates creation of end-to-end process flows
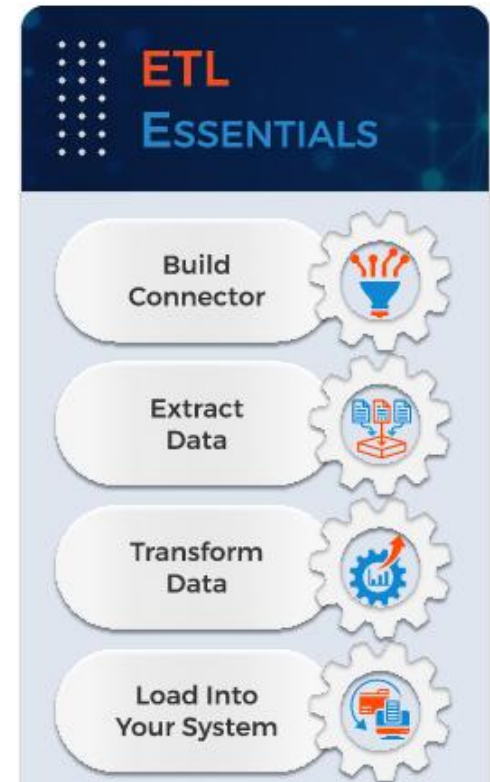
Extract

- Extraction gathers application information from systems used in your processes, both internal and external

- If an exception occurs, ETL Essentials can ask an authorized knowledge worker or application owner to pull the logs
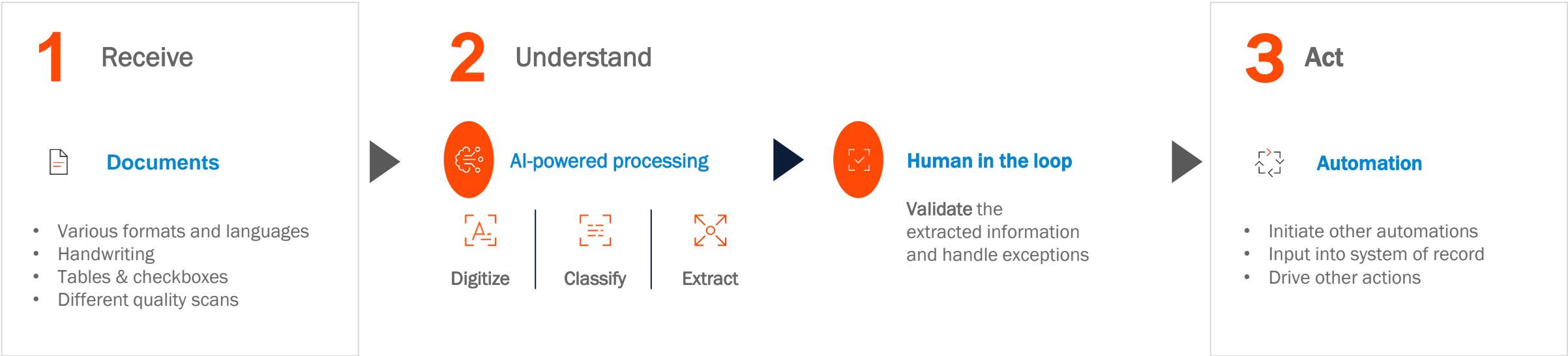
Transform

- Transformation manipulated gathered logs into a form that is valuable for the discovery tool

- Transformation can perform calculations and validations, add tags, remove unnecessary information, and formats the information from different systems into one consistent database

Load

- Structured information is delivered directly to the discovery tool for analysis

Intelligent Document Processing (IDP)

1 Receive

Documents

- Various formats and languages
- Handwriting
- Tables & checkboxes
- Different quality scans

2 Understand

AI-powered processing

Digitize | Classify | Extract

Human in the loop

Validate the extracted information and handle exceptions

3 Act

Automation

- Initiate other automations
- Input into system of record
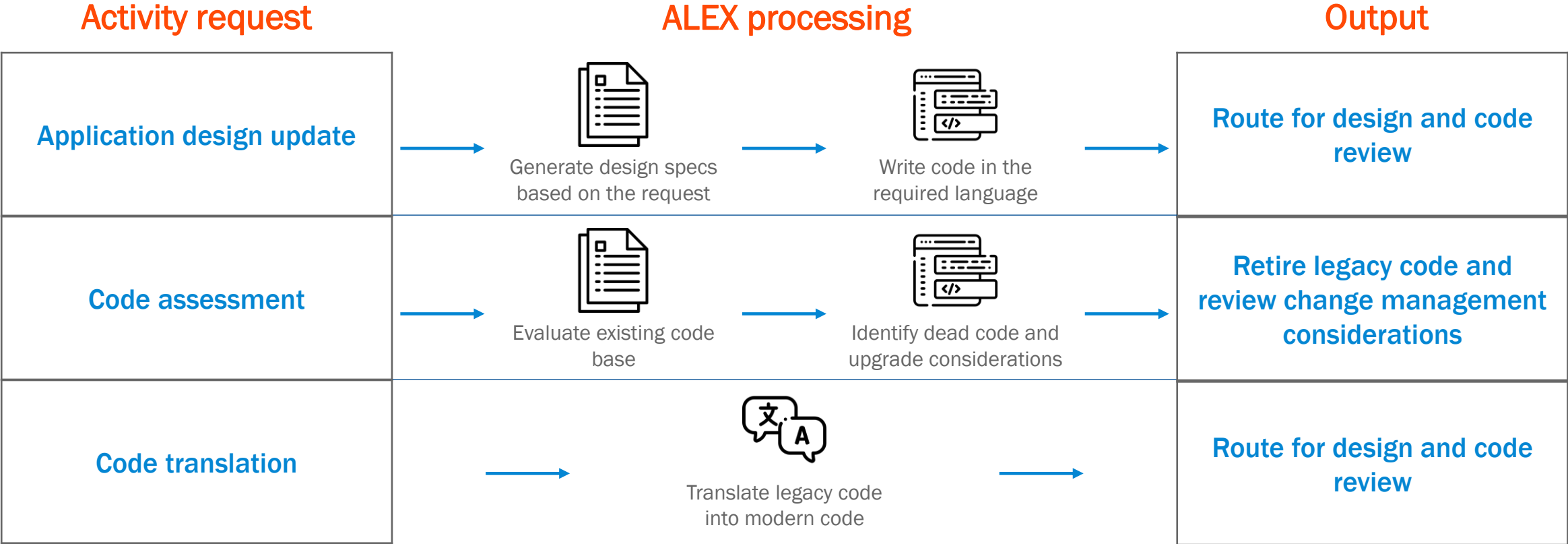- Drive other actions

Sample Use Cases

Invoices from Service Providers are processed automatically with Gen AI and Rules

Review Environmental Water Reports and upload to regulators after extraction and summary with Gen AI

Analyze drilling and other data/documents from vendors using LLMs and auto update/act
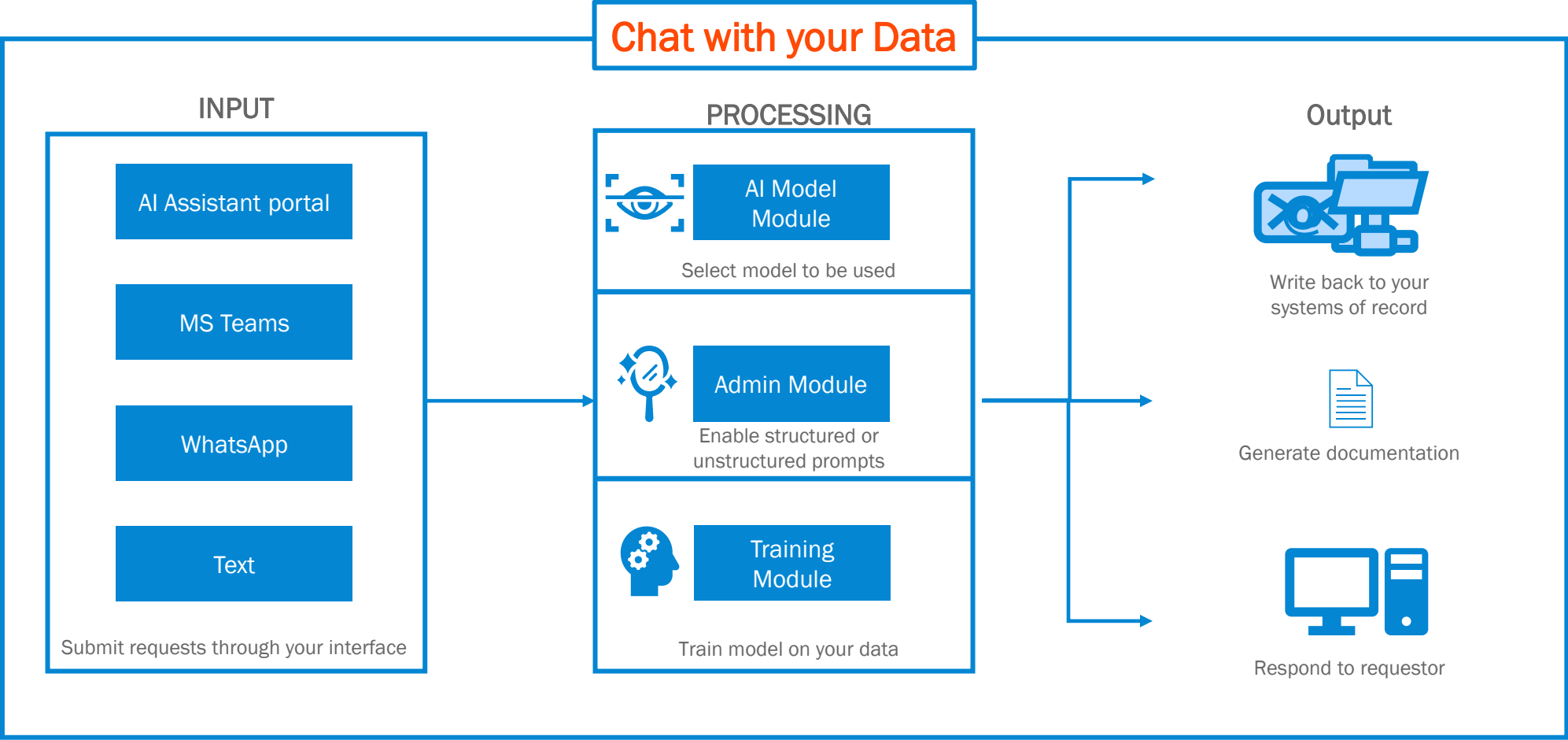
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Modernizing legacy technology with ALEX

ALEX can optimize your interactions with legacy applications that require aging skill sets. Use AI to generate, review, evaluate, and translate code to drastically speed deployment

Activity request **ALEX processing** **Output**

Application design update	Generate design specs based on the request → Write code in the required language	Route for design and code review
Code assessment	Evaluate existing code base → Identify dead code and upgrade considerations	Retire legacy code and review change management considerations
Code translation	Translate legacy code into modern code	Route for design and code review

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Chat with your data

Chat with your data lets you interact with the data that matters to your processes. Submit a structured (or unstructured) prompt to the interface and get direct results

Chat with your Data

INPUT

AI Assistant portal

MS Teams

WhatsApp

Text

Submit requests through your interface

PROCESSING

AI Model Module

Select model to be used

Admin Module

Enable structured or unstructured prompts

Training Module

Train model on your data

Output

Write back to your systems of record

Generate documentation

Respond to requestor

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Risk Analysis

AI will help you leverage your contract data

Contract management solution uses AI, Natural Language Processing (NLP), and RPA to retrieve vendor contracts, read contract data, and update or create the customer record in a procurement system.

```
Start → Solution retrieves vendor contracts from Lucernex → Solution reads contract data → Create new (or update existing) vendor in a system using contract data. → End
```

Automation Tech: RPA powered by ReportBotz+ pre-built solution

Automation Tech: AI / Natural Language Processing (NLP) solution

Automation Tech: RPA powered by ReportBotz+ pre-built solution

Benefits

Better Contract Management
Improved contract tracking, renewal, and compliance management.

Improved Vendor Evaluation
Measuring vendor performance against contract requirements.

Accurate Financial Forecasting
Better optimization of budget allocation strategies.

Effective Risk Management
Mitigate potential risks associated with vendor relationships.

Industry Impact

Missed deadlines or slowed negotiations costs companies 9.2% of bottom line.

Manual contract review costs $7k-$49k or more per contract.

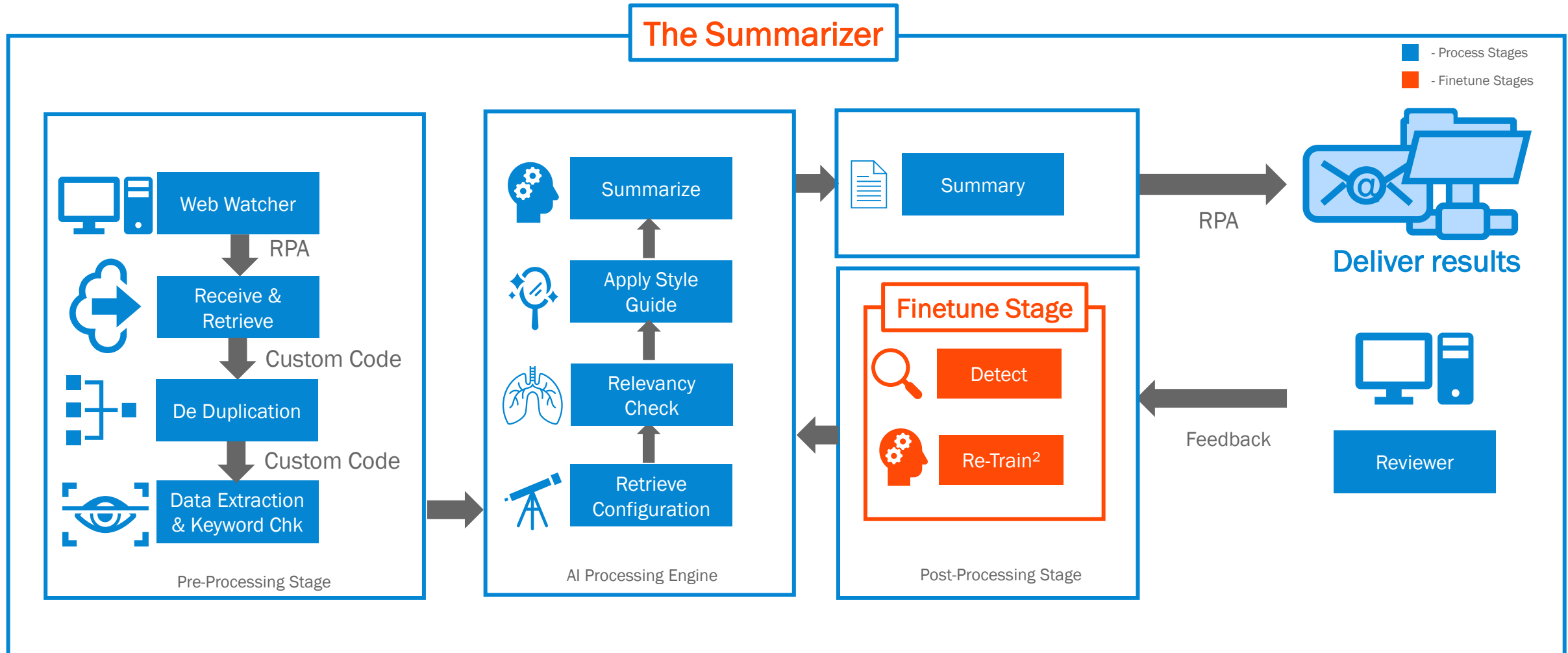Poor vendor performance can contribute to 15-20% higher costs.

JP Morgan reduces manual work by 90%

Average cost of a data breach is $4.45 million.

In 2017, over 900 regulatory agencies issued a combined 200+ regulatory updates, every day.
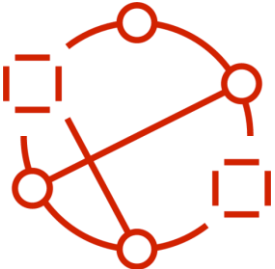
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The Summarizer: The AI Solution

The Summarizer is a standardized, extensible, AI based framework which is focused on generating the summary of text fed to it. It is customized to ingest a rule engine to find the relevant articles before summarizing them using the desired styling guide.

The Summarizer

- Process Stages
- Finetune Stages

Pre-Processing Stage

Web Watcher

RPA

Receive & Retrieve

Custom Code

De Duplication

Custom Code

Data Extraction & Keyword Chk

AI Processing Engine

Summarize

Apply Style Guide

Relevancy Check

Retrieve Configuration

Summary

Deliver results

RPA

Post-Processing Stage

Finetune Stage

Detect

Re-Train²

Feedback

Reviewer

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Important practices to adopt

AI is part of Intelligent Automation

Use AI as part of integrated intelligent automation for end-to-end processing, not just for knowledge worker tasks
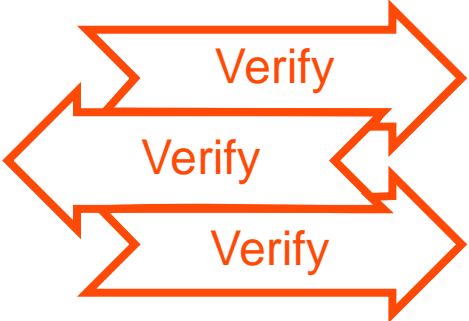
Authenticate, curate, and protect your data
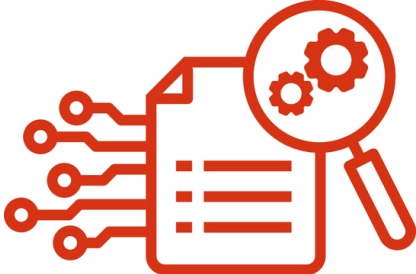
- Exposing confidential information to public AI models is inviting a breach
- Audit trails for compliance

Craft your AI prompts wisely

- Leading questions bake in bias
- Perhaps, models should have their own identity

Verify AI results using expertise and/or independent sources

Verify

Verify

Verify

- Treat AI as a person you've just met
- AI may help validate other AI results

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Let's stay in touch!

Bhavesh Joshi
Global Operations Transformation
Leader driving P&L growth, supply ch…

Thank you!

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