



Accelerating ESG Excellence: Revolutionizing Data Management with Automated AWS Workflows

SUCCESS STORY

Client Overview

The client assists investors in integrating Environmental, Social, and Governance (ESG) considerations into their investment strategies. They offer ESG data and signals on publicly listed companies, along with advanced analytical tools to assess risks, refine stock selection, monitor performance, and effectively engage with issuers. To enhance this process, they sought a cloud-based data management platform to streamline data collection, validation, and integration with their ESG assessment system while ensuring compliance with various sustainability standards.



The Compliance Crossroads: Overcoming ESG Data Silos & Regulatory Roadblocks

The client required a sophisticated, cloud-based data management platform to streamline data collection, validation, and seamless integration with their ESG assessment system. The solution needed aggregating ESG performance metrics from multiple companies while ensuring strict adherence to globally recognized standards such as GRI, SFDR/PAI, IRIS+, and SDGs.

To address their evolving ESG data challenges, the client sought to:



Develop a Scalable Cloud-Based Data Platform:

Build a robust, cloud-native system capable of managing vast datasets from thousands of companies across multiple clients while incorporating diverse taxonomies for comprehensive ESG performance assessment.



Enable Seamless Multi-User Collaboration:

Ensure concurrent access for hundreds of users while maintaining data integrity and security. Implement user-based access controls to provide a unified yet role-specific view of curated data.



Support Flexible Data Ingestion & Processing:

Facilitate bulk data processing through Excel and JSON-based data exchange, streamlining data integration and enabling efficient workflows.



Establish a High-Performance, Resilient Infrastructure:

Develop a modernized, scalable, and centralized infrastructure with high availability. Implement business continuity and disaster recovery mechanisms to safeguard governed data.



Optimize Data Delivery for Faster Insights:

Reduce data delivery latency compared to traditional architectures, ensuring real-time access to ESG insights for smarter decision-making.



Indium's Visionary Approach: Engineering a Future-Ready ESG Data Management Platform

Understanding the client's need for a robust, scalable, and high-performance cloud-based solution, Indium carefully analyzed the challenges in data management, security, and real-time availability. Leveraging our cloud expertise, we designed an innovative AWS-powered architecture that automates workflows, optimizes data flow, and ensures seamless scalability.

Architecting a Scalable and High-Performance Cloud Solution

Indium proposed a modern architecture suitable for cloud-based web applications, carefully aligning with the client's business requirements. The recommended solution incorporated an application stack and an AWS infrastructure deployment architecture with integrated DevOps components for seamless operations.

Building a Robust ESG Data Portal

The data collection and curation portal were developed using a suite of AWS Cloud Infrastructure services, including CloudFront, Route 53, EC2, S3, and a MongoDB database, ensuring optimized performance and reliability.

Ensuring Seamless Scalability and Performance

The data architecture was meticulously designed to ensure low latency, delivering exceptional application performance at all times. This setup allowed the platform to scale effortlessly, accommodating the increasing number of data analysts as more companies were onboarded.

Optimizing Traffic and Data Availability

Indium implemented a highly available data infrastructure to streamline DNS and traffic management, facilitating efficient system health monitoring and enabling seamless traffic routing across multiple organizations. This solution significantly accelerated data availability for analysts by leveraging diverse data points collected by the client.

Delivering High Availability, Security, and Reliability

To guarantee maximum availability and data protection, Indium deployed AWS EC2 to host the data curation portal while leveraging AWS S3 for secure storage with 99.999% object durability. The data was distributed across multiple Availability Zones within a region, ensuring automated backups and an effective disaster recovery strategy.

Proactive Monitoring and Self-Healing Mechanisms

The platform primarily relies on Amazon CloudWatch for continuous monitoring and performance tracking. Additionally, Indium developed a custom CloudWatch utility capable of automatically restarting the server when a particular service is not running, ensuring uninterrupted system functionality.

Tangible Results, Lasting Change: Delivering Impact That Matters

By combining smart automation, scalable architecture, and intelligent workflows, we accelerated ESG data management like never before. From speeding up time to market to ensuring seamless data validation, our solutions empowered stakeholders with faster insights, better accuracy, and an effortless user experience.

- ▶ **60% Faster Time-to-Market:** Accelerated solution delivery, ensuring rapid deployment and quicker insights for stakeholders.
- ▶ **Scalable & User-Centric Data Curation:** Developed a scalable data curation portal with interactive dashboards, catering to diverse user roles while enhancing data entry and ESG analysis capabilities.
- ▶ **Streamlined & Error-Free Data Collection:** Optimized the data collection process, enabling analysts to gather, validate, and process data efficiently with minimal errors.
- ▶ **Seamless Workflow for Approvals & Verification:** Implemented a well-orchestrated workflow that ensures smooth approvals and verification, reducing delays and enhancing compliance.
- ▶ **Intelligent Automation for Accuracy:** Automated validations and calculations within the system, eliminating manual errors and boosting data integrity.
- ▶ **Comprehensive ESG Assessments with JSON Outputs:** Generated detailed and structured JSON outputs, enabling efficient company assessments and seamless data exchange across platforms.

About Indium

Indium is an AI-driven digital engineering company that helps enterprises build, scale, and innovate with cutting-edge technology. We specialize in custom solutions, ensuring every engagement is tailored to business needs with a relentless customer-first approach.

Our expertise spans Generative AI, Product Engineering, Intelligent Automation, Data & AI, Quality Engineering, and Gaming, delivering high-impact solutions that drive real business impact.

With 5,000+ associates globally, we partner with Fortune 500, Global 2000, and leading technology firms across Financial Services, Healthcare, Manufacturing, Retail, and Technology—driving impact in North America, India, the UK, Singapore, Australia, and Japan to keep businesses ahead in an AI-first world.

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