Google Earth Engine

Deloitte leverages the advanced capabilities of Google Earth Engine (GEE) to help public sector organizations derive insights from geospatial data across various domains, enabling them to make informed decisions, improve operational efficiency, and address mission-critical challenges.

Summary of GEE platform capabilities:

Extensive Data Catalog & Integrations

Access a vast archive of satellite imagery via the GEE Data Catalog or integrate data from ground-based sensors, satellite imagery, and climate models

Scalable infrastructure

Leverage Google Cloud's powerful infrastructure for the scalability and performance needed to process and analyze vast amounts of geospatial data

Advanced Analytics & AI / ML

Leverage integration with BigQuery™ and Vertex AI™ to perform complex geospatial analyses, extract insights, and develop advanced machine learning models

Geospatial Algorithms & Functions

Access library of geospatial algorithms and functions, including those for image processing, spatial analysis, feature extraction, and geospatial statistics

Google Earth Engine capabilities can be applied to several use cases:

Environmental Monitoring

Monitor environmental changes and conservation efforts more effectively to track deforestation, land use patterns, water resources, and biodiversity, among other environmental factors

Climate Change Monitoring

Assess change in temperature patterns, precipitation trends, sea level rise, and other climate variables to make informed decisions and develop mitigation strategies

Agriculture and Food Safety

Monitor crop health, predict yield, optimize irrigation, and analyze land use patterns

Infrastructure Assessments

Assess land suitability and analyze population growth to predict infrastructure needs

Emergency Response

Analyze damage and identify affected areas, monitor evacuation routes, and assess the impact of disasters on infrastructure and communities
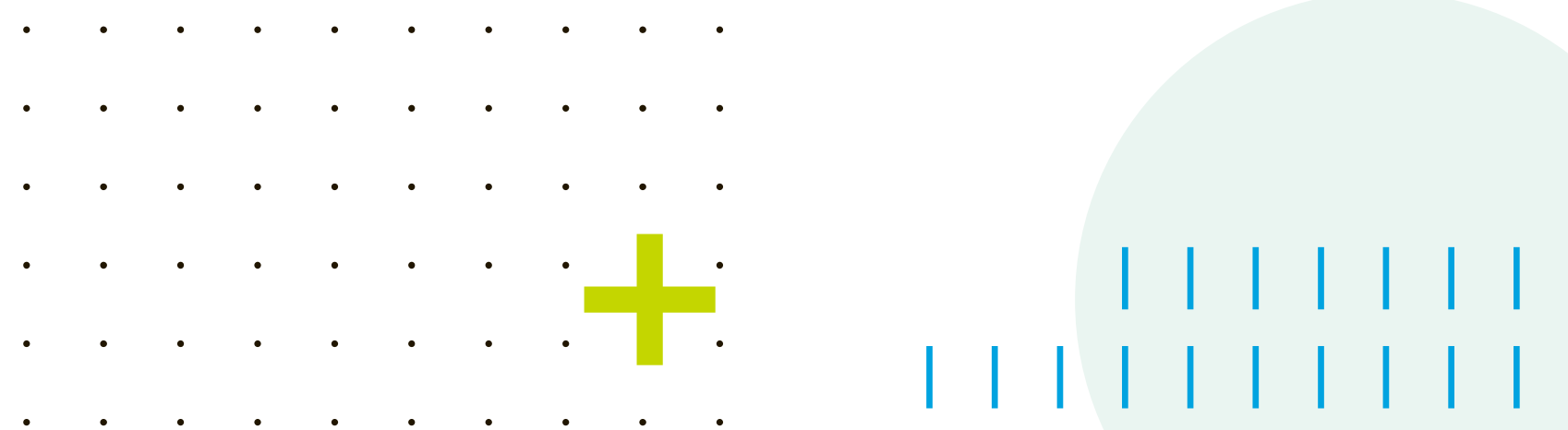
Public Health

Contribute to public health initiatives by analyzing factors such as disease spread patterns, mosquito breeding habitats, air pollution, and accessibility to healthcare facilities to identify high-risk populations
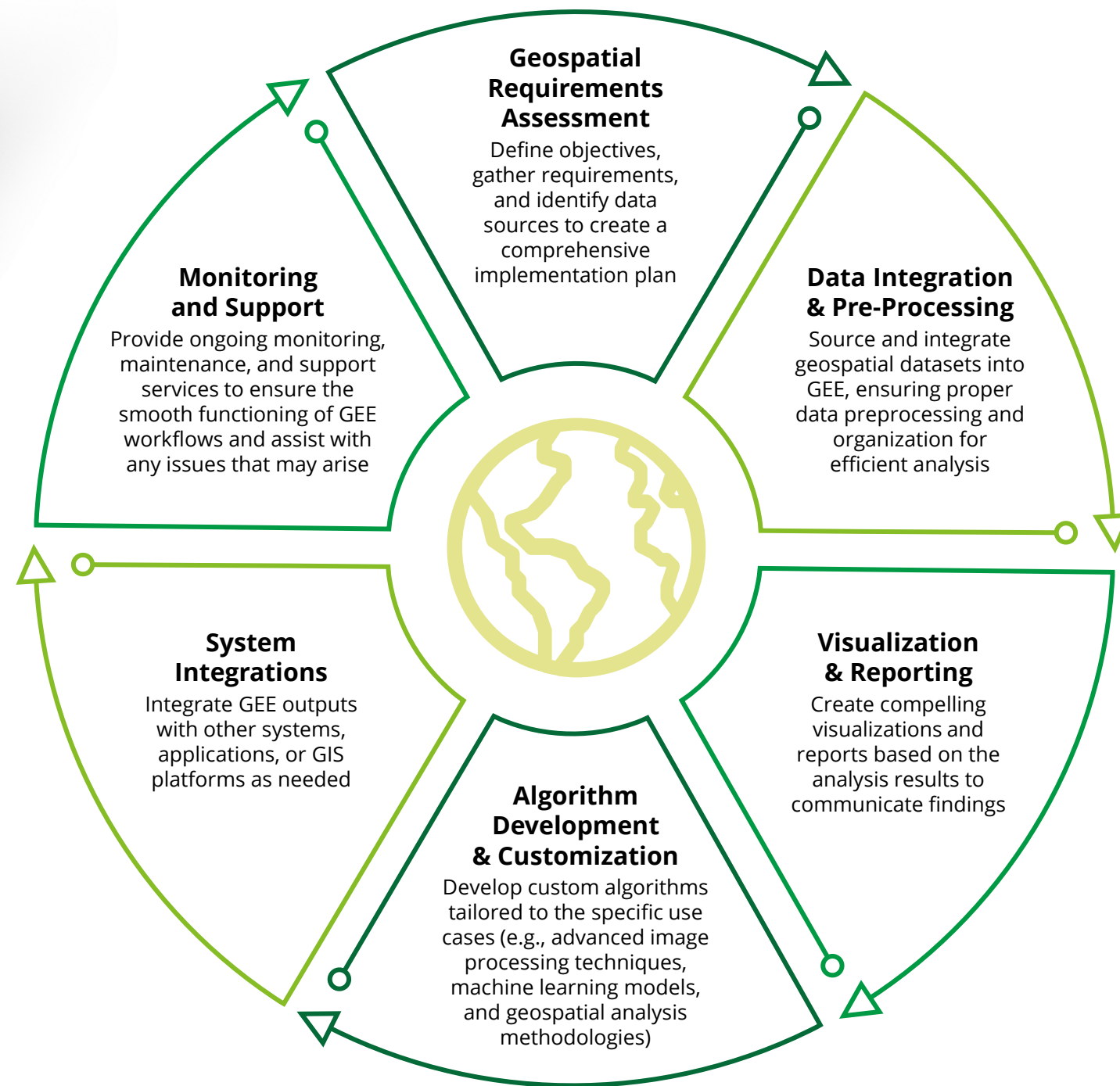
Energy Transition

Map renewable resources, assess environmental impacts, monitor energy infrastructure, analyze energy demand, and support policy and planning decisions

How Deloitte can help your organization develop enterprise-grade solutions:

Geospatial Requirements Assessment
Define objectives, gather requirements, and identify data sources to create a comprehensive implementation plan

Data Integration & Pre-Processing
Source and integrate geospatial datasets into GEE, ensuring proper data preprocessing and organization for efficient analysis

Visualization & Reporting
Create compelling visualizations and reports based on the analysis results to communicate findings

Algorithm Development & Customization
Develop custom algorithms tailored to the specific use cases (e.g., advanced image processing techniques, machine learning models, and geospatial analysis methodologies)

System Integrations
Integrate GEE outputs with other systems, applications, or GIS platforms as needed

Monitoring and Support
Provide ongoing monitoring, maintenance, and support services to ensure the smooth functioning of GEE workflows and assist with any issues that may arise

Development founded on AI principles

Google established a set of AI principles that continually evolve to strengthen its safety guidelines which align closely with Deloitte's Trustworthy AI™ framework by which an organization and its stakeholders can verify AI deployments are ethical and can be trusted.

Why Deloitte & Google Cloud

Deloitte helps organizations advance their digital transformation efforts. In 2023, Deloitte was named the Partner of the Year for Public Sector (Global), Services (North America), Security Specialization (Global), and the Generative AI Industry Solution which is a testament to our ability to develop innovative solutions that are tailored to meet the specific needs of an organization.

LEARN MORE

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