

AWS Automated Geospatial Insights Engine (AGIE) Implementation



Transforming Earth Observation Data into Actionable Intelligence

Overcoming Barriers to Geospatial Intelligence

Extracting meaningful insights from satellite and aerial imagery can be complex, requiring significant infrastructure and data processing expertise. These challenges often prevent organizations from fully capitalizing on valuable earth observation data, limiting opportunities to improve forecasting, automate risk management, and strengthen regulatory compliance. Overcome these barriers by leveraging AWS's geospatial capabilities.

Caylent leverages AWS AGIE to accelerate geospatial insights through automated analytics.

Built entirely on AWS, AGIE combines scalable processing, AI-driven analytics, and automation frameworks to help organizations transform raw earth observation data into real business outcomes. The solution can be tailored to meet the unique needs of industries such as agriculture, energy, and environmental management.

Where We Can Help



Automated Data Ingestion

Search, download, and process earth observation data from multiple satellite sources with automated scheduling and QA.

Intelligent Processing Pipeline

Run customizable geospatial algorithms with elastic compute that optimizes for both performance and cost.

Real-Time Analytics Engine

Generate vegetation indices, NDVI maps, and other analytics with built-in visualization and statistical tools.

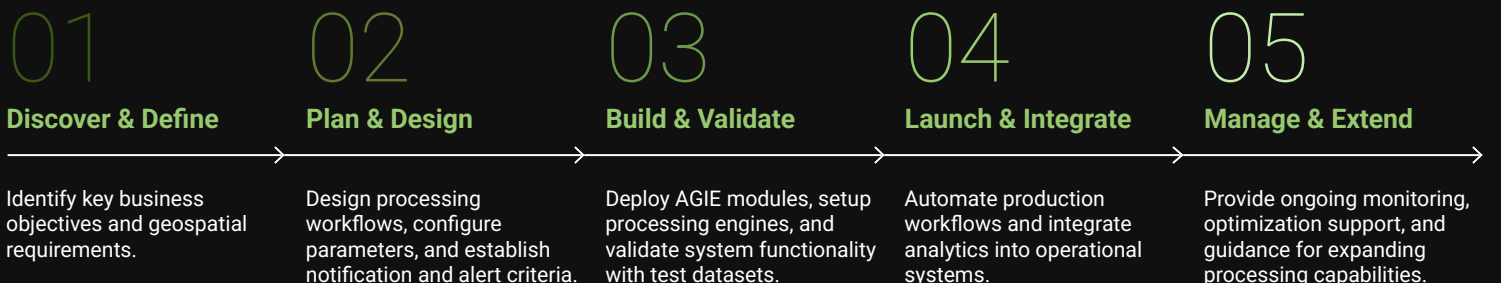
API-First Architecture

Access processed data and insights through secure REST APIs that integrate easily with existing enterprise systems.

STAC Compliance

Maintain a standards-based, searchable geospatial data catalog for interoperability and governance.

Our Approach



Deliverables

Geospatial Data Pipeline

Automated imagery ingestion and processing at scale

AI-Powered Analytics

Machine learning models for vegetation, infrastructure, and land-use insights

Scalable Architecture

Cloud-native infrastructure supporting enterprise-scale deployments

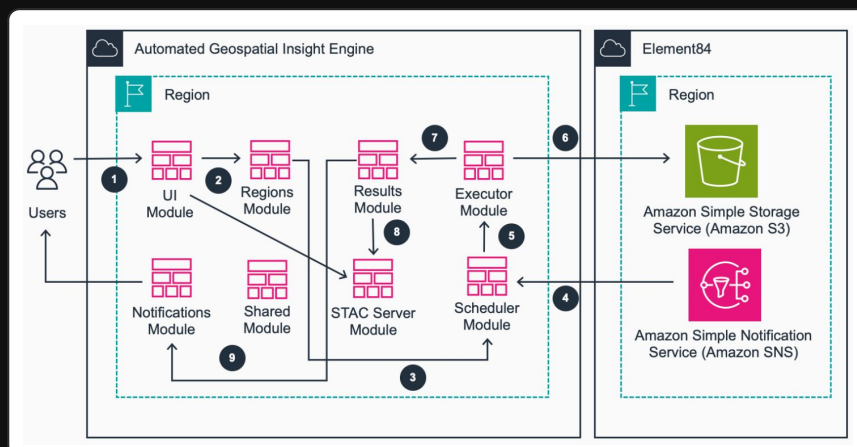
API Integration Layer

Secure REST APIs for interoperability

Monitoring Dashboard

Real-time visualization and alerting for geospatial intelligence

Architecture



AGIE is built on a **cloud-native, serverless** architecture leveraging managed AI and data services on AWS.

The modular design supports enterprise scalability while allowing rapid customization for specific use cases.

Industry Application: Agriculture



Precision Farming & Crop Health

Optimizing fertilizer and water use across large croplands while detecting early signs of pests or disease to maximize yield and reduce costs.

Cost & Resource Optimization



Land Management

Monitor deforestation, timberlands, or environmental changes to maintain sustainability certifications and meet compliance standards.

Environmental Impact Monitoring



Infrastructure Monitoring

Assess flood zones, wildfire risk, or asset conditions to improve disaster preparedness and regulatory alignment.

Risk & Compliance

Let's Get Started

No matter where you are on your journey, Caylent can help you quickly achieve your AI goals, from reinventing customer experiences and creating innovative new applications to massively improving productivity.

Whether you are looking to define a use case, create a roadmap, build a prototype, or implement a production ready solution, Caylent has a suite of offers tailored specifically to accelerate your goals.

Scan the QR code or [click here](#) to talk with our specialists

