HEXAGON / Revolution

Measuring success

GREEN CUBES DIGITAL REALITY

Shaping a greener mining industry

GREEN CUBES

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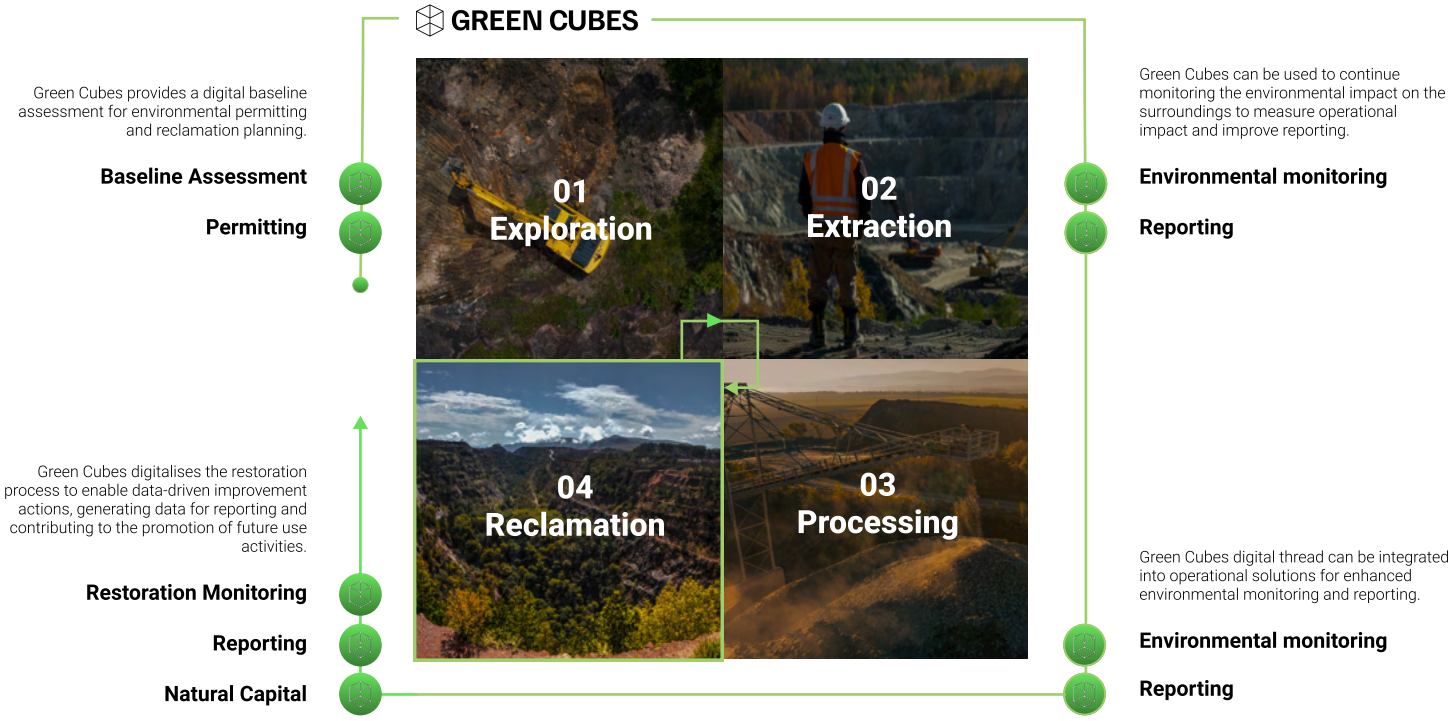
Shaping a greener mining industry

The pressure for mining companies to keep up with biodiversity impact monitoring is accelerating fast, both via local permitting and new global regulatory frameworks. In addition, restoration projects, often described as rehabilitation, reclamation or mining future use, require considerable investments where the power of accurate measurement, reporting and verification through Digital Reality make a significant difference. Green Cubes is a trusted and autonomous environmental monitoring digital twin solution for best-in-class environmental monitoring and impact reporting.

Adding the green thread to mining



Make tangible environmental and business impact

Green Cubes Digital Reality integrates environmental data with cutting-edge digital twin technologies. It offers a solution for miners that results in increased efficiency in reclamation, approved permits, and opens the door for new revenue streams via natural capital. This extends Hexagon's technology stack to secure the licence to operate, ticket to play, and provide additional value via improved reputation and natural capital.

Ticket to play

Environmental monitoring

Increase efficiency in reclamation efforts.

Reclamation planning

Receive approvals and permits.

Reporting

Increase sales with improved ESG reporting.

Additional value

Promotion & education

Improve reputation with Green Cubes promotion.

Green Cubes Nature Credits

New revenue streams in Natural Capital.

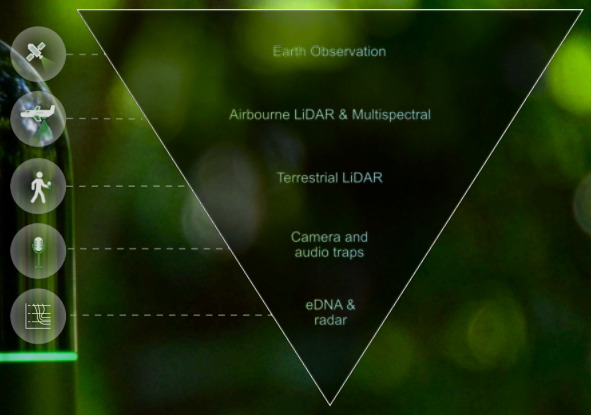
A solution to continuously monitor reclamation activities across a set of key metrics.

Green Cubes Digital Reality transforms the way we Monitor, Report and Verify (MRV) mining environmental projects across the globe. By innovatively capturing and classifying environmental data, Green Cubes generates an accurate digital representation of the biodiversity at unprecedented levels. The digital twin utilises cutting-edge sensors and software from Hexagon and ecosystem partners, providing full visibility into the potential impacts in nature generated by mining operations, and delivering the highest possible integrity to cope with existing regulations while preparing for future requirements.

Earth Observation Imagery & SAR | Airborne LiDAR & Imagery | Terrestrial LiDAR | Camera & Audio Traps | Ground Penetrating Radar | Soil Analysis

Making nature visible with multi-dimensional measurements.

Measuring the surroundings by Volume: attributes which we can physically measure, from tree height to soil mechanical properties. Complexity: calculated to build an index, such as species variety or abundance. Biodiversity Indication: signs of life offering proof of success, such as the presence of alpha predators.



GREEN CUBES

The environmental digital foundation for efficiency and revenue growth

Digital Reality - Environmental Service

Monitor, verify and report biodiversity trends at mines and surrounding areas. Creating a digital twin of the mine to add a green thread to the mining process by making environmental data visible.

$/site subscription model

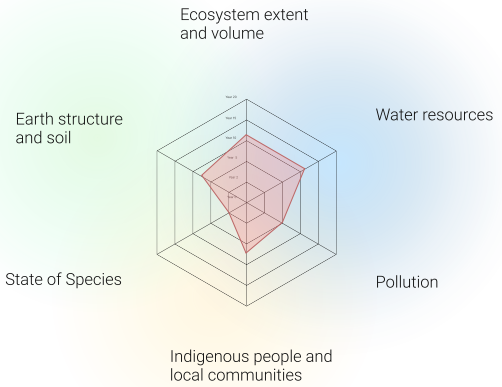
Natural Capital - Impact Contribution

Based on the digital twin and environmental monitoring, enterprises sponsor biodiversity conservation for Net Biodiversity Gain. This gives value to nature and provides miners with a new potential revenue stream.

$/unit revenue share model

Reclamation Roadmap

Measuring success monitoring metrics across six principal divisions, encompassing impact drivers, the state of nature, and outcomes. Progress towards the baseline can be tracked annually, allowing for the allocation of additional resources to areas that are not advancing sufficiently, ensuring project success upon completion.

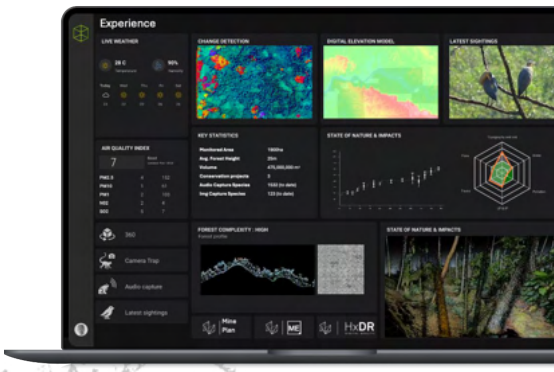


Environmental Reporting

Environmental reporting for the exploration, extraction, processing, and reclamation phases, providing direct access to the metrics presented in lists, charts, and descriptive formats. These reports can be generated to comply with global regulators, such as TNFD or CSRD, and can be adapted to match sustainability reports, local requirements, and permits.

The digital window

The Green Cubes platform integrates all metrics for environmental monitoring, reclamation, and future use of mining sites. Its digital twin dashboard offers features such as change detection, complexity heat maps, 3D area navigation visualisation, in-situ experiences, fauna capture, and augmented data with AI-generated reports. The platform consolidates data sets and interfaces with can integrate with external data and solutions.

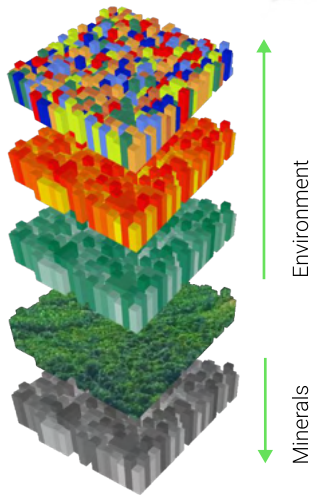


Extending Hexagon strengths

Building on Hexagon's leadership in digital mining solutions, with over 400 open-pit mines trusting Hexagon technology, Green Cubes expands the power of Hexagon with the green digital twin, all the way from exploration, extraction, processing to reclamation. Green Cubes Digital Reality supports:

- Evaluation, Planning & Design
- Drill & Blast
- Load & Haul
- Survey & Monitoring
- Processing
- Reclamation
- Safety
- Autonomous Operations
- Insights

As an example, the integration with Hexagon MinePlan combines accurate environmental assessments with project budgeting, scheduling, and resource estimation.



Hexagon MinePlan Integration Illustration

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Interested?
REACH OUT!

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