Community Deforestation Tracker

April 2023

PROJECT CANOPY

Environmental Intelligence for Africa's Rainforest

hello@projectcanopy.org

We can reduce carbon emissions equivalent to one coal-fired power plant. Every year.

We do it by preserving Africa's rainforest.

For $100K.

This is **Project Canopy**

Why should we care about Africa's rainforest?

The Congo Basin is the world's second-largest tropical rainforest, and last tropical forest carbon sink.

Global efforts to meet SDGs for Climate Action (13) and Life on Land (15) will fail if the integrity of the Congo Basin rainforest is not preserved.

Degrading Africa's rainforest also imperils the 75 million people who depend on it for their livelihood. These are marginalized communities, often earning less than a dollar a day.

"If we lose the Congo Basin, we lose the fight against climate change."

–Lee White, Minister of Environment, Gabon, June 2021

Can you save a rainforest when you're broke?

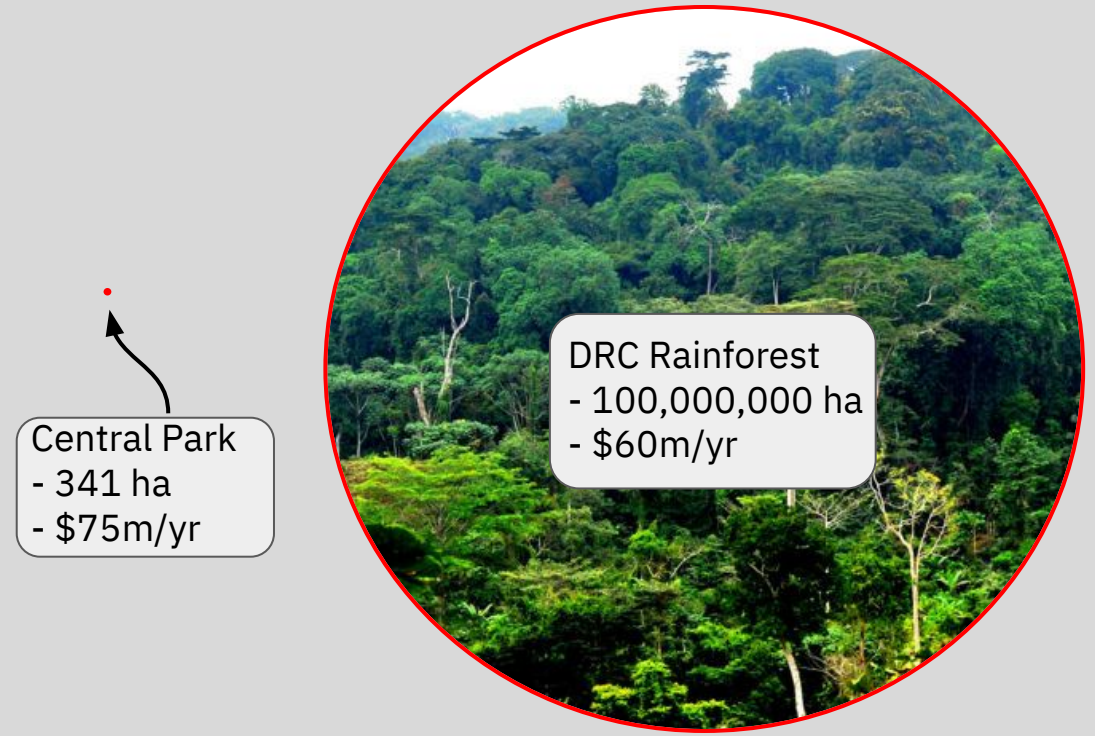
Only 3% of international climate funding goes to Africa, and even less to the Congo Basin rainforest.

The DRC Ministry of Environment manages ~100m ha of rainforest with a budget smaller than New York City's Central Park: $60m vs $75m.

With such limited means, how can we support governments and communities to protect Africa's rainforest?

We provide them with the data and tools *they need* to save the greatest number of trees – and the greatest amount of carbon stocks – per dollar spent.

DRC 'manages' its rainforest with only $60/km²...



...while Central Park receives *$22 million/km²*

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Communities are key to the forest – and climate

Over 350 community forests in the Congo Basin cover >6 million hectares. This number grows as better legislation recognizes forest inhabitants' rights to traditional lands.

Studies show that community forests reduce deforestation – even by up to 37 percent – as well as reduce poverty.

We have talked and worked with forest communities in Gabon, Cameroon, and DRC, and they have told us that Project Canopy can help them get even better results.

These are the people we work for.

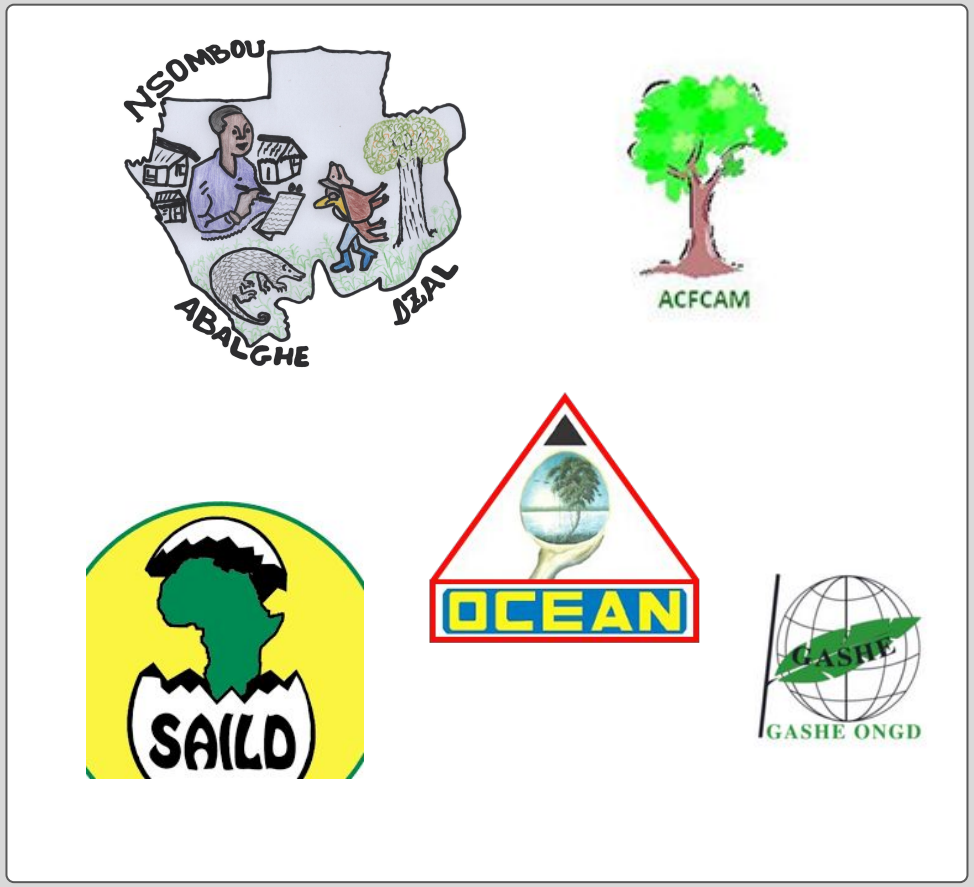
Better community-led forest monitoring

These communities and their civil-society representatives have told us that they need an easy-to-use and easily available tool to monitor forest cover in their communities.

As stewards of their forests, they want to reduce illegal deforestation.

They need to know not just where deforestation is happening, but why it is happening – and in real time.

This is what we're doing about it.



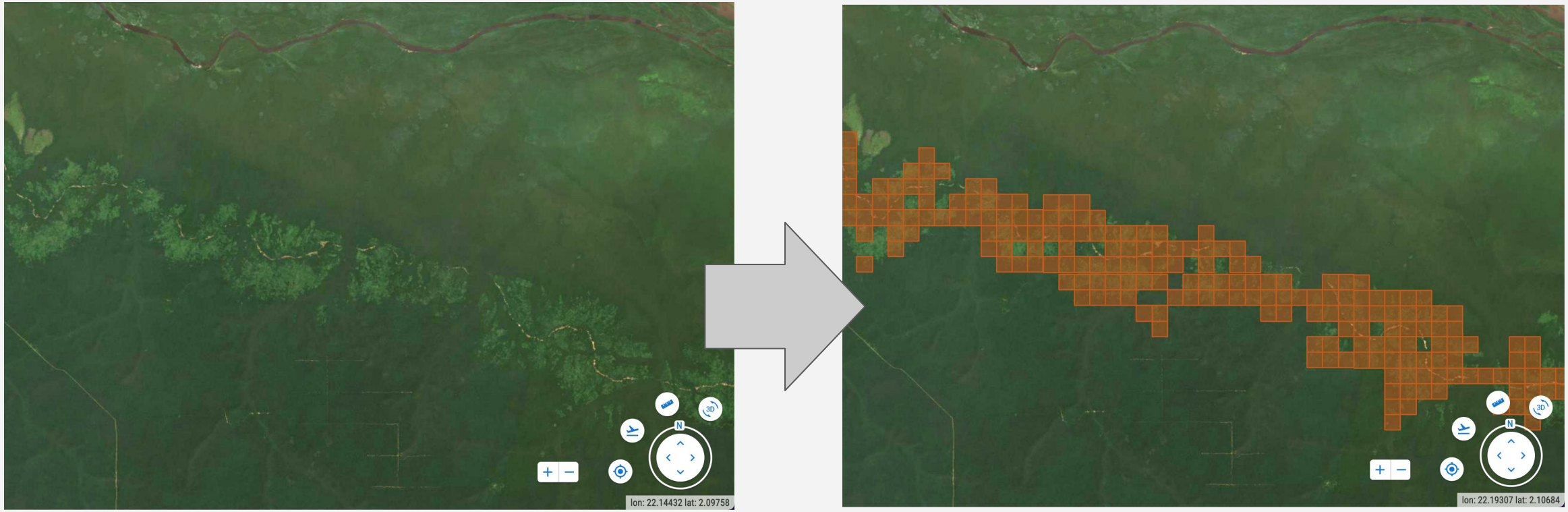
Deforestation Detection: Proof of Concept

Last year, we developed a Proof of Concept using satellite imagery and machine learning to detect deforestation *by type.*

We managed to get **80% accuracy** for logging roads and slash-and-burn agriculture over 2019 and 2021, for DRC – about 60% of the rainforest.

We did this with limited resources, high motivation, a dedicated team of volunteers, and support from SSRC and Subak, and presented our findings to a major geospatial conference.

Detecting Drivers of Deforestation: Slash-and-Burn Agriculture

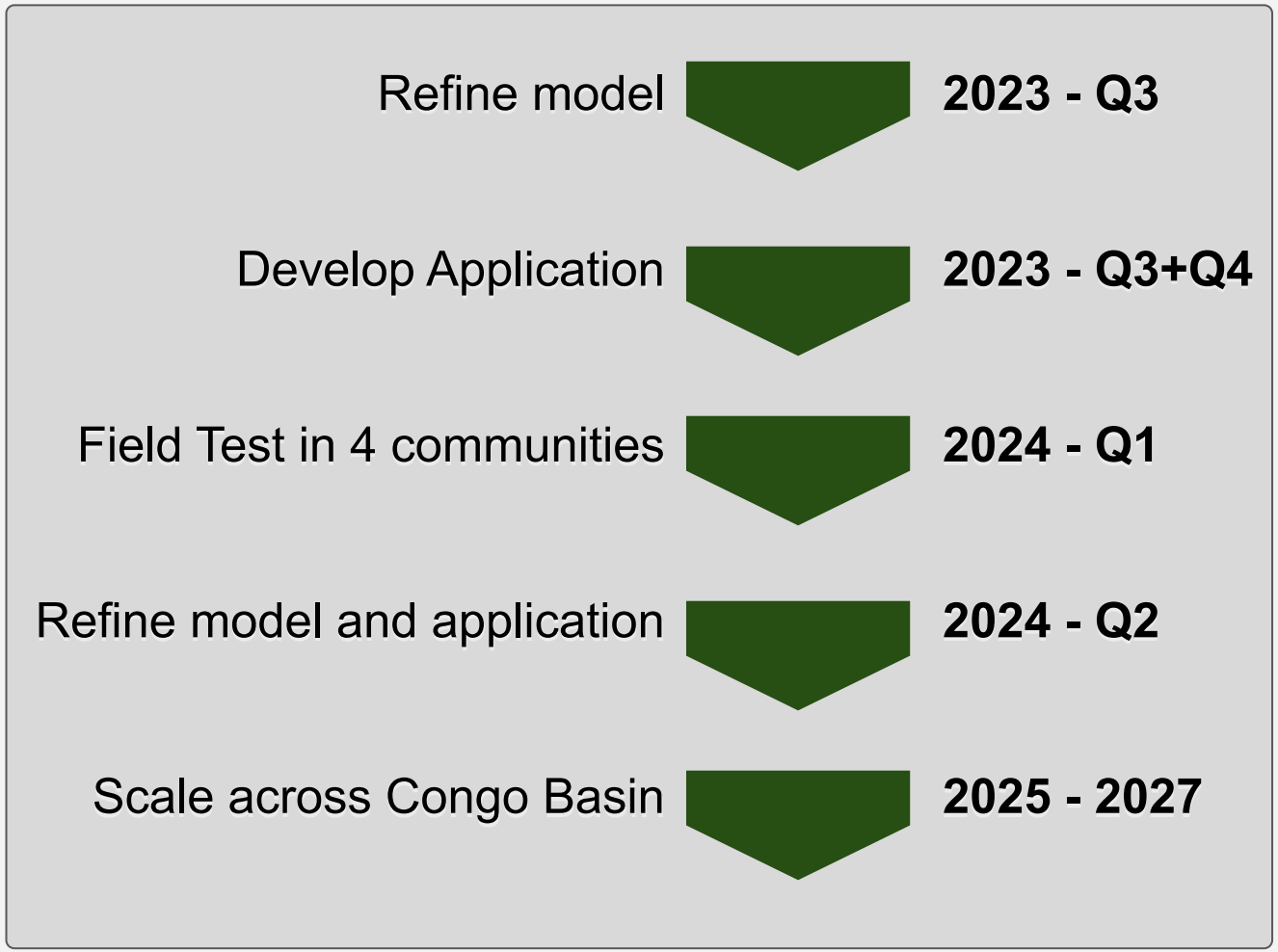


Detecting Drivers of Deforestation: Logging Road Networks

Deforestation Detection: 2023-2024 Deployment

Back end:
- Get images on a quarterly, monthly, weekly basis
- Integrate radar to avoid cloudy days
- Cover entirety of the Congo Basin
- Improve accuracy of slash-and-burn and industrial-scale logging to 90%, and incorporate industrial agriculture

Android app development:
Communities select their areas of concern. When deforestation is detected they obtain 1) GPS coordinates of the deforestation, 2) satellite image for visual confirmation, 3) map showing location of the deforestation with landmarks such as villages, rivers, roads, etc



How is Project Canopy different?

Free for local communities

We use **10m resolution**, the highest-quality free satellite imagery

Our expertise is **regional instead of global**, allowing us to better serve our beneficiaries and stakeholders

Our focus is to empower **community-led** efforts to fight deforestation and climate change

Our application will generate maps **based on community needs**

	Project Canopy	WRI/GFW	Maphubs
Free	✓	✓	✗
10x10 resolution	✓	✗	✓
Congo focus	✓	✗	✗
Community-led	✓	✗	✗
Automated maps	✓	✗	✗

Money doesn't grow on trees

All support for Project Canopy is transparent and fully public, from raw data, to code, to final outputs

Technical (back-end): We are in discussions with data science teams at **Omdena** and **Crédit Agricole Assurance**, and are working with **EPFL** to improve our machine learning algorithms

Technical (front-end): We are seeking volunteer technical expertise to develop the application and support Project Canopy in its roll-out

Financial: we are seeking €100K to deploy, test, refine, and expand the use of this application across the entirety of the Congo Basin.

Scaling for impact

We will be able to quantify, at the granular level, the impact of deforestation on not only tree cover, but also biodiversity and carbon stores.

For our estimates of growth and impact, see here.

Year	Communities	Area (ha)	Total being deforested now (ha)	Total being deforested after (ha)	Reduction in deforestation (ha)	T C reduced deforestation	Coal plant, per year	Coal plant, cumulative
2024	10	171,428.57	685.71	548.57	137.14	58,834.29	0.06	0.06
2025	20	342,857.14	1,371.43	1,097.14	274.29	117,668.57	0.12	0.18
2026	40	685,714.29	2,742.86	2,194.29	548.57	235,337.14	0.23	0.41
2027	80	1,371,428.57	5,485.71	4,388.57	1,097.14	470,674.29	0.46	0.87
2028	120	2,057,142.86	8,228.57	6,582.86	1,645.71	706,011.43	0.7	1.57
2029	160	2,742,857.14	10,971.43	8,777.14	2,194.29	941,348.57	0.92	2.49
2030	200	3,428,571.43	13,714.29	10,971.43	2,742.86	1,176,685.71	1.2	3.69

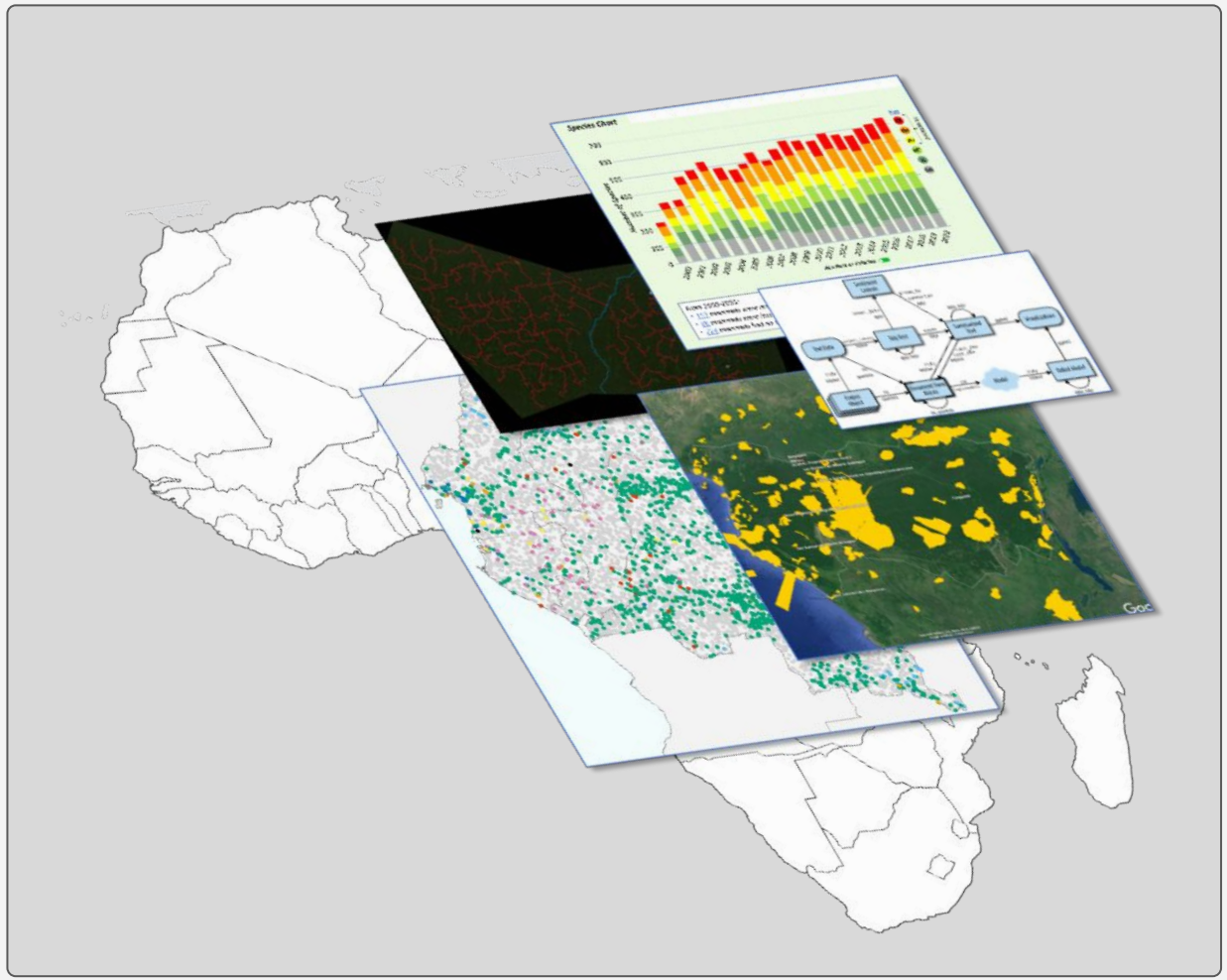
Our vision: A complete overview of the rainforest

The success of the deforestation detection platform is the foundation for a comprehensive platform.

Integrating spatial and non-spatial data can give an accurate, complete, timely picture of the state of the rainforest.

From there, we can identify the biggest threats – and biggest conservation opportunities.

Our focus will remain on providing data and analytical needs of those who can't afford it: communities, local CSOs, and local governments.



Risks are real but manageable

Technical risk is low. We have proven out the difficult part. Wrapping the UX elements, adjusting the processing pipeline are solved problems. **Field testing is a medium risk** but we can leverage existing best practices.

Organizational risk is low. We have a deep network of experts who are excited to work with us. The co-founders have been friends for 25 years and have been working together for 3+ years. Most importantly, communities are excited to work with us.

Financial risk is medium. Running projects in Central Africa is always challenging. Our experience in the region will allow us to anticipate delays and cost overruns. However, there is much that cannot be controlled here!

Jules Caron

Co-Founder

11 years' experience in the Congo Basin

WWF · global witness · Oxfam

Misha Lepetic

Co-Founder

25 years' tech experience

Pfizer · nielsen · UNITED NATIONS

Lorenzo Poglia

President of the Board

PhD in Neurosciences, current head of WWF-Vaud

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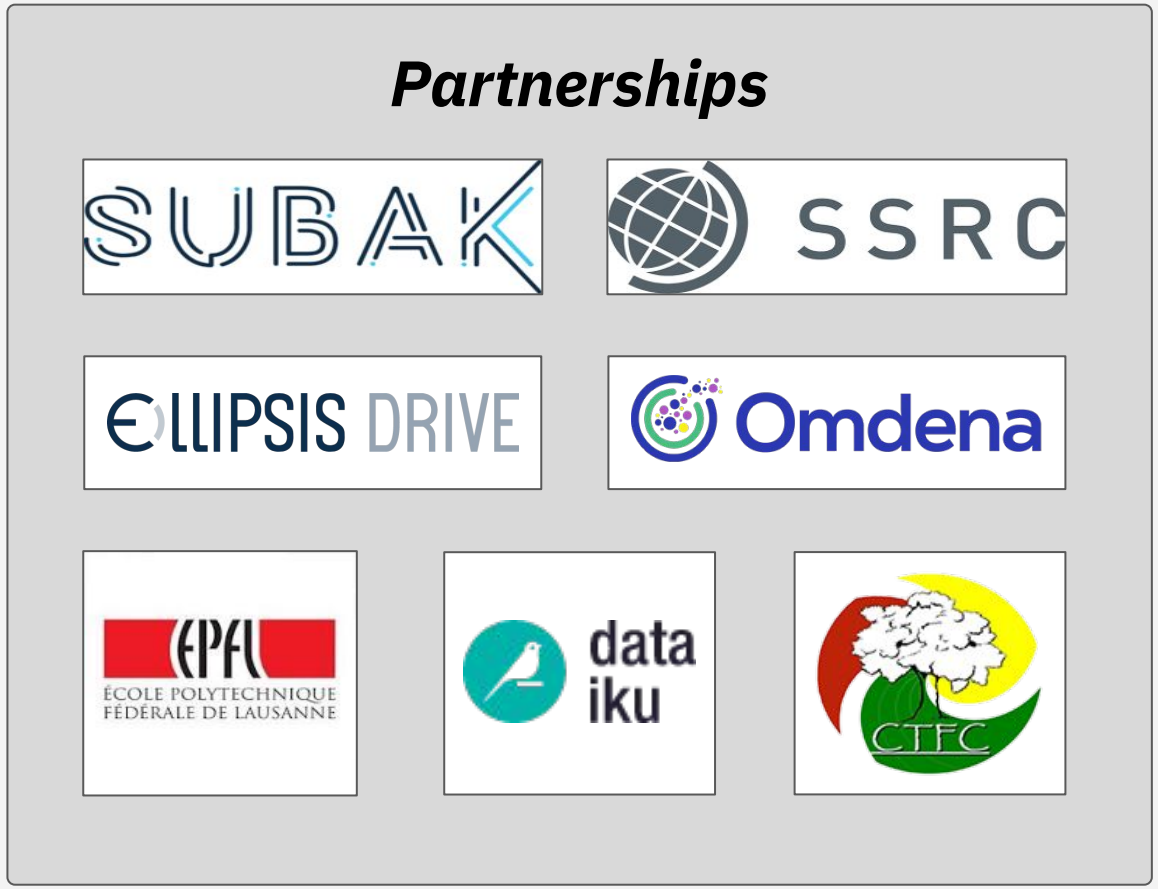
Collaboration is essential to success

- Local partnerships:
  - Gabon: NADA
  - Cameroon: SAILD, WAPAL, Forêt Communale
- Continued work with SSRC/UNOCA on deforestation detection platform
- Research project with EPFL to improve accuracy and identify more drivers of deforestation (mining, industrial agriculture)



It’s a jungle out there.

Let’s keep it that way.

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