CASE STUDY

AI-Powered Patent Office Action Response Automation Using Amazon Bedrock

Mactores partnered with Sterne Kessler Goldstein & Fox (SKGF) to design an AI-powered framework for automating patent Office Action responses using Amazon Bedrock. The solution reimagined manual, time-intensive prosecution workflows into an AI-assisted, standardized, and scalable system, targeting **50–80%** efficiency gains, reduced malpractice risk, and multimillion-dollar annual cost savings.

Case Study
Summary

- Designed an AI-assisted Office Action response framework using Amazon Bedrock to automate analysis, strategy selection, drafting, and quality checks.

- Replaced manual, error-prone workflows with an end-to-end AI-assisted As-Is, To-Be transformation, accelerating responses by **50–80%**.

- Implemented a multi-agent architecture with Retrieval-Augmented Generation (RAG) over historical Office Actions, examiner behavior, and prior responses.

- Reduced prosecution costs by **25–35%** while enabling the firm to scale up to **3×** volume without proportional headcount growth.

- Delivered a **4-week** rapid assessment with a clear go/no-go decision, ROI projections, and phased implementation roadmap.

- Embedded human-in-the-loop controls to preserve legal judgment, prevent new-matter risk, and ensure USPTO-compliant outputs.

- Identified a pilot implementation strategy focused on high-impact prosecution workflows, enabling faster time-to-value and low-risk adoption.

About
The Customer

Sterne Kessler
STERNE KESSLER
GOLDSTEIN & FOX

Sterne Kessler Goldstein & Fox is a leading intellectual property law firm with over 45 years of experience in patent prosecution, litigation, and strategic IP counseling. The firm is known for its high standards of legal rigor, consistency, and client trust.

Customer
Situation

Sterne Kessler patent prosecution teams faced increasing pressure from rising Office Action volumes, faster USPTO timelines, and growing client expectations for speed and predictable pricing. Responding to an Office Action required attorneys to manually read lengthy, unstructured PDFs, analyze prior art, determine strategy, draft arguments and claim amendments, perform multiple review cycles, and manage filing deadlines.

These workflows were highly time-intensive, typically requiring 8–12 hours per response. There was a significant cognitive load on attorneys, leading to inconsistent outcomes.

Our
Approach

Business
Outcomes

Technical
Outcomes

Mactores conducted a focused **4-week** rapid assessment to evaluate SKGF's readiness for AI-powered Office Action automation using Amazon Bedrock. The team mapped existing prosecution workflows, analyzed attorney time allocation, assessed data availability, and identified the highest-impact automation opportunities across Office Action review, prior art analysis, strategy selection, drafting, quality control, and filing.

A future-state architecture was designed using a multi-agent, event-driven approach, where specialized AI agents perform extraction, reasoning, drafting, validation, and compliance checks. Retrieval-Augmented Generation (RAG) leveraged SKGF's historical Office Actions, examiner patterns, and successful past arguments to produce context-aware recommendations while maintaining attorney oversight through human-in-the-loop controls.

The AI-powered Office Action response framework reduced average response time from 8–12 hours to **2–4 hours**, delivering **50–80%** efficiency gains. Prosecution costs dropped by **25–35%**, and procedural errors were reduced by up to **40%**. The solution created a strong ROI case with projected annual savings of **$2.5–4M** for a 100-attorney practice.

The solution implemented a secure, multi-agent architecture that automated Office Action analysis, strategy selection, drafting, and compliance validation using RAG over historical data. Event-driven workflows enabled real-time processing and deadline awareness, while standardized templates and validation logic improved consistency and reduced risk.
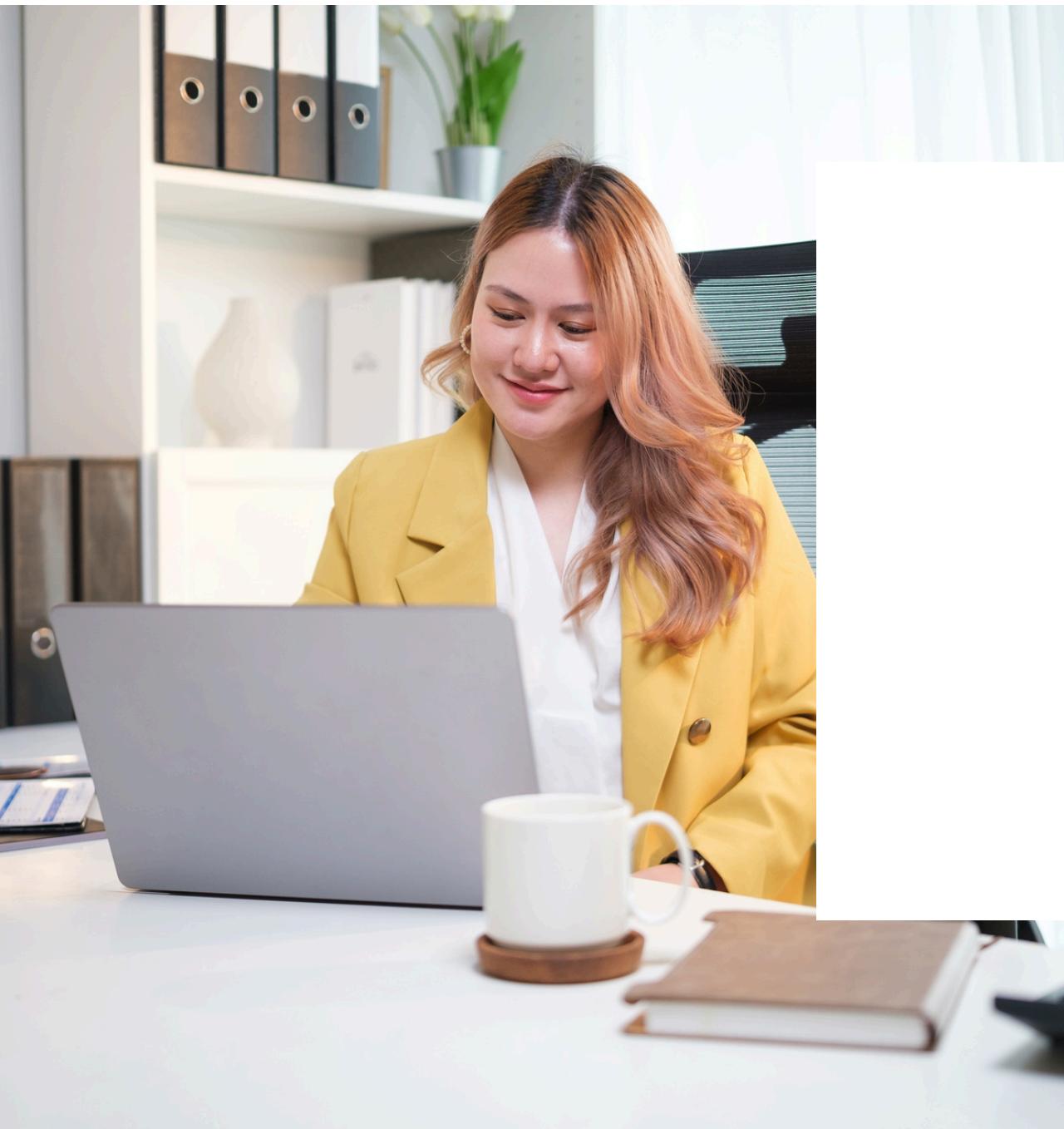
Getting
Started

Mactores initiated the engagement with discovery workshops involving patent attorneys, practice leaders, IT stakeholders, and docketing teams. Over four weeks, the team assessed current workflows, data readiness, and technical constraints; designed a future-state AI architecture on Amazon Bedrock; and delivered a detailed implementation roadmap with ROI projections and pilot recommendations.

The rapid assessment provided SKGF with a low-risk, AWS-funded path to validate AI adoption, define next steps, and move confidently toward a production-grade Office Action automation platform.

MACTORES

Our
Solutions

Data Lake

Data Lake

Databases

Data Ops

Generative AI
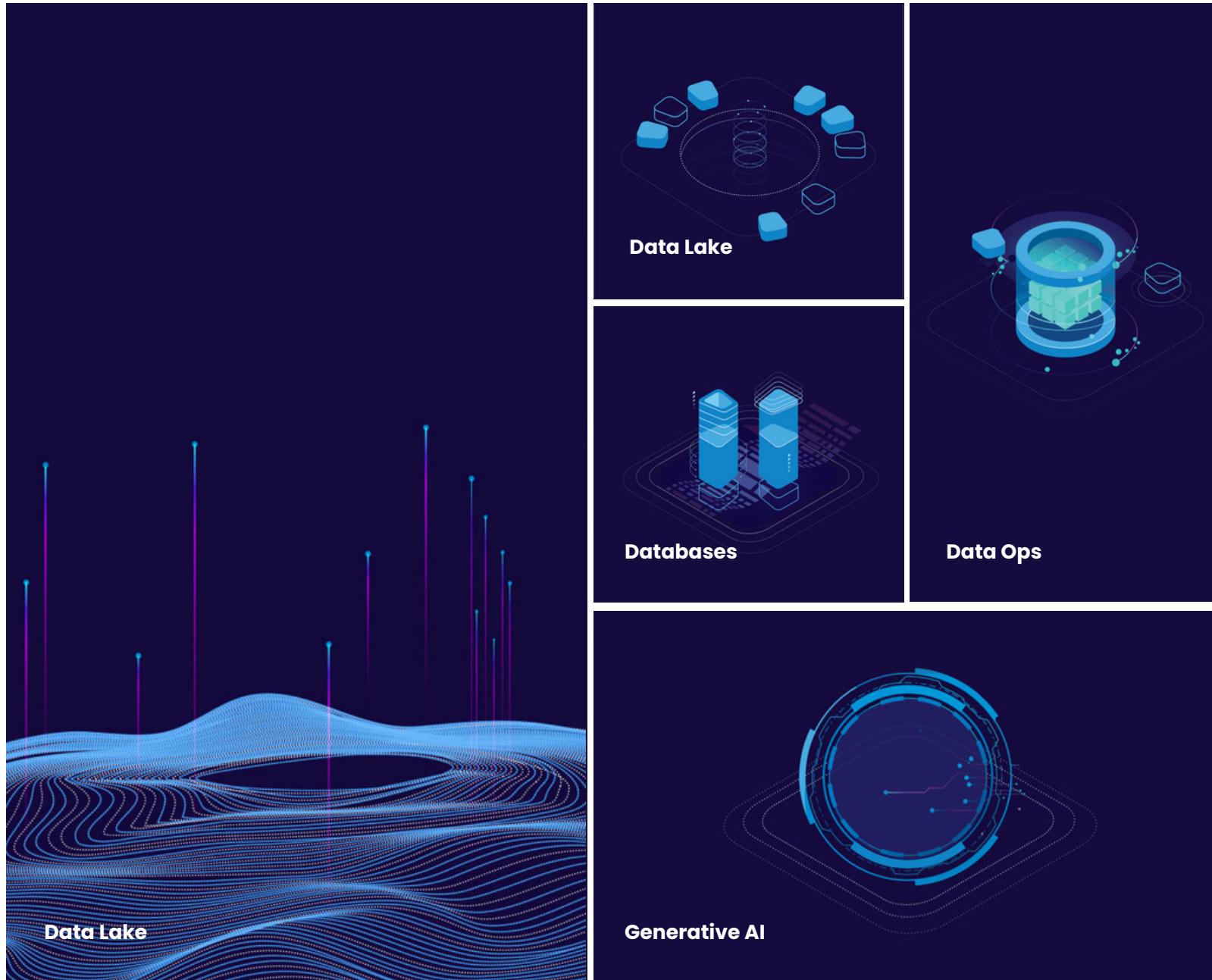
Our **Process**

Digital transformation via assessments, migration or modernization

We work alongside your tech team to assess and strategize what you need and how to implement the right data solutions on time, on budget and with c-suite buy in.

Assess

- Discovery Automation
- Future State Assessment
- GAP Analysis
- End State
- Road Map
- TCO

Migrate

- Strategy
- Execution
- Migrate
- Migration Acceleration

Modernize

- StrategyFuture State
- Design
- Build
- Automate

AWS Validated Competencies

aws PARTNER Advanced Tier Services

aws PARTNER ML Services Competency

aws PARTNER Data & Analytics Services Competency

aws PARTNER DevOps Services Competency

aws PARTNER Migration Services Competency

aws PARTNER Healthcare Services Competency

aws PARTNER AI Services Competency

aws PARTNER Generative AI Services Competency

aws 200 CERTIFIED

aws PARTNER Immersion Day

AWS Validated Service Deliveries

aws PARTNER Amazon Redshift Delivery

aws PARTNER Amazon RDS Delivery

aws PARTNER AWS Database Migration Service Delivery

aws PARTNER Amazon EMR Delivery

aws PARTNER AWS CloudFormation Delivery

aws PARTNER AWS Glue Delivery

aws PARTNER Amazon QuickSight Delivery

aws PARTNER Amazon Kinesis Delivery

aws PARTNER AWS Config Delivery

aws PARTNER Amazon MSK Delivery

aws PARTNER Amazon DynamoDB Delivery

aws PARTNER AWS Service Catalog Delivery

MACTORES

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