



# CONNECTED CARBON

## CHALLENGE

While climate change threatens livelihoods across the globe, healthy forests can help combat climate change and preserve biodiversity. Both public and private funding schemes exist to incentivize and reward the preservation of important carbon sinks like the Amazon.

## BUT...

- **Unreliable energy supply** and **intermittent connectivity** make it difficult to directly monitor carbon sequestration in remote areas;
- Carbon monitoring baselines are too **infrequently updated** to track forest changes in real time;
- **Imprecise methodologies** for defining tradeable carbon units (such as a metric ton of carbon) merely estimate, rather than measure, carbon sequestration;
- Publicly financed climate **governance schemes** and market-based carbon reduction **incentives** are not well aligned and sometimes counteract one another;
- **Expensive** and **time consuming** monitoring and verification processes reduce the amount of funding available for forest preservation efforts, thereby exacerbating the existing **climate financing gap** of 70 billion dollars.

Effective climate action requires **transparent, real-time monitoring and verification** of carbon sequestration, environmental protection and regeneration efforts around the globe. Machine learning and data exchange capabilities are needed to compare the efficacy of different efforts and funnel resources to those delivering the largest positive climate impacts.

## GOALS

Support the protection of key carbon sinks at remote pilot sites in places like Brazil, Myanmar, and Malawi.

- Deploy state-of-the-art **sensor mesh-networks** at pilot sites
- Directly monitor key carbon sinks **remotely in real-time** Combine **ground-based** and **space-based observation** to increase data accuracy
- **Securely upload and transmit** sensor and satellite data to reduce monitoring, reporting and verification costs
- Make **high-quality, high periodicity, and tamper-proof data streams** available to climate researchers and carbon credit traders alike
- Perform real-time data analysis to **identify at-risk forests** and carry out **rapid interventions** at threatened sites
- **Incentivize and streamline** preservation, reforestation and afforestation using social incentivization schemes that directly reward forest caretakers and local communities
- Improve **local acceptance** and **governance structures** of conservation projects

# SOLUTION ARCHITECTURE



Monitor the Rainforest using mesh networks of sensors, satellite imagery and crowd intelligence



Transmit data through satellite constellations and secure data in the IOTA Tangle



Use data for:  
Rapid response & interventions  
Real-time-Analysis  
Inventivation



Quantum Immune



Highly Scalable



Low resource requirements



Zero-free Transactions



Secure data Transfer



Offline Transactions

## IOTA

- Non profit foundation registered in Berlin
- 90+ employees in 17 countries
- To research, develop and grow market adoption of the IOTA Tangle
- Opensource, permissionless next generation distributed ledger

## KEY FEATURES OF THE PROJECTS

- Multi-dimensional data integration & testing of new sensors
- State of the art connectivity solutions, offline capabilities & mesh-networks
- Evidence-based approach to conservation based on crowd-intelligence, big data and experimentation



For more information please contact:  
Or visit:

impact@iota.org  
www.iota.org