



ELLIPSIS

earth intelligence

Executive summary

Ellipsis is an IT company that provides dedicated information on land, water, and asset conditions, worldwide and in near real time. We create self-updating land cover maps, making it easy to track changes, find causes, estimate risk, and target interventions, while minimizing manual analysis and field visits. We also make the information available for easy integration into new or existing maps, platforms, or other applications via API. Our system is powered by satellite data, AI analysis, and cloud computing.

Our Service

Ellipsis provides insights on landscape dynamics and land cover conditions, both on demand and on subscription basis. By leveraging satellite data, cloud computing, and computer vision methods we provide the necessary information for a.o. performance, compliance, impact, and risk assessments to help end-users direct their resources effectively while minimizing manual data analysis and field visits.

Acquiring Insights

Our monitoring solution captures everything that satellite data can offer, at any scale and for any length of time. The information that we can extract ranges from:

1. Land cover types; this can be anything that is visible on the earth's surface from dirt roads, housing, beaches, agriculture, and forest, to power plants, lakes, solar panels, and parking lots.
2. Land cover conditions; for example the turbidity or organic content of water, the biomass of vegetation, the subsistence of roads, and the water content of crops
3. Sudden changes; such as the demolition of buildings, harvest events, flooding events, or deforestation
4. Simple visuals; spectral satellite imagery with clouds and other noise filtered out, such as a dense 5 year timelapse of a region of interest.
5. Crowdsourced information; georeferenced messages, polls, and photo's via our platform. Access can be an open or as limited as is appropriate.

From insights to action

We make these acquired insights actionable by combining and aggregating them to any geometrics that are relevant for the user. For example, by aggregating land use types to watershed level, the pressure on available fresh water resources can be tracked through time. Other examples of relevant aggregation levels are project areas, buffer zones, agricultural fields, coastal zones, nature reserves, and administrative districts that may have certain KPIs, red flags, management requirements, or legislative restrictions on them. The data is continuously uploaded to a dedicated database in the cloud. This information is made available for low threshold use and analysis in our web application (see figure). Here users can view the data, conduct analysis, and make requests to, for example, receive notifications of areas where pre-specified threshold conditions have been met. All information is also made available via API. As such this can be used and integrated into new or existing reporting systems, models, platforms, dynamic maps, and other applications.

Practice areas

1. **Water management and security, construction, and mining:** For the purpose of orientation and informed project planning, digital modelling, risk assessments, compliance and quality monitoring, and automated visual progress reports.
2. **Environmental services:** For the purpose of inventory taking of natural resources, estimating pressure on natural resources, measuring degradation, locating causes, monitoring remediation, estimating biodiversity, and mapping for climate adaptation.
3. **Agricultural insurance and supply chain transparency:** For the purpose of estimating drought and flood risk, confirming damage claims, monitoring land use and land management, and detecting changes in the landscape.
4. **Geostatistics:** For the purpose of providing low cost, large scale, and up-to-date geostatistics for administrative purposes, to inform policy, and to measure progress for the 2030 Sustainable Development Goals.
5. **Land monitoring:** For the purpose of exploring land cover dynamics and advising accordingly, and to monitoring compliance to land use restrictions, management and subsidy requirements in, for example, agriculture, forestry, and certification.

Third party end users

Third party end users of the data are often government, or semi government, entities who prefer open, continuous, low threshold, and visual information updates and services. As such our system is a great skeleton or building block for (new) digital services for (semi) government organisations and other end users who are keen on digital convenience.

Cost indication for SIDS

Simple cloudless satellite visuals of the island or archipela:

- Approximately 1000,- USD for a time series from 2015 to the present year
- Approximately 500,- USD for near real time updates for every consecutive year

Automated AI based analysis of land cover conditions for (customizable) risk alerts:

- Approximately 5000,- USD for the monitoring setup an a time series from 2015 to the present year
- Approximately 1000,- USD for near real time updates and alerts for every consecutive year

Contact

Don't hesitate to visit our website or contact our team for more information!

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