

CASE STUDY

# AI-Based Email Automation for Enterprise Document Management

## 1. Executive Summary

In an era of exponential email volume, enterprises struggle to manage, extract, and store critical business documents shared via email. Nsight-Inc partnered with a leading enterprise to deploy an **AI-powered email automation solution**—streamlining **enterprise document management**, improving **data security**, and enhancing **workforce productivity**. This case highlights how a scalable, intelligent system helped replace manual processes, resulting in **70% faster processing time** and **90% fewer misclassified documents**.

## 2. Client Overview

**Industry:**

Multi-department enterprise

**Region:**

North America

**Size:**

10,000+ employees

**Business Need**

Automate and streamline email-based document handling across Procurement, Finance, HR, and Compliance

## 3. Business Challenges

The client faced several operational inefficiencies that impacted their ability to manage documents effectively:

### 1. Manual Processing Bottlenecks

Employees manually downloaded, reviewed, and sorted attachments—resulting in time loss and human errors.

### 2. Inconsistent Classification

There was no standard system to categorize documents like invoices, contracts, and POs—causing delays and compliance risks.

### 3. Security Risks

Files were shared via unsecured methods with basic password protections, increasing vulnerability.

### 4. Storage Chaos

Documents were scattered across shared drives, email chains, and local folders without indexing or tagging.

## 4. Solution Overview

Nsight-Inc delivered a robust **AI-based email automation framework** using Python, secure APIs, and intelligent file classification algorithms.

### Solution Highlights:

**Intelligent Attachment Filtering:**

Automatically identifies, extracts, and routes relevant files from incoming emails.

**Contextual Classification:**

Uses AI models to classify documents by type, department, and urgency.

**Secure Cloud Storage:**

Automatically uploads attachments to structured cloud environments (e.g., Google Drive, AWS S3).

**Scalable Architecture:**

Designed for high-volume enterprise environments using OAuth2-secured IMAP access.





## 5. Technologies Used

Component	Technology/Tool
Language	Python
Email Protocol	IMAP
Libraries	imaplib, PyPDF2
Authentication	OAuth2
Storage	Google Drive API, AWS S3
Classification Logic	Rule-based + NLP tagging
Deployment	Cloud-hosted microservice



## 6. Implementation Approach

### Discovery & Planning

Assessed current document workflows and classified over 30 types of email-based attachments.

### Custom AI Development

Built a flexible AI model trained on historical emails and document types from multiple departments.

### Integration

Connected securely to client’s enterprise email accounts via OAuth2 and IMAP.

Integrated with cloud storage and internal indexing systems.

### Pilot & Scale

Conducted a 4-week pilot with Procurement and scaled across HR, Finance, and Compliance.



## 7. Business Outcomes

Impact Area	Before	After
Processing Time	5–8 minutes per email	<2 minutes with full automation
Accuracy	75–80%	95%+ classification accuracy
Employee Efficiency	Manual effort for each email	70% time savings on document handling
Document Security	Basic password protection	OAuth2, encrypted cloud storage
Data Retrieval Time	10+ minutes	Instant via indexed, cloud-based access



## 8. Conclusion

Nsight-Inc’s AI-powered email automation transformed how this enterprise manages critical documents. The solution is not only **scalable** and **secure** but also tailored to meet **enterprise-grade requirements** across departments. By minimizing human intervention and maximizing intelligence-driven processing, the client achieved measurable improvements in operational efficiency and compliance.

Want to explore intelligent document management for your enterprise?

Connect with Nsight-Inc for tailored AI-driven solutions that improve accuracy, speed, and security across your document workflows.

