



**Connected  
Conservation**  
FOUNDATION

# Annual Report

## 2023-2024

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**ESTABLISHED IN 2015, CONNECTED CONSERVATION IS A LEADER IN HELPING THOSE IN DEVELOPING COUNTRIES SECURE AND SUSTAIN PROVEN DIGITAL INFRASTRUCTURE AND CUTTING-EDGE TECHNOLOGY TO STOP NATURE LOSS AND BUILD RESILIENT ECOSYSTEMS AND COMMUNITIES.**

# Dear Friends and Supporters,

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Nature is under immense pressure. We are at a critical crossroads for our planet and humanity.

We are responding with unprecedented urgency, **equipping those on the frontlines with the tools** they need to build resilient ecosystems and communities.

We are so proud of how far we've come together: collaborating deeply with our partners, achieving ambitious goals and delivering a lot with very little. Since 2015, we've pioneered the implementation of early-warning systems to protect species and wild places. **Today, we operate in 15 countries, helping design, secure and implement landscape-scale technology solutions that drive change.**

We partner with the private sector, conservationists and governments **to support 29 protected areas**, securing **5.6 million hectares** of wilderness with digital infrastructure and wide-area sensing networks. Our **satellite monitoring initiative supported 11 innovative projects** spanning 961,000 hectares. We've also helped **19 remote parks harness reliable global connectivity** at park headquarters, enabling data-driven conservation.

From Kenya to South Africa, we are sustaining technologies that **help stop poaching, human-wildlife conflict and habitat loss, while empowering community education and natural resource management.**

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## Highlights include:

- **Seeing our partners flourish** in the use of technology to enhance conservation
- **Scaling our geographical impact** to support new protected areas in **Africa and Asia**, with a new South African charitable office.
- **Welcoming new technology partners**, like Actility and Axis, with continuing support from Cisco and Airbus Foundation.
- **Building out a holistic, sustainable 'tech ecosystem' for our partners**, from robust technologies to community engagement and training.
- **Gaining recognition from the United Nations**, as a leader in helping those in developing countries access conservation technologies. Invited to share our experiences at the UN HQ in New York.
- **Securing new technology solutions for both wildlife protection and community education facilities**, with new partners in Kenya, Uganda, Botswana and South Africa.

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We constantly ask, **is conservation technology going far enough?** While we've made a strong start, we invite new bold, innovative partnerships to join and scale our impacts. Together, we can do so much more for the communities and extraordinary species we share our planet with.

We are deeply grateful for the invaluable support from all our collaborators, partners and donors. Your contributions make these impacts possible.

**Doc, Sophie, and the CCF Team**



# What We Do

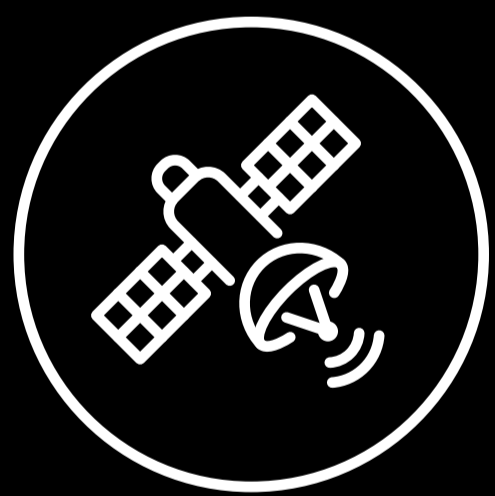
We help our partners to deploy landscape-scale solutions for change, employing a 'tech ecosystem' approach to protect wildlife, natural ecosystems and benefit communities. This consists of robust digital infrastructure, cutting-edge tools, training and community engagement, that scale conservation impacts. We help protected area managers navigate technical complexity and guide stakeholders with suitable technologies, partners and platforms, facilitating donated contributions from our partners.

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## Our Programs:



**1. Wide-Area On-the-Ground Sensor Networks (Pages 12-17, 24-27)**



**2. Wide-Area Satellite Monitoring (Pages 16-23)**



**3. Capacity Building and Empowering Communities (Pages 29-33)**



**4. Catalysing Investment and Private Sector Contributions (Pages 35-42)**

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# Executing Our Plan

## Scaling technology to protect nature

2015



### Pioneering

Connected Conservation puts technology and people together to transform conservation. Collaborating with Cisco and Dimension Data to **pioneer early warning technology solutions for rhino protection.**

2016



### Pilot, Sabi Sand Nature Reserve, South Africa

Together, evolved operations from a humble shed to an **advanced operations centre, integrating intelligence** from across 62,000 hectares. Equipped the site with thermal cameras, LoRaWAN network tracking, fence alarms and access security controls. These tools combined with the management team's incredible efforts reduced **poaching rates by 96% from 2016 to 2019, and again in 2022 and 2023.** The park is now a **globally acclaimed safe sanctuary for rhinos, pangolins and elephants, with 32 white rhinos reintroduced in 2024.**

2018



### Kafue National Park, Zambia

Equipped Game Rangers International with comprehensive area **connectivity and thermal cameras to create a virtual fence line across Lake Itzhi Tezhi,** bringing real-time **detection of illegal fishing incursions** and poachers entering the reserve.

2019



### Lewa Wildlife Conservancy, Kenya

Deployed **digital radio communications and connectivity to this wilderness** and the **first LoRaWAN network in this landscape,** enabling the monitoring of wildlife and ranger activity, and improving conservation operations.

2019



### UK NGO Founded

**CCF was launched** – a new, non-profit organisation registered in the UK.

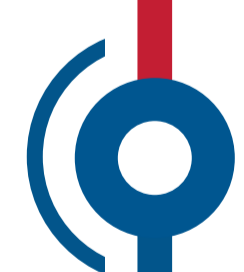
2020



### Madikwe, South Africa

Phase 1 deployed **PTZ thermal cameras, installed along the perimeter to monitor poaching routes,** sending live feeds to the central operations room for instant detection.

2021



### Airbus Foundation Partnership

**Combined Airbus' high-resolution satellite imagery with on-the-ground sensing** to help protect endangered species and ecosystems. **The first project developed AI-powered tools for improved wildlife monitoring.**

2021



### Sera Conservancy, Kenya

**High-res PTZ RGB and thermal cameras** were installed and connected to monitor wildlife across five key waterholes. **Live stream video footage** is transferred by a high bandwidth backbone network, travelling over 100 km to a central control room, **for wildlife health, conservation and drought response.**

2022



### Tech Impact Framework

Phase 1 developed our impact assessment measurement framework for conservation technology, to **ensure effective technology interventions for conservation**, and management effectiveness.

2022



### Satellites for Biodiversity Award, Round 1

The new grant scheme, launched in partnership with the Airbus Foundation, aims to **accelerate the use of high-resolution satellite imagery for biodiversity conservation**. Projects in Namibia, Thailand, Papua New Guinea, and Kenya were awarded.

2022



### COP 15, Recognition

CCF is named one of the world's innovative "100+ Biodiversity Practices and Actions", reinforcing our **commitment to the biodiversity plan to protect 30% by 2030**.

2023



### Northern Rangelands Trust, Kenya

Enabled **Africa's largest landscape-wide IoT Conservation Network** to safeguard Kenya's most vulnerable species and natural resources, **equipping 22 of NRT's community-led conservancies** and four private reserves. **Today 300+ sensors** are collecting real-time data across huge distances, for data-driven conservation and **community and ecosystem resilience**.

2023



### South Africa NPO Founded

Registered CCF **as a non-profit in South Africa**, to enhance local conservation and community initiatives with new partnerships.

2023



### Satellites for Biodiversity Award, Round 2

Four **new projects in Ethiopia, Nepal, Peru, and South Sudan have received satellite data and funding** to enhance global conservation efforts.

2023



### 2023, Madikwe, South Africa

Phase 2 **converged on-the-ground sensors with satellite technology**. LoRa network, sensors, PTT Sat-phones and high-res satellite imagery **aided 16 arrests of rhino poachers** since 2021 and supports the restoration of 750km<sup>2</sup> of wilderness.

2023



### African Parks, Across 10 Countries

Enabled vital internet **connectivity at Park HQ, as the lifeblood for modern protected area management for 19 parks**. Harnessing Meraki and Starlink safeguarding ecosystems and local livelihoods across Congo, Benin, Malawi, Tchad, Rwanda, Malawi, CAR, Zambia, South Sudan and Mozambique.

2024



### United Nations Recognition

Recognised by the United Nations as a **leader connecting those in developing countries with tools to save our natural world**. Sharing our experiences at the UN HQ in New York and in Geneva.

# Our Mission in Action – Scaling Proven Solutions for Impact

We are grateful for the generous donations of our sponsors and engineers who have helped us equip global conservation teams in **Kenya, South Africa, Zambia, Namibia, Thailand, South Sudan and Papa New Guinea** with robust tools.



## To Date, We've Enabled



**35+**

Threatened species and their habitats to be better protected with enhanced technology



**5,600,000**

Hectares secured and managed for resilient ecosystems and communities



**\$11 Million**

of donated technologies to address environmental challenges



**29**

Conservancies equipped with landscape-wide technology for security, research and operations



**500+**

Rangers better equipped to stop nature loss and bring peace and security

## 2023/24 Achievements



**19**

African Park HQs connected, enabling 4200 devices in 10 new countries



**6,000**

New hectares of Madikwe Game Reserve connected with LoRaWan network



**3**

New partners Actility, Assore and Axis joining value to the conservation toolbox



**300+**

LoRa Sensors in Kenya now deployed by 51D in Africa's largest IoT Conservation network



**961,000 km<sup>2</sup>**

Hectares Airbus Foundation satellite imagery used for early warning, coexistence and ecosystem monitoring

# Our Partner's Highlights

These technology solutions are contributing to our partner's community-led efforts to safeguard ecosystems for people and wildlife. Helping them accomplish:



## Rhino recovery

- Rhino numbers in Kenya have increased by 6% since 2017.
- Community Conservancy Sera increased its rhino population by 60% and **employed 100 new community rangers**.
- Loisaba Conservancy established a Rhino Sanctuary, now designated **a safe park for the 21 reintroduced eastern black rhinos**.
- Madikwe Game Reserve **made 16 arrests of suspected rhino poachers** between 2021 and 2023, compared to 0 in 2020 before the tech collaboration.



## Peace and security

- Sabi Sand Nature Reserve designated **a safe park for the reintroduction of pangolins and White Rhino** for a large rewilding initiative.



## Reducing human-wildlife-conflict (HWC)

- Northern Rangelands Trust reports a decline in HWC. Community peace ambassadors across conservancies are using the connectivity to share data on early warnings, averting attacks and preventing conflicts.
- The Elephant Human Relations Aid, through satellite maps and elephant collar tracking, **worked with 40 rural communities to avert human-elephant conflicts**.

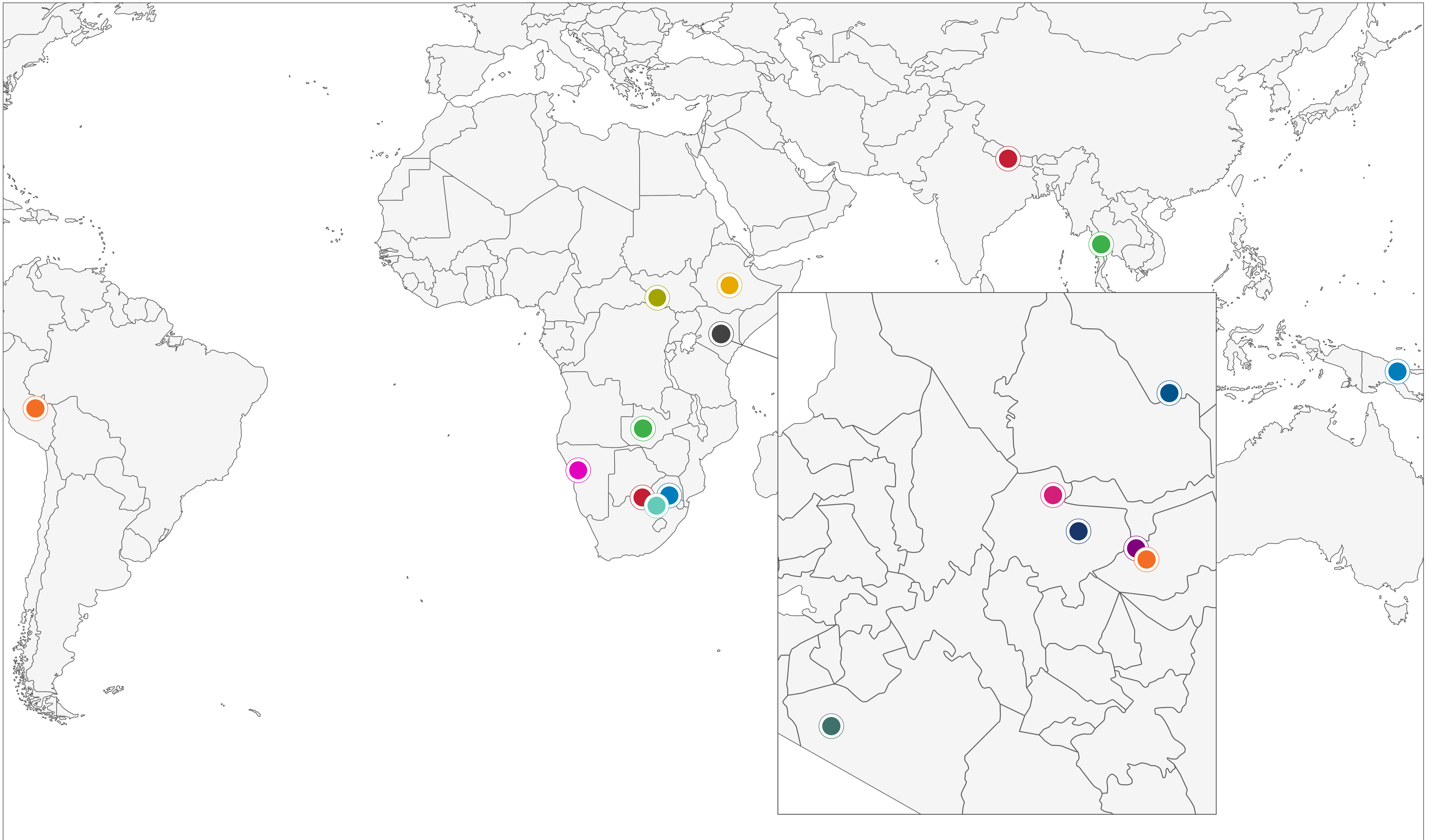


## Replication

- The collaborative technology model for data insight and governance in Northern Kenya has helped NRT deliver **rising wildlife numbers and improved community livelihoods**. We aim to help replicate this success for new regions.



# Our Collaborative Partner Projects



## 19 African Park Headquarters across 10 Countries

**Focus:** Enabling reliable, managed connectivity at park HQ as the lifeblood of modern park management.

**Countries:** Malawi, Rwanda, Benin, Tchad, Zambia, CAR, Congo, DRC, South Sudan, Mozambique

**Tech:** Cisco Meraki routers harnessing Starlink connectivity.



## Madikwe Game Reserve, South Africa

**Focus:** Anti-poaching, effective ecosystem management and monitoring for rewilding and species reintroductions.

**Area:** 75,000 ha

**Tech:** Satellite Radios, LoRaWan network, vehicle, ranger and canine sensors, long-range thermal cameras and high-resolution satellite imagery.



## Sabi Sand Nature Reserve, South Africa

**Focus:** Halting rhino poaching and improving effective protected area operations. Monitoring the impact of conservation technologies.

**Area:** 62,000 ha

**Tech:** Backbone point to multipoint radio area network, IoT Network sensor integration platform, gate biometrics, CCTV cameras, control room server, sensor integration platform, vehicle registration cameras, long-range thermal cameras, vehicle and fence sensors, AI-enabled.



## Lewa Wildlife Conservancy, Kenya

**Focus:** Peace and security, preventing poaching, data-driven conservation management.

**Area:** 61,000 ha

**Tech:** Digital radio communications, IoT Network sensor integration platform, sensor integration platform for sensors, ranger trackers, fence detectors, solar power gages, water tank level detectors, weather station, diesel tank probes.



### Sera Wildlife Sanctuary, Kenya

**Focus:** Wildlife monitoring, informing life-saving conservation interventions during drought.

**Area:** 10,000 ha

**Tech:** Live-stream video from PTZ cameras across five watering holes, transferred across 100km via a high-bandwidth network.



### Loisaba Conservancy, Kenya

**Focus:** Protected area effectiveness, rhino monitoring, improving patrol operations.

**Area:** 23,500 ha

**Tech:** IoT Network sensor integration platform, cloud server, sensors for wildlife and patrol tracking operations.

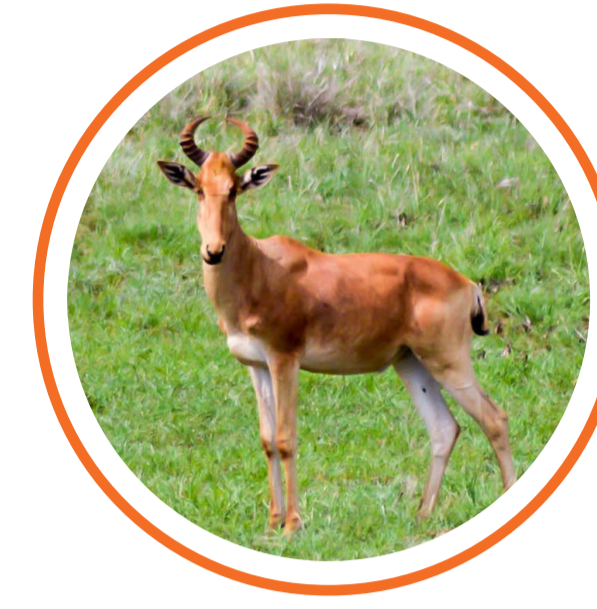


### Oi Jogi Wildlife Conservancy, Kenya

**Focus:** Land use management and sustainable grazing for wildlife and livestock coexistence.

**Area:** 23,500 ha

**Tech:** IoT Network sensor integration platform, cloud server, sensor integration platform for livestock tracking and rotational grazing.



### Northern Rangelands Trust, Kenya

**Focus:** Supporting peace and security, wildlife protection and community-led conservation.

**Area:** 3,000,000 ha

**Tech:** High bandwidth backbone network, communications, IoT Network sensor integration platform, sensor integration platform, wildlife, vehicle, ranger and livestock trackers, solar power gages, water tank level detectors, weather station, fence detectors, diesel tank probes.



### Nyakweri Forest, Kenya

**Focus:** Mapping landscape fragmentation and fence lines to prevent pangolin electrocution.

**Area:** 1,791km<sup>2</sup>

**Tech:** 30cm Pleiades Neo satellite imagery, machine learning.



### Kafue National Park, Zambia

**Focus:** Creating a virtual fence line to stop illegal fishing and poaching.

**Area:** 200,000 ha

**Tech:** FLIR thermal cameras with AI detection, radio masts, high bandwidth connectivity and LoRaWan network.



### Kunene, Erongo & Otjozonjupa, Namibia

**Focus:** Reducing human-elephant conflicts, working with farmers to find solutions, testing deterrents and securing elephant corridors.

**Area:** 1,991km<sup>2</sup>

**Tech:** 50cm Pléiades satellite imagery, machine learning, elephant collar analysis.



### Bangangai Game Reserve & Bire Kpatuos, South Sudan

**Focus:** Protecting lowland forests in South Sudan and globally significant populations by creating a community conservation area as a protective buffer zone from threats.

**Area:** 1,996km<sup>2</sup>

**Tech:** 50cm Pléiades satellite imagery, machine learning.



### YUS Conservation Area, Papua New Guinea

**Focus:** Saving the Matschie's tree kangaroo and the Eastern long-beaked echidna from extinction, understanding habitat encroachment and illegal logging activities.

**Area:** 1,227km<sup>2</sup>

**Tech:** 50cm Pléiades satellite imagery, machine learning, land-use field monitors.



### Sai Yok National Park, Thailand

**Focus:** Assessing habitat loss of the Asian elephant in the Sai Yok reserve forest between 2012 and 2022, providing data for elephant and coexistence strategies.

**Area:** 1,008km<sup>2</sup>

**Tech:** Archive Pleiades data, machine learning.



# Landscape-Scale Technologies for Change

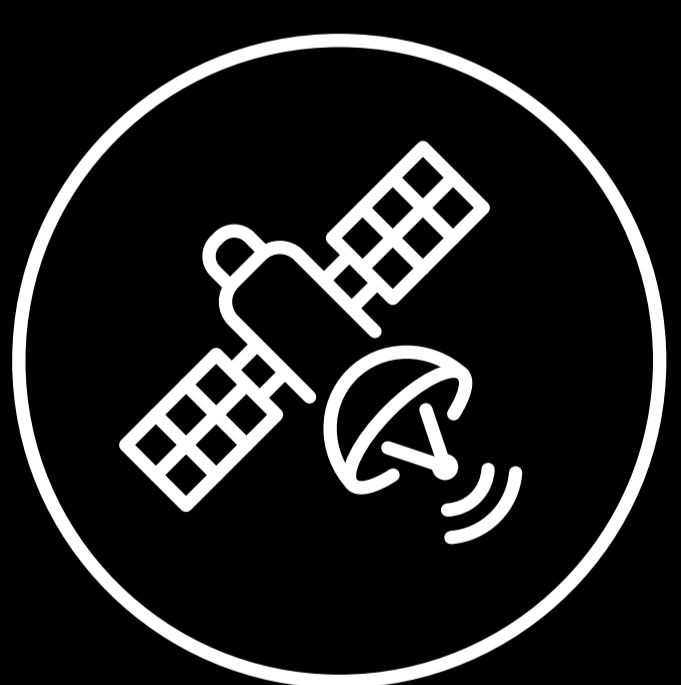
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## 1. Wide-Area On-the-Ground Sensor Networks

With our partners, we are deploying landscape-scale network connectivity alongside sensing devices, radios and IT equipment for centralised park management. Sensors track wildlife movements, threats, ranger operations, weather data, natural resources and livestock tracking for grazing management and carbon health. Data from remote landscapes is integrated into a single system, providing an up-to-date, 360-degree view of the ecosystem.

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## 2. Wide-Area Satellite Monitoring

Satellite imagery has become an essential tool in the conservation toolbox for large-scale monitoring and restoration. In collaboration with the Airbus Foundation, we provide high-resolution satellite data to support conservation projects addressing human-wildlife coexistence, land use planning, creating wildlife corridors and engaging communities in natural resource management and threat intelligence.

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# Connectivity: The Lifeline of Modern Protected Area Management

African Parks

19 Park HQs Across 10 Countries



African Parks, in partnership with Cisco and the CCF, has led a groundbreaking initiative to advance data-driven conservation management across some of the world's most remote areas, providing vital digital infrastructure to those parks at the start of their technology journey. Such as the pristine landscapes of Bazaruto, the lush forests of Rwanda, and the untamed wilderness of the Central African Republic, home to an array of threatened and endangered species, including **Western lowland gorillas, chimpanzees** and **forest elephants**.



19

Park HQs equipped with internet connectivity



4,200

Devices now managed from one central location



2000+

Staff have access to digital tools\*



Credit: © Marcus Wesberg | \*More than half of African Park's 5,500 staff have access to digital tools across our operations to actively improve our conservation efforts.

Africa, home to a quarter of the world's biodiversity, faces unprecedented pressures from climate change and rapid population growth. Despite the establishment of protected areas, many lack the digital infrastructure necessary for effective management, with 60% of these parks identified as urgently needing support.

**By integrating Cisco Meraki routers with Starlink satellite connectivity, these parks now enjoy global, high-speed internet access.**

This technological advancement has significantly bolstered their data-driven conservation efforts, crucial for protecting endangered biodiversity. This digital uplift enables real-time wildlife monitoring, robust communication networks, efficient resource management, innovative research, and community engagement programs. **Every gigabyte of data is now easily managed to support and advance conservation goals.**

## Remote HQ centres equipped to harness global connectivity

- Malawi
- Rwanda
- Benin
- Tchad
- Zambia
- CAR
- Congo
- DRC
- South Sudan
- Mozambique

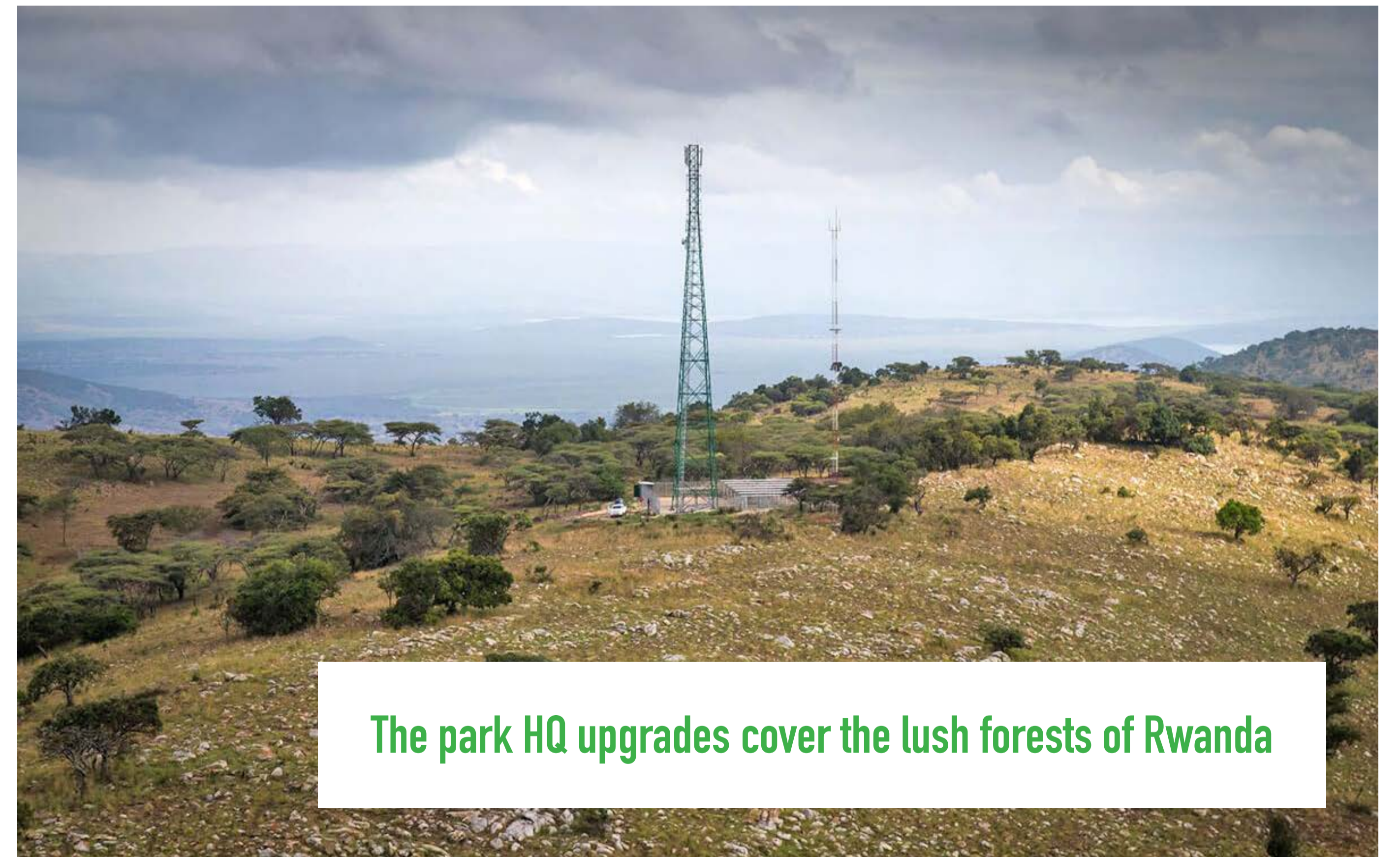


## Key achievements:

- Optimisation of connectivity and bandwidth allocation through remote management, overcoming challenges related to latency and uptime.
- Enabling a central support team to handle hundreds of internet access points and devices online to ensure seamless communication and data access.
- Setting a new standard for digital infrastructure in conservation, paving the way for more effective and sustainable management of protected areas across Africa.



Credit: © Andrew Beck



Credit: © Teve Lorenz Fischer

“

WHEN MANAGING MULTIPLE PARKS, YOU ARE MANAGING HUNDREDS OF INTERNET ACCESS POINTS, WHERE AFRICAN PARKS HAS AROUND 4,200 DEVICES ONLINE AT ANY ONE TIME

”

— Geoff Clinning African Parks



# Connecting 21 New Conservancies for Resilient Ecosystems and Communities

Northern Rangeland Trusts  
Kenya



The Northern Rangeland Trust (NRT) is a membership conservation organisation serving 45 member community conservancies in northern and coastal Kenya and Uganda, covering 6.4 million hectares. **This area is home to over 100,000 local households and 15 endangered species, including the world's most critically endangered antelope - the hirola, black rhino, African elephant, and cheetahs.** Here, communities and wildlife grapple with climate impacts including prolonged droughts, floods and conflicts over natural resources.



**3 Million**

Hectares IoT conservation network



**300+**

Lora sensors deployed with partners



**20+**

IoT use-cases served, delivering conservation outcomes



Credit: © Amy Vitale

## Scaling technology

Amidst these challenges, resilience shines in Northern Kenya, where The **Northern Rangelands Trust has integrated conservation, community and technology for large-scale positive change.** In the last period we partnered with NRT, Actility, Cisco, EarthRanger and 51 Degrees, **to expand connectivity from 5 sites to 21, creating Africa's largest IoT conservation network.** This consists of 21 LoRa gateways, on-the-ground sensors, live stream PTZ video cameras, satellite imagery, backbone connectivity, EarthRanger and cloud IoT integration infrastructure.



## BLACK RHINO POPULATION GROWTH

KENYA HAS SEEN A 6% INCREASE IN BLACK RHINO POPULATION SINCE 2017. INCREASED WILDLIFE SURVEILLANCE AND INTELLIGENCE HAS CONTRIBUTED IN PART TO THIS SUCCESS.

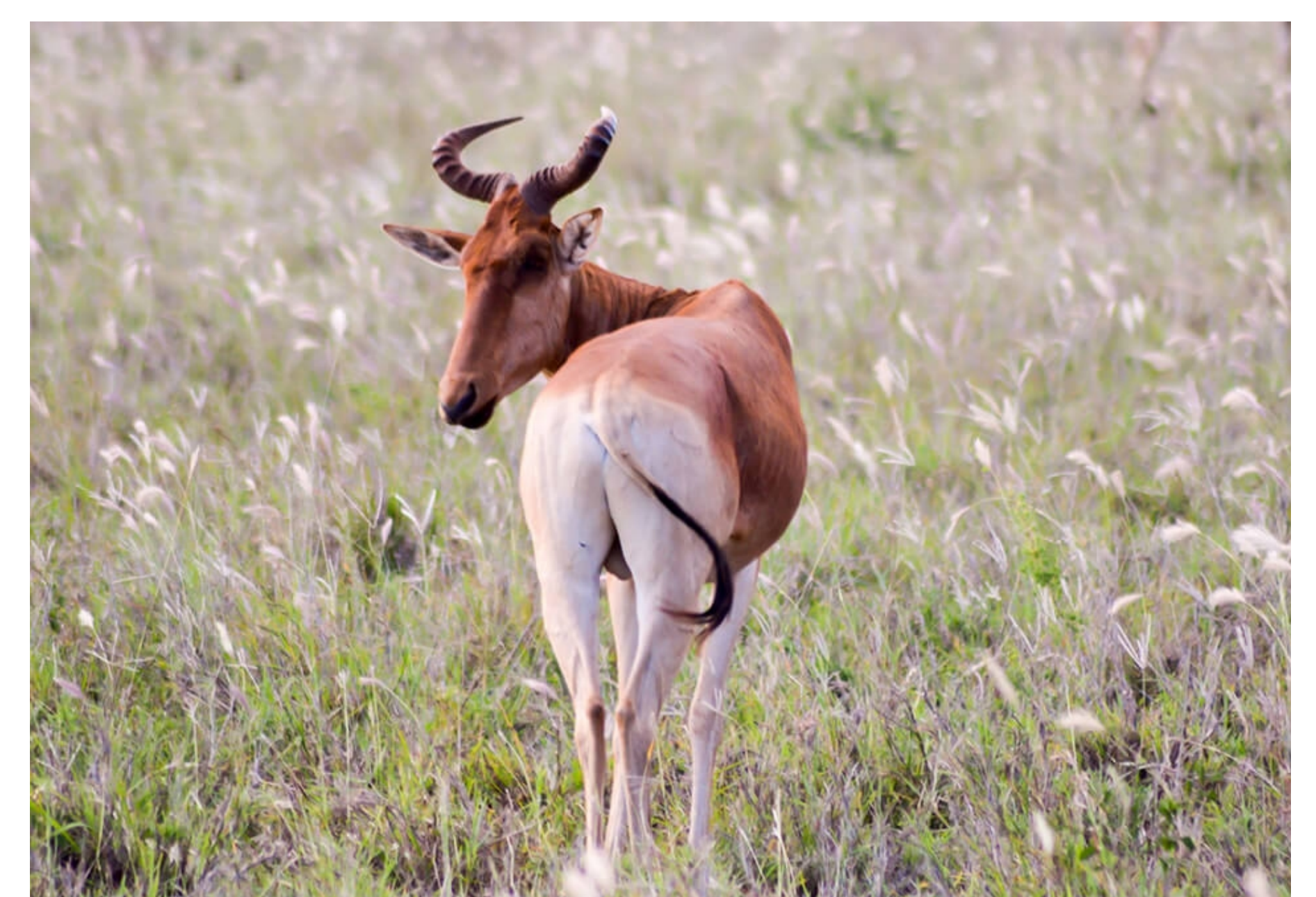
Data feeds from 300 + sensors, on wildlife movements, threats, weather, land-use changes, and livestock are collected over the network and relayed into NRT's joint operations room via EarthRanger.

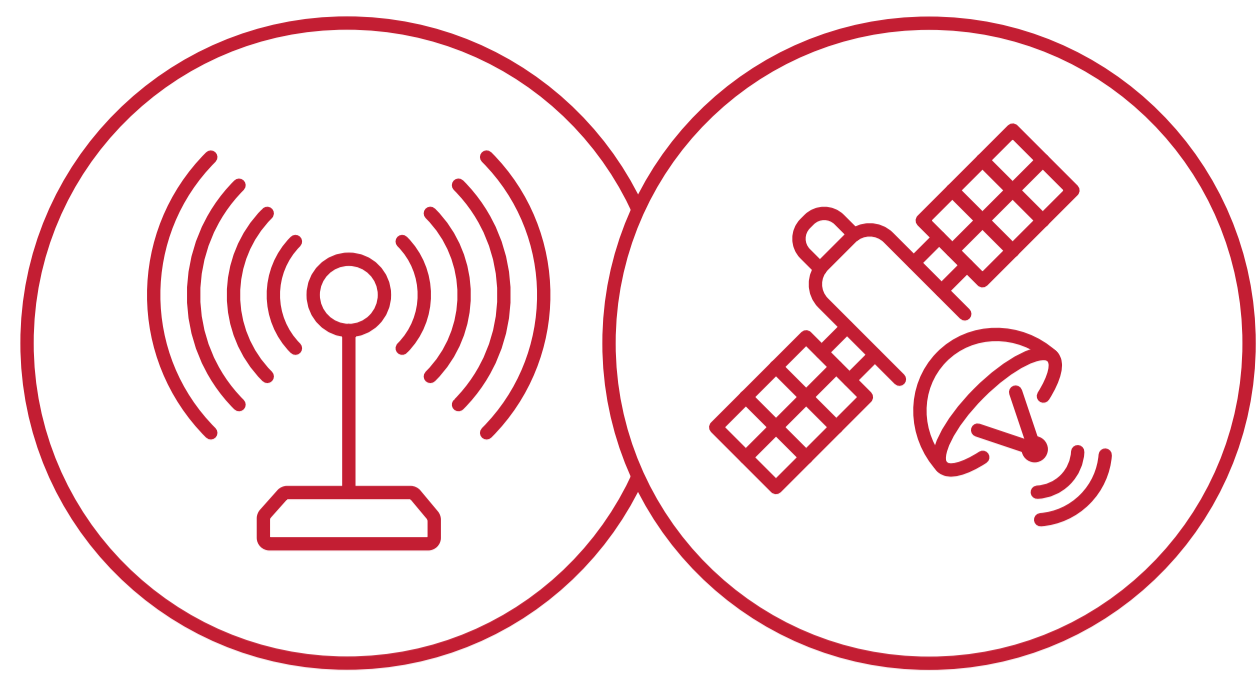
NRT's peace ambassadors—courageous women once silenced by the threat of victimisation—now have their voices amplified through technology. Their early warnings have successfully averted 15 potential conflicts, safeguarding their communities and fostering peace.



## Future goals

People, equipped with suitable tools, drive this success. CCF has begun work to **replicate this collaborative technology model** in the Maasai Mara, Tsavo, Amboseli and Chyulu Hills, **striving to protect 11.8% of Kenya for nature.**





# From Ground to the Sky: Converging Technologies to Protect Wildlife and Support Rewilding

Madikwe Futures Company  
Madikwe Game Reserve (Phase 2)



Madikwe Game Reserve is a prime target for ruthless poachers, sheltering both **white and black rhinos, alongside elephant, lion, leopard and brown hyena**. With only 6,487 black rhinos left in Africa, the urgency to protect Madikwe's rhinos cannot be overstated. In the first six months of 2023 alone, South Africa lost 231 rhinos to poaching.



16

Assisted arrests of suspected rhino poachers



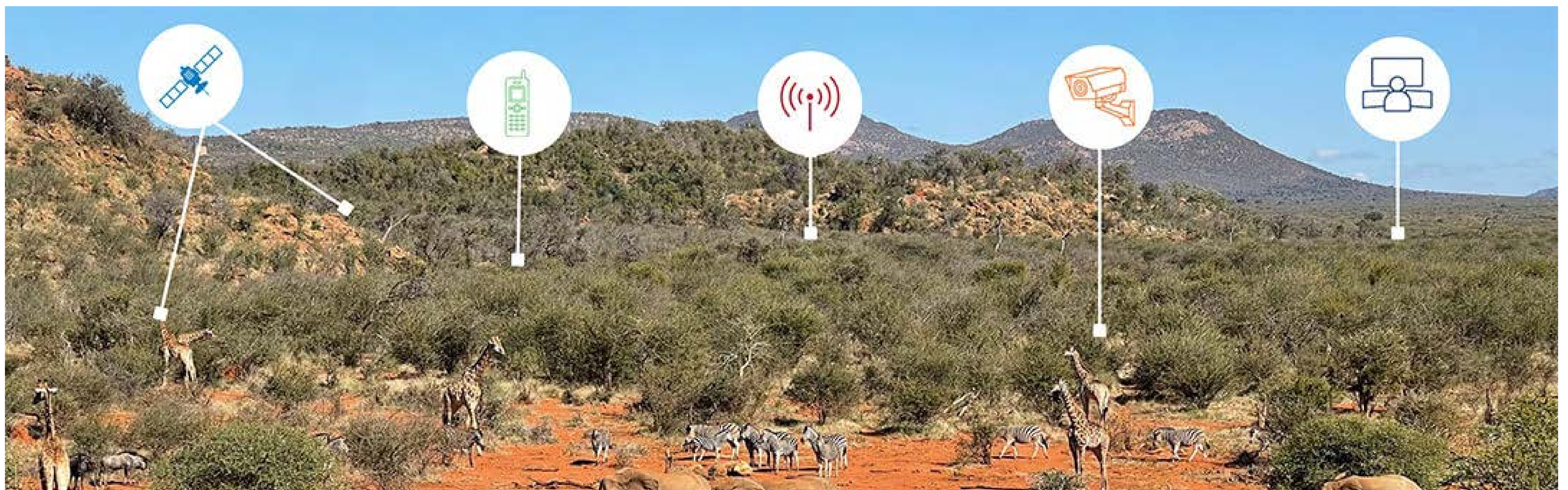
1,400 km<sup>2</sup>

Of detailed satellite imagery provided by Airbus Foundation



750 km<sup>2</sup>

Of wilderness managed and restored



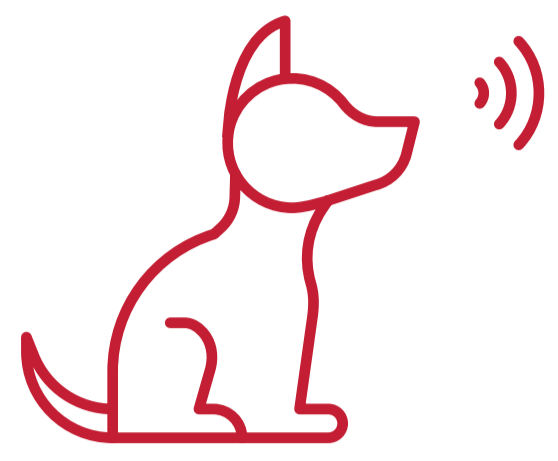
Madikwe Futures Company (MFC) has collaborated with the Dimension Data, CCF, Cisco, Airbus Foundation and Activity to **implement cutting-edge technologies for wildlife protection and habitat management**. These technologies include long-range thermal cameras, camera traps, fence alarms, drones and tracking devices, all working together to **scan the environment 24/7 and alert security teams to incursions, threats and suspicious activities**.

With support from the Airbus Foundation, CCF has complemented ground sensors with 30cm Pléiades Neo satellite imagery, providing a **360 degree anti-poaching solution**. This satellite imagery verified intelligence for a poaching incident, and **understanding entry and exit routes of rhino poachers**, whilst supporting landscape-scale restoration in Madikwe.



# Madikwe's Convergence of On-the-Ground Tools and Satellite Technology

## Security & wildlife management:



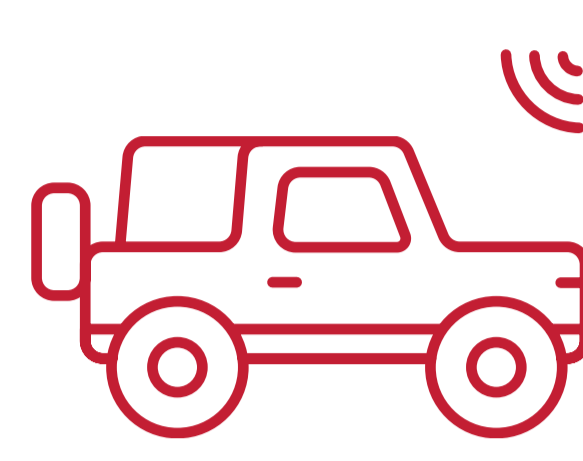
### Canine trackers

Enhancing search and rescue operations and supporting canine units in critical situations



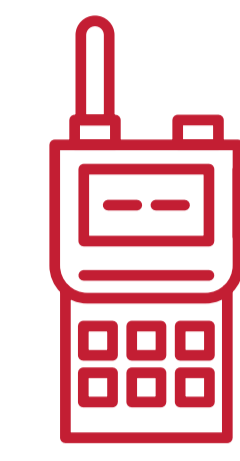
### Ranger trackers

Promoting safe and effective patrols and tracking rangers in times of crisis



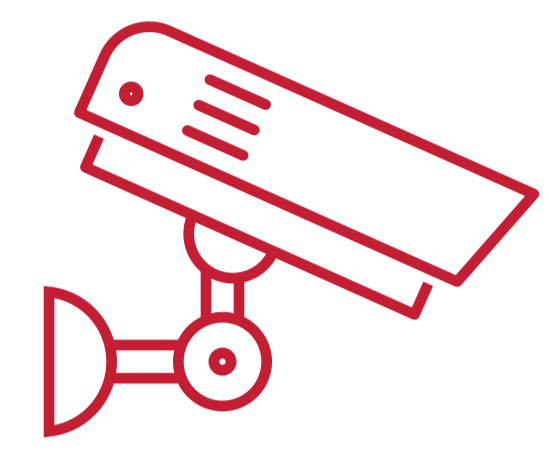
### Vehicle sensors

Balancing sustainable tourism and providing alerts of suspicious behaviour or safety concerns



### Iridium satellite radios

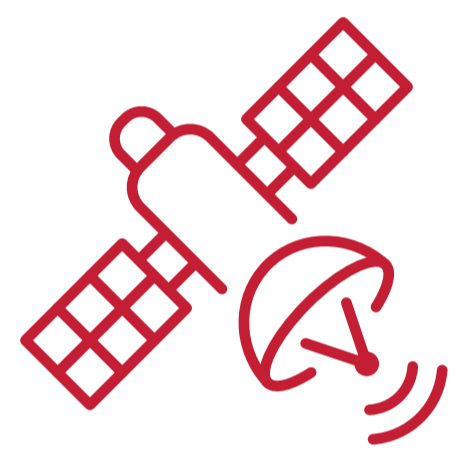
Ensuring reliable and uninterrupted communication anywhere across the reserve



### PTZ cameras

Vigilant eyes along the reserve's perimeter, detecting and deterring poachers

## Operational management:



### Satellite imagery

Enhancing precision and detail for critical analysis and decision-making



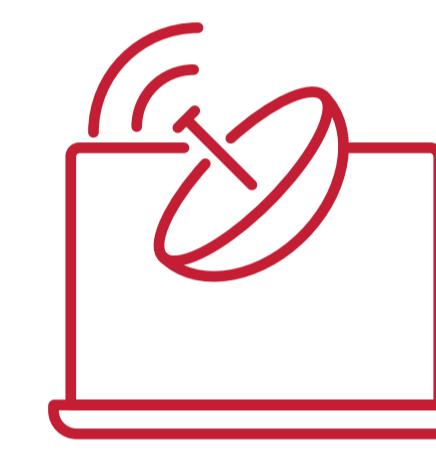
### Actility Thing Park

A secure platform to build LoRaWAN infrastructure, and easily integrate sensors, for low-power, low-cost IoT applications



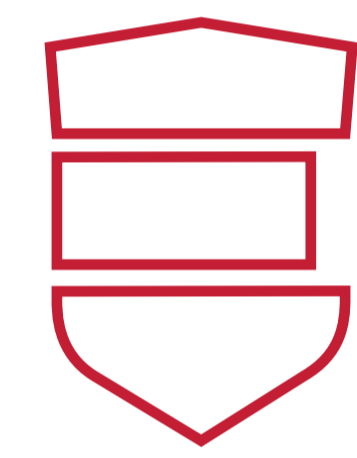
### Actility cloud server

Ensuring reliable and efficient data storage and processing



### CC integration platform

Sharing code for integrating sensors easily into Earth Ranger and configuring data to be private or open



### EarthRanger

Visualisation software solution for real-time alerting and informed operational decisions

## Key achievements:

- Collaborative efforts have reduced rhino deaths and enhanced peace within the reserve and neighboring communities.
- Supporting stable nature-based economies, providing over 1,000 ecotourism jobs to local residents.



“ POACHERS ARE PROFESSIONALS. THEY'RE VERY EXPERIENCED. SO IT'S EXTREMELY VALUABLE SEEING HOW THE POACHERS ARE GETTING IN AND OUT OF THE RESERVE AND HOW LONG IT TAKES THEM

”

— Koos Potgieter, Manager at Madikwe Futures Company



# Saving Gentle Giants: Risk Mapping to Prevent Human-Wildlife-Conflicts

## Elephant-Human Relations Aid Namibia



In the harsh and arid landscapes of northwest Namibia, human-elephant conflict is a significant issue, leading to devastating financial losses for farmers and contributing to the decline of the elephant population. **Only 21 desert elephants remain today.**



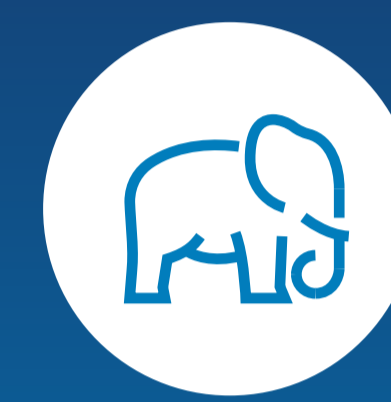
1,991 km<sup>2</sup>

Satellite imagery  
provided



40

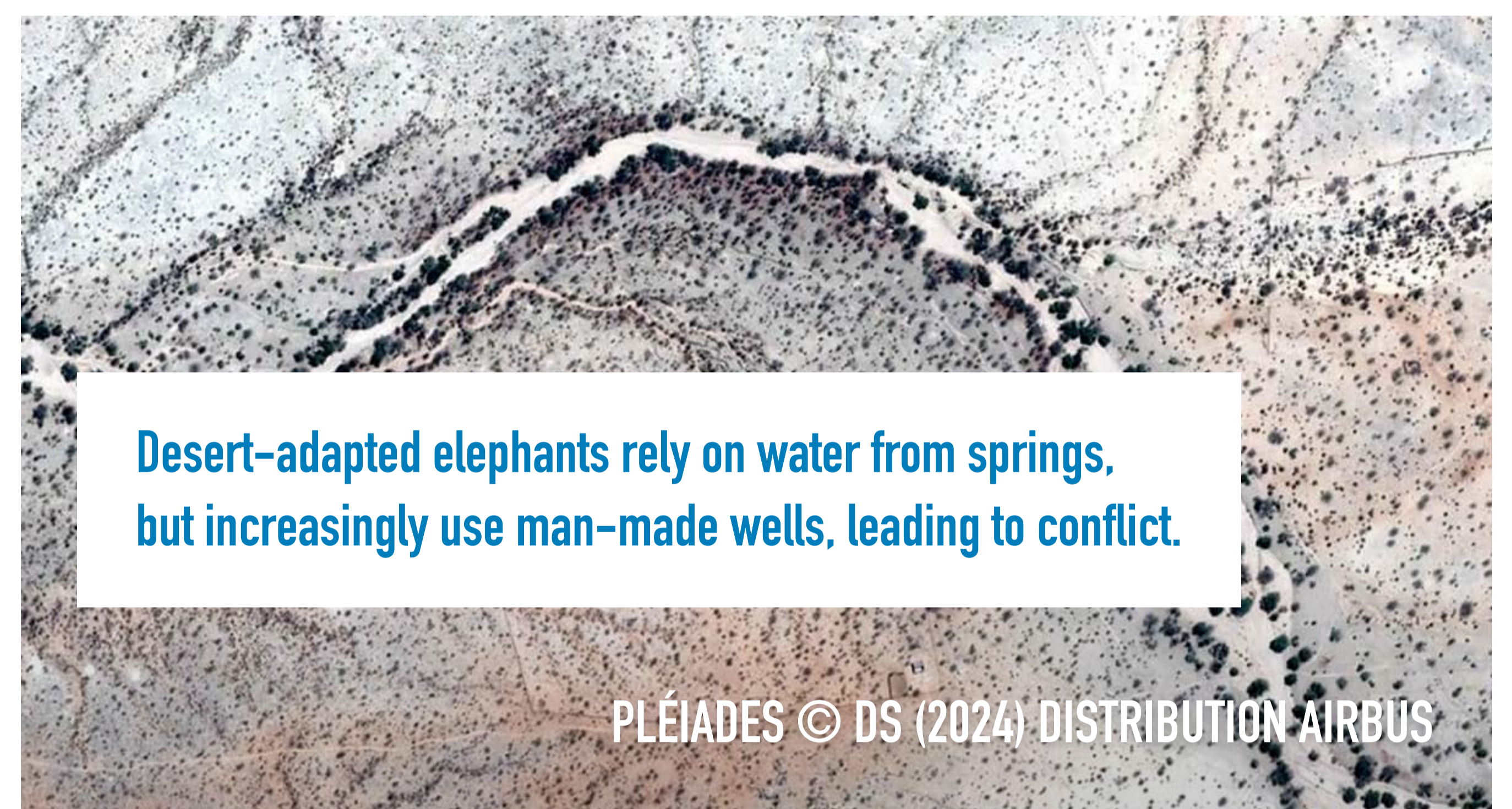
Number of rural  
communities engaged



21

Number of desert  
elephants remaining today

To address this, CCF's GIS and Data Science specialist is assisting Elephant-Human Relations Aid (EHRA) by analysing high-resolution imagery provided by the Airbus Foundation. This analysis combines on-the-ground elephant collar tracking data with information on water sources, land boundaries, and vegetation to better **understand the movements and motivations of these desert elephants.**



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Namibia



### EHRA FIELDWORK

MAPS CREATED FROM THE ANALYSIS AND FUNDING ARE AIDING EHRA'S FIELDWORK, SHARING INSIGHTS FOR BETTER LAND USE PLANNING AND ELEPHANT-HUMAN COEXISTENCE



“

WE WANT TO FIND SUSTAINABLE SOLUTIONS BY LOOKING FROM ABOVE. THIS SATELLITE IMAGERY IS INVALUABLE TO OUR UNDERSTANDING AND DATA COLLECTION PHASE

”

— *Christin Winter, Conservation Program Manager*



# Protecting habitat for Tree Kangaroos, Echidnas and 5,000 species

## The Tree Kangaroo Conservation Program (TKCP) Papua New Guinea



The lush and rugged landscape of Papua New Guinea is **home to many endangered species**, including the **Matschie's tree kangaroo, Eastern long-beaked echidna and bandicoot**. These rare creatures face a desperate situation on the brink of extinction due to habitat encroachment and illegal logging activities and need urgent protection.

**Monitoring this expansive region to stop habitat loss has been challenging, as rangers can only patrol certain areas on foot**, and previously used satellite imagery lacked the necessary resolution to see human activities in detail.



**1,227 km<sup>2</sup>**

Satellite imagery provided



**6**

New land-use field monitors, ground-truthing insights from satellites



**< 2,500**

Matschie's tree kangaroos left in the world

TKCP is using field-based land-use monitors to gather data that can confirm habitat changes detected through donated satellite imagery. This is empowering local communities to report harmful activities affecting the environment, helping to protect the region's diverse flora and fauna, which includes over 5,000 species.

Our GIS and Data Science specialist is supporting this project by **integrating data from these land-use monitors with satellite data. This analysis is helping monitor and understand the drivers of habitat loss, enabling field teams to intervene and develop effective conservation strategies.**

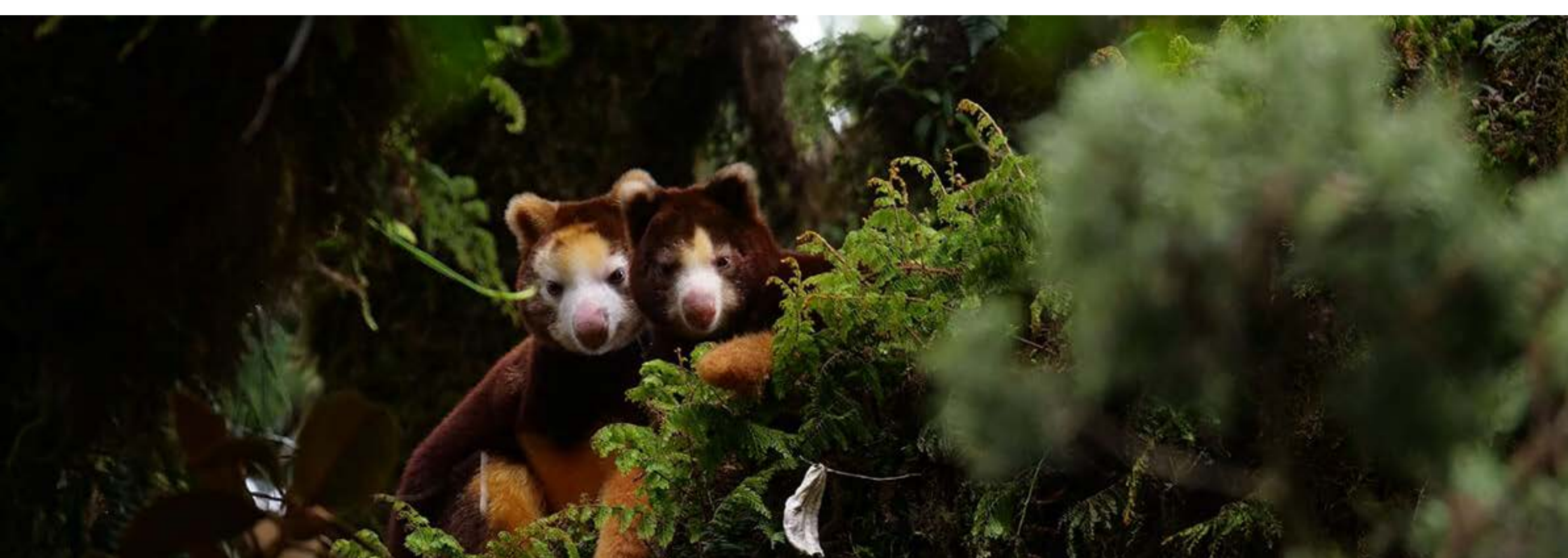


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YUS Conservation Area, Papua New Guinea



**WE ARE NOW LEVERAGING AIRBUS FOUNDATION DONATED IMAGERY FOR MAPPING VEGETATION AND LAND STRUCTURE, ENHANCING HABITAT INSIGHTS AND INFORMING FUTURE STRATEGIES.**



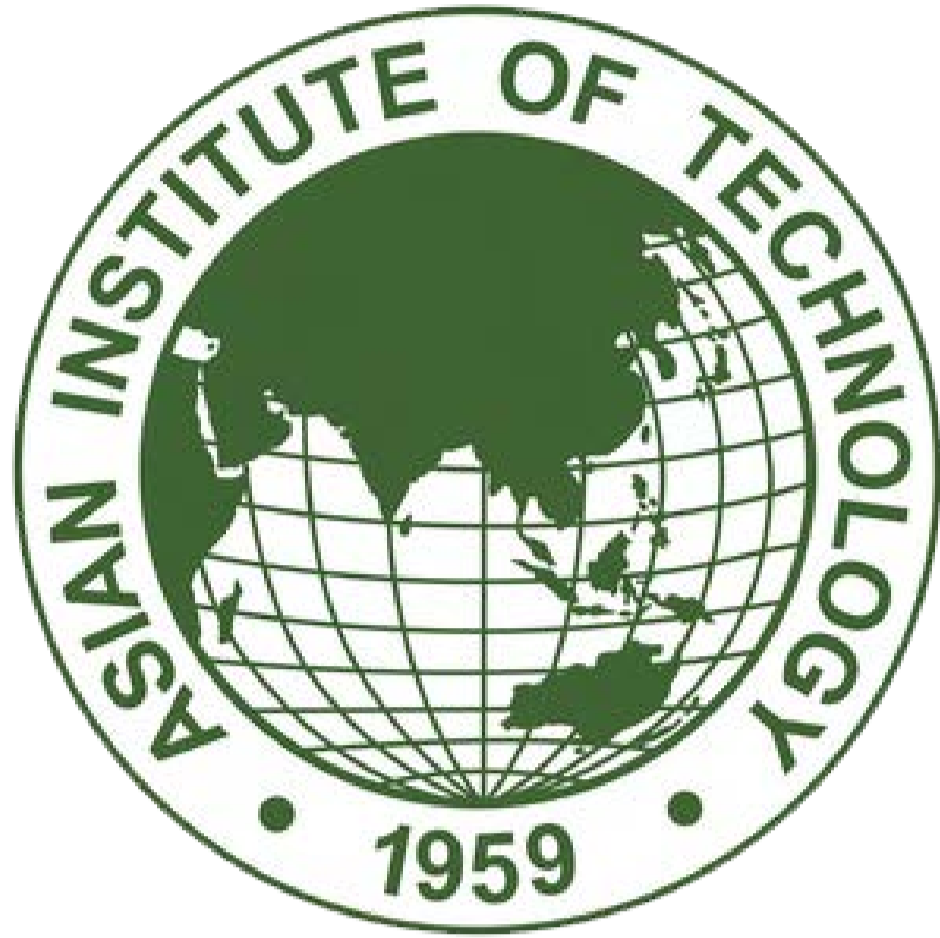
**“ NOW THAT WE HAVE ACCESS TO HIGH-RESOLUTION IMAGERY, WE ARE BETTER ABLE TO UNDERSTAND THE HEALTH OF THE ENVIRONMENT AND WILDLIFE ”**

— Danny Nane, Community Conservation coordinator



# Habitat Risk Mapping for Wild Asian Elephants

The Asian Institute of Technology  
Sai Yok, Thailand



Thailand's wild elephant population in Sai Yok National Park has dwindled to 3,500 due to human-elephant conflict (HEC), illegal poaching, habitat loss and human pressure. The fragmentation of once-continuous elephant habitats significantly disrupts their migration routes and access to vital resources. This shift drives elephants into adjacent human settlements and farmlands, escalating HEC—a critical challenge for conservation in Thailand.



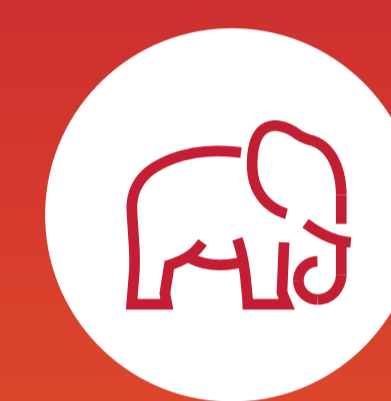
504 km<sup>2</sup>

Satellite imagery provided



4

Land classification algorithms tested for optimum performance on Pléiades data



3,500

Wild elephants left in Sai Yok

The Asian Institute of Technology has led an innovative project to **address these issues utilising Pléiades 50 cm satellite data donated by the Airbus Foundation and machine learning to map land-use changes in elephant habitats over a decade**, assessing habitat quality, identifying risks and predicting future change. The **mapping outputs and insights are now being shared with conservation and government organisations to inform planning and policy**, including invasive species removal and HEC mitigation. The team also successfully explored the application of AI and deep learning with high-resolution Pléiades satellite data, comparing the accuracy of various machine learning algorithms for land use classification.



Read the full study at: <https://bit.ly/AIT-Study>



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Sai Yok National Park, Thailand

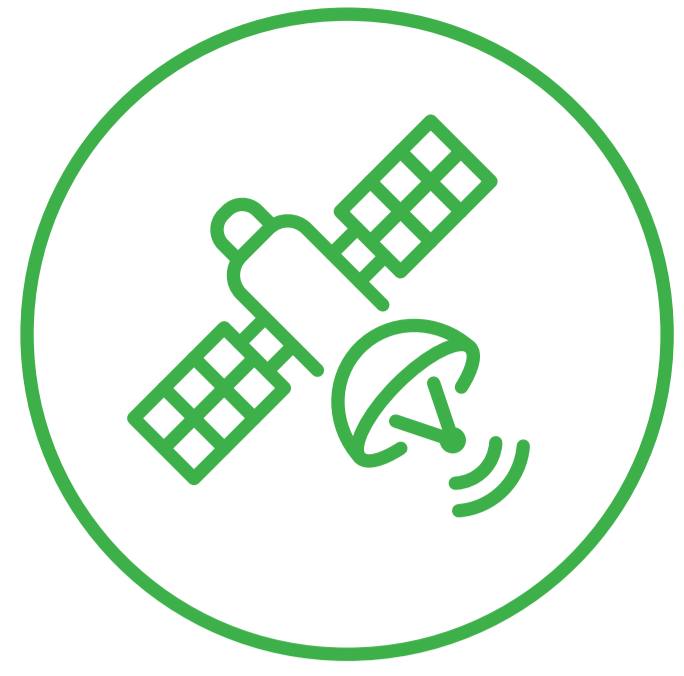


“

CCF AND THE AIRBUS FOUNDATION HAVE PLAYED A PIVOTAL ROLE IN OUR JOURNEY TO UNLOCK THE POTENTIAL OF PLÉIADES DATA, PROPELLING US CLOSER TO OUR GOALS OF ENHANCING ENVIRONMENTAL CONSERVATION

”

— Dr. Anirban Mukhopadhyay, Senior Researcher at the Asian Institute of Technology



# Creating Habitat Connectivity and Community Conservation Areas

Fauna & Flora

Bangangai & Bire Kpatuos, South Sudan



CCF and the Airbus Foundation are supporting Fauna & Flora by providing Pléiades satellite imagery, funding and technical expertise to map biodiversity landscapes in the Bangangai Game Reserve and Bire Kpatuos. This advanced technology offers essential insights for managing these delicate ecosystems and helps establish community conservation areas that serve as protective buffer zones for the reserves.



2,000 km<sup>2</sup>

Satellite imagery provided



13

Technical staff using tools for monitoring and decision-making

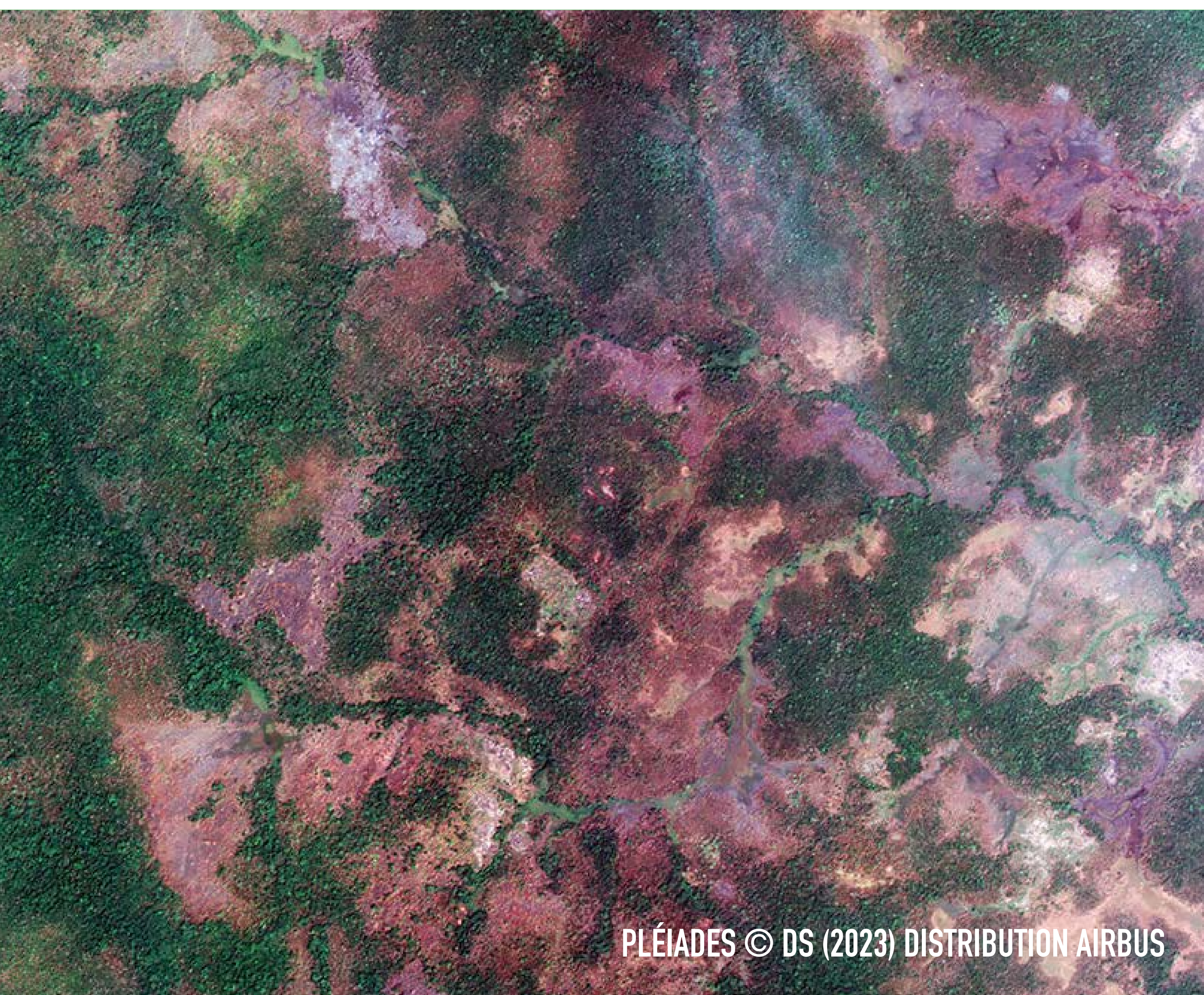


1903

Fauna & Flora has been working in South Sudan

By utilising data-driven methods, Fauna & Flora directs field teams in conserving endangered species, such as **chimpanzees, African forest elephants, and giant eland** and **ground pangolins**, while also promoting sustainable community involvement.

**Machine Learning analysis applied to the satellite imagery is enabling the analytics team to identify core forest patches and crucial connectivity pathways vital for biodiversity.** By working closely with local communities, they are translating data into actionable strategies, supporting sustainable natural resource management.



PLÉIADES © DS (2023) DISTRIBUTION AIRBUS

“

GETTING ACCESS TO CUTTING-EDGE SATELLITE IMAGERY FOR THIS CORNER OF THE WORLD IS SO IMPORTANT. IT WILL ALLOW FAUNA & FLORA TO IDENTIFY RISKS AND OPPORTUNITIES IN THE GAME RESERVES AND ENHANCE OUR CONNECTIONS WITH COMMUNITIES

”

— Harriet Branson, Technical Specialist GIS & Remote Sensing, Conservation Technology



# Campaigning for the Designation of New Protected Areas to Conserve Biodiversity Hotspots

Northern Rangelands Trust  
Lorian Ecosystem, Kenya



In the heart of Kenya, a groundbreaking conservation initiative led by the Northern Rangelands Trust (NRT) aims to restore ecological balance and foster coexistence between wildlife and communities across the Marsabit to Meru landscape. Over five years, this project focuses on transforming conservation efforts in the critical Lorian Swamp, a key ecological connector in the region, home to **Hooded vulture, Rüppell's griffon vulture, African wild dog, lion, Schilluk and Mozambique ridged frog.**



1,900 km<sup>2</sup>

Satellite imagery provided



4

new protected areas put forward for designation



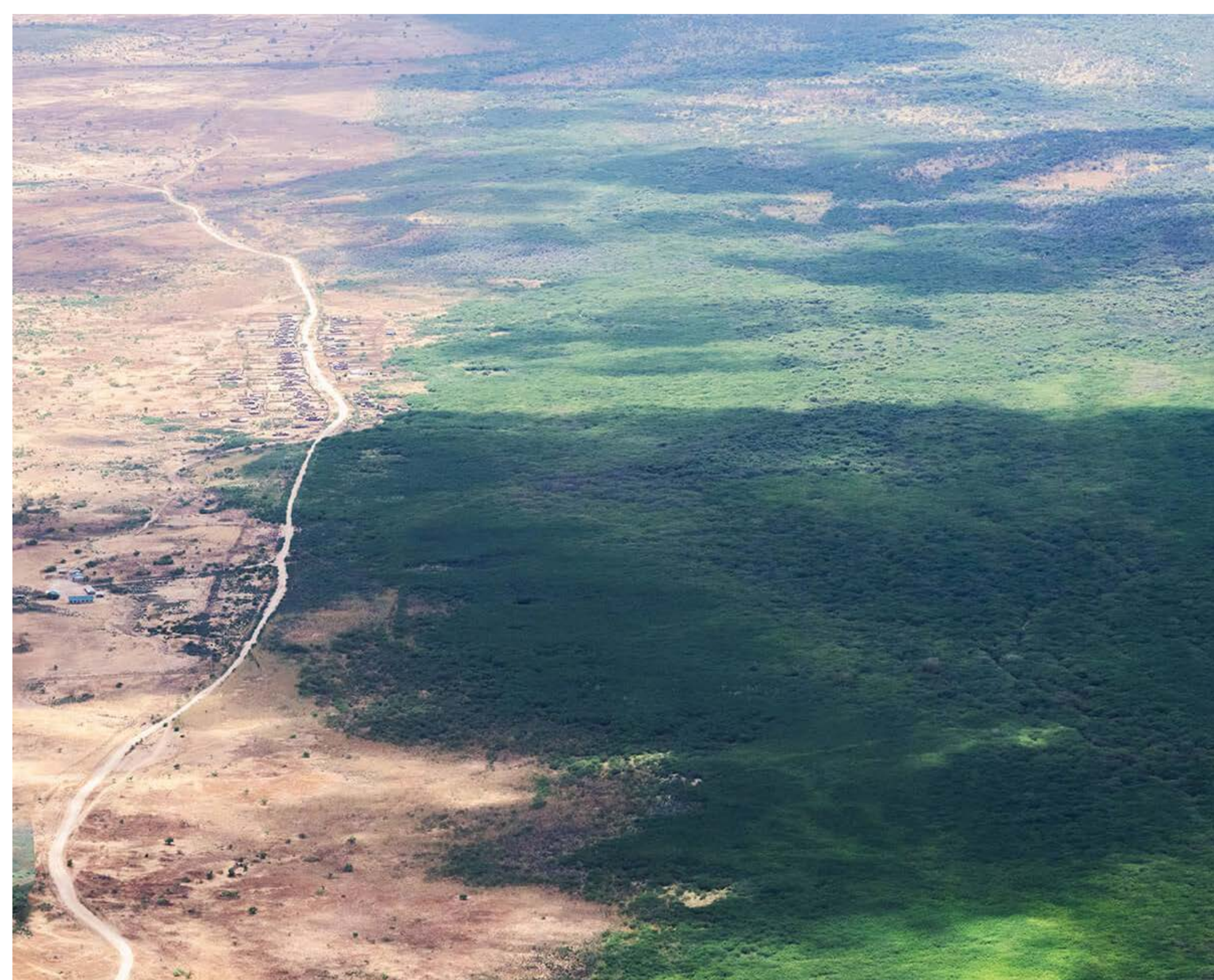
3

Raptors of significant conservation importance



Lorian Ecosystem, Kenya

To support this ambitious project, CCF has partnered with the Airbus Foundation to provide high-resolution satellite imagery from the Pleiades satellite. We're assisting the team to best utilise this technology to **aid the monitoring of wildlife corridors, identify vegetation types and understand the impact of the invasive prosopis**



**juliflora tree**, which poses risks to biodiversity by blocking water channels and causing flooding damage to livelihoods. The collected data will also serve as a baseline for future conservation efforts over the next decade, **lobbying the governmental agencies to declare this site as a new protected area.**



# Coupling High-Resolution Satellite Imagery and Artificial Intelligence (AI) for Positive Impacts on Ecosystems and Communities

## Innovation in Satellite Monitoring



Detailed satellite imagery and AI offer immense potential to rapidly gain big conservation insights on wide areas, but often encounter practical challenges when deployed at scale. CCF and the Airbus Foundation are supporting projects that enhance the use of Very High Resolution (VHR) satellite data and AI in conservation. These projects aim to align expectations with practicalities, improve analysis methods and apply these technologies to various use cases, including land-use mapping, enhancing human-wildlife coexistence, developing early warning systems and monitoring ecosystem health.

Our programme captured 30 cm Pleiades Neo satellite imagery of the Maasai Mara ecosystem in Kenya and has enabled multiple field and technology partners to share the data to advance innovative AI-powered approaches.

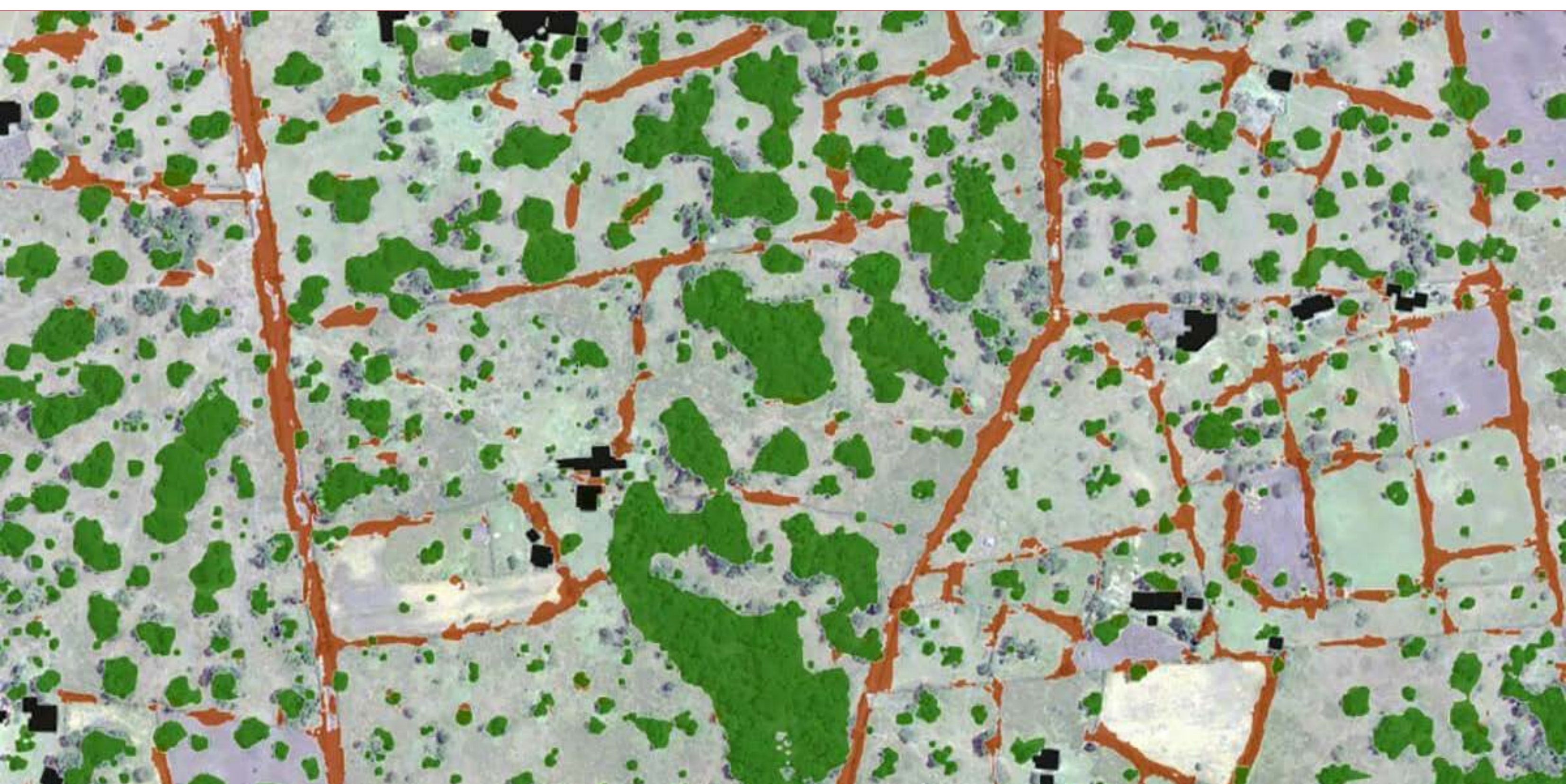
## Supporting Pangolin Protection, Langland Conservation

Langland Conservation is using this imagery to support The Pangolin Project, which is **protecting giant pangolins in the Nyakweri Forest**, southern Kenya.

Their remote sensing project has mapped indicators of habitat degradation and fragmentation across a 1,000 km<sup>2</sup> landscape, using a deep learning model trained on the Pleiades Neo imagery. By mapping fence lines, roads, buildings, and vegetation, the team is seeking to **strengthen vital protection strategies, such as improving connectivity between areas of viable habitat**. Through the success of this project, Langland is aiming to **demonstrate a low-cost and trainable process for AI use in conservation**.



Maasai Mara National Reserve



“ THIS IMAGERY FROM AIRBUS FOUNDATION IS EXCELLENT – IT REALLY PROVIDES THE DETAIL WE NEED TO UNDERSTAND THESE ENVIRONMENTS AND HOW WE CAN BEST SUPPORT THE PROTECTION OF THE SPECIES THAT LIVE WITHIN THEM ”

— Ruari Bradburn, Chief Technology Officer at Langland Conservation



# Rhino Resurgence: Monitoring and Protecting Reintroduced Rhino

Loisaba Conservancy,  
Kenya



Once abundant in Kenya, black rhinos faced near extinction due to rampant poaching in the 1970s and '80s. To restore their population to 2,000 by 2037, more space is needed, prompting conservancies and governments to remove fences and join vast, connected rangelands. The Loisaba Conservancy, a 230 km<sup>2</sup> reserve, is key to this effort, allowing rhinos to roam freely once more.



230 km<sup>2</sup>

Rhino Sanctuary  
LoRa Network created



21

Newly reintroduced eastern  
black rhino now monitored



2,000 lbs

in weight per rhino,  
relocating rhino is not easy



51 Degrees and Loisaba Rangers implementing LoRa tracking tags



Camouflage Cisco gateway, supporting  
Ol Jogi Wildlife Conservancy

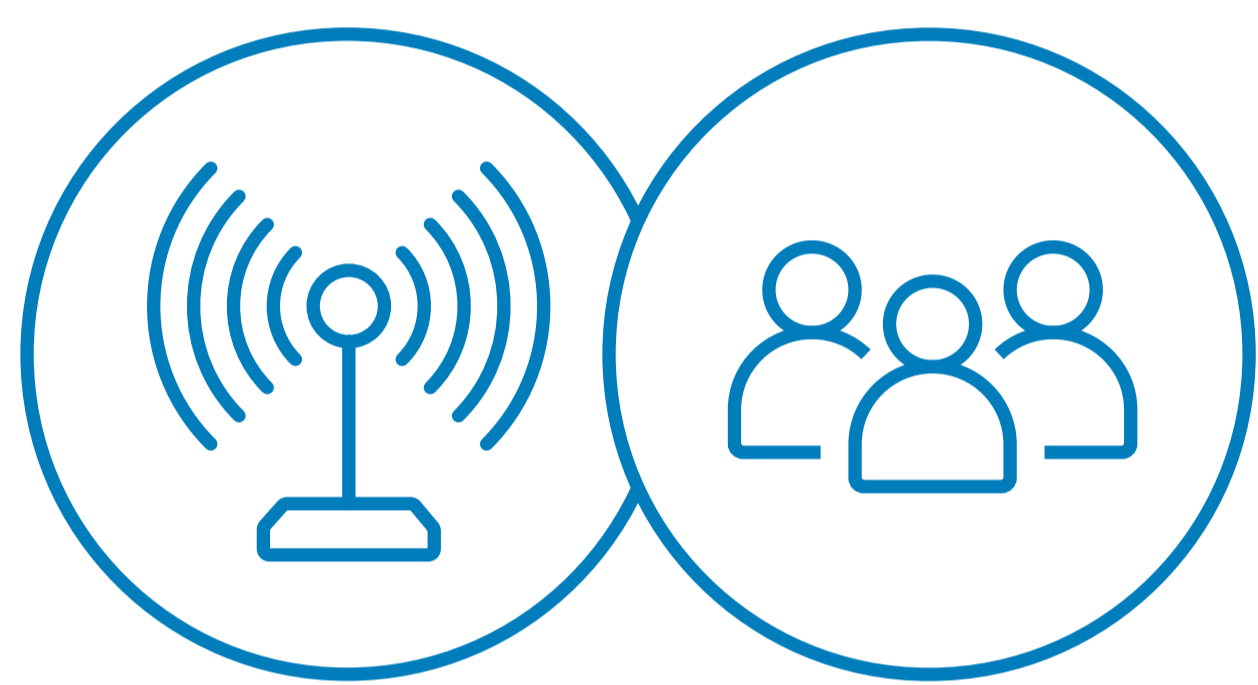


In collaboration with Cisco, Actility, Dimension Data and 51 Degrees, we support Loisaba's new rhinos, providing new LoRa gateways, a network cloud server and an IoT integration platform. These **enable reliable real-time rhino tracking, with their movements visible in EarthRanger.**

This technology helps monitor the health and behaviour of newly introduced rhinos, **providing invaluable data, guiding protection strategies and expanding safe rangeland.**



**THE RHINO'S SAFE ARRIVAL AT LOISABA COMPLETES THE 'BIG FIVE' PRESENCE, ATTRACTING TOURISTS, CREATING JOBS AND SUPPORTING COMMUNITY PROJECTS.**



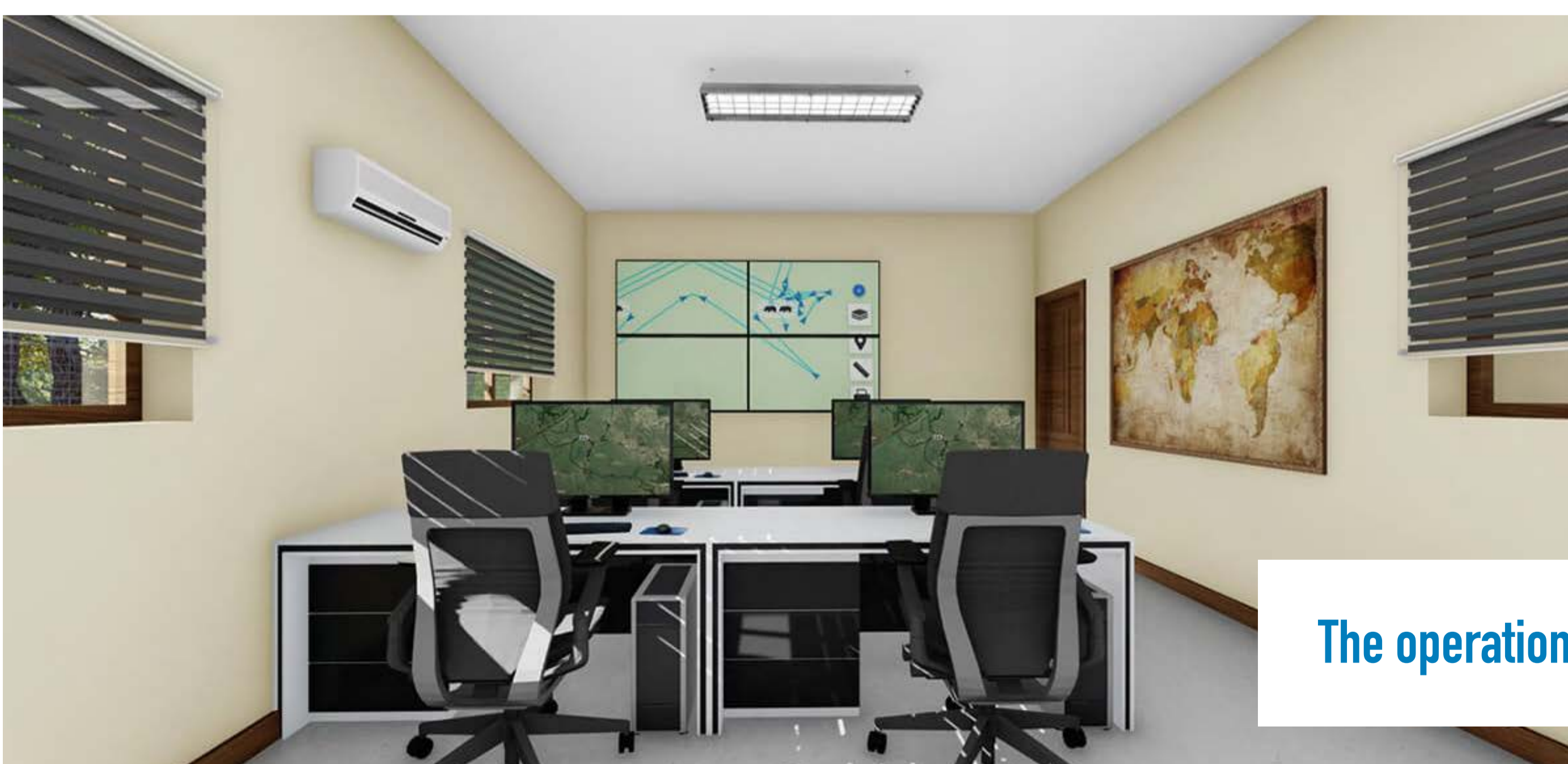
## Simalaha Community Conservancy's Technology Adaptation

Zambia



Peace Parks Foundation and the Sesheke and Sekhute Chiefdoms are leading Zambia's first community conservancy - the Simalaha Community Conservancy (SCC). Significant progress has been made in the 1,800km<sup>2</sup> area, including a 500km<sup>2</sup> wildlife sanctuary protected by village scouts, home to 3,126 animals. The SCC's first tourism offering is now open, supporting the community through initiatives for food security, alternative livelihoods, and social amenities.

The SCC forms part of an ecological corridor, allowing elephants to move between Namibia, Botswana and Zambia's Kafue National Park. CCF is advising on technologies for conservation and community benefits.



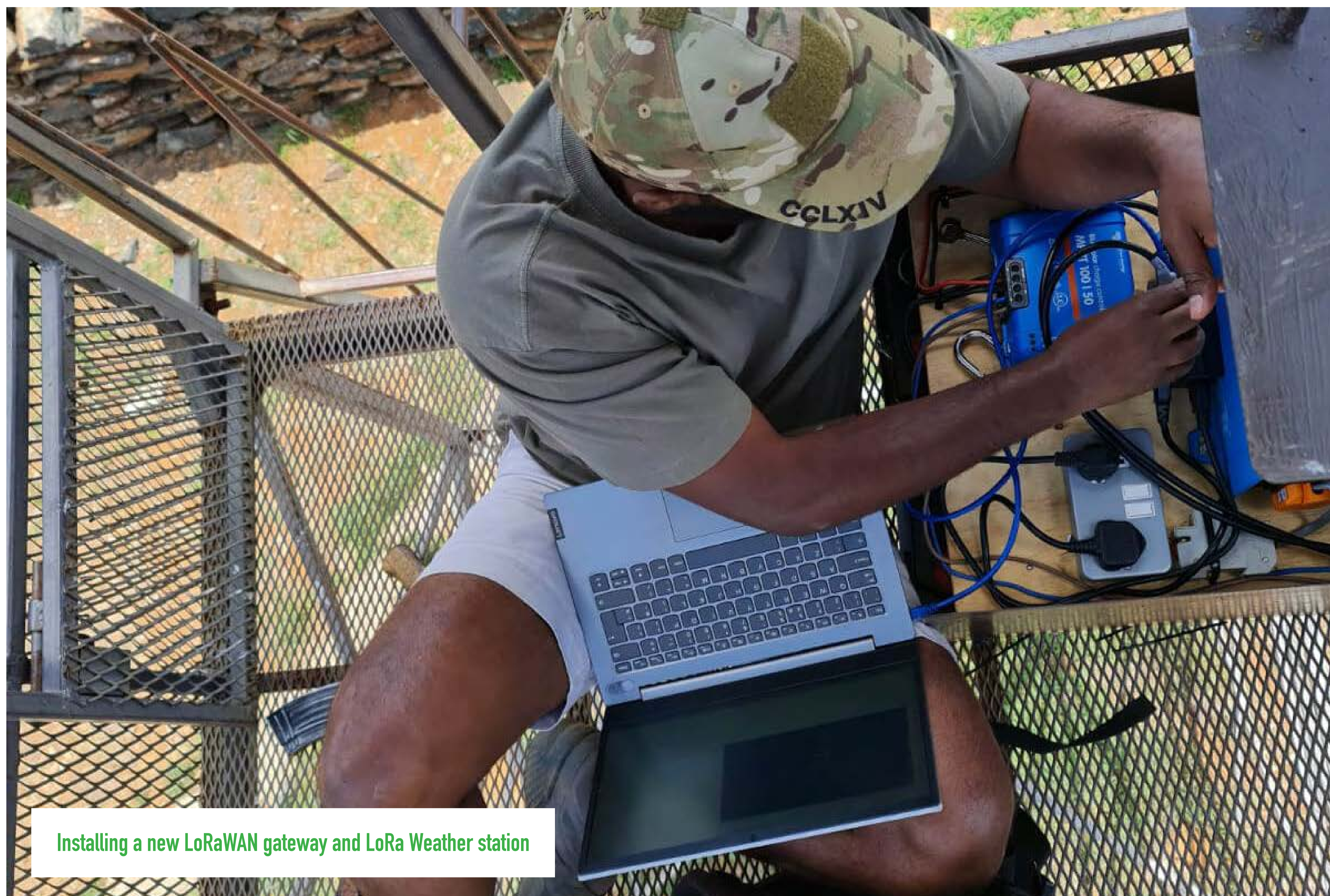
The operations infrastructure, annexe and room design for Simalaha

We led a ground-truthing exercise to evaluate SCC's needs. This assessment **guided recommendations for implementing radio networks, off-grid Internet services, operations room setup and on-the-ground sensors.** We identified optimal tower sites to ensure reliable network coverage for the conservancies, and Internet access to isolated schools.



# Innovation and Sustainability

We're collaborating to scale new models and change the way the world protects and values nature, filling us with great optimism for the future. Our commitment to technological innovation is grounded in the practical evaluation and testing of new conservation technologies against real-world conservation scenarios and target outcomes.



Installing a new LoRaWAN gateway and LoRa Weather station

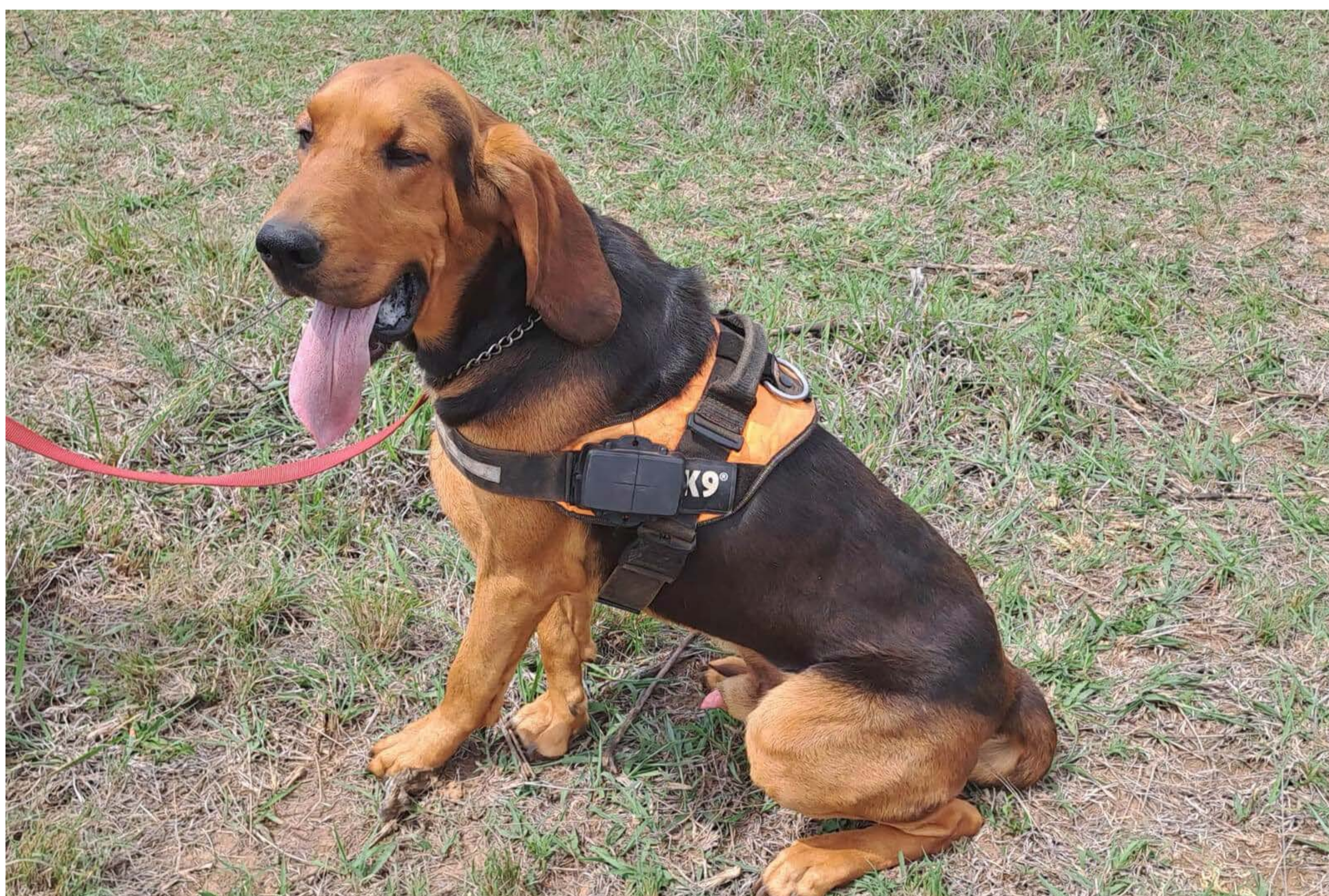
## LoRaWan sensors for security, monitoring and improved operations

In collaboration with our partners NRT, 51 Degrees, Dimension Data and Sabi Sand, trials included testing an array of innovative new sensors. These trials have guided the selection of the **most effective low-cost, low-power sensors for supported protected areas.**

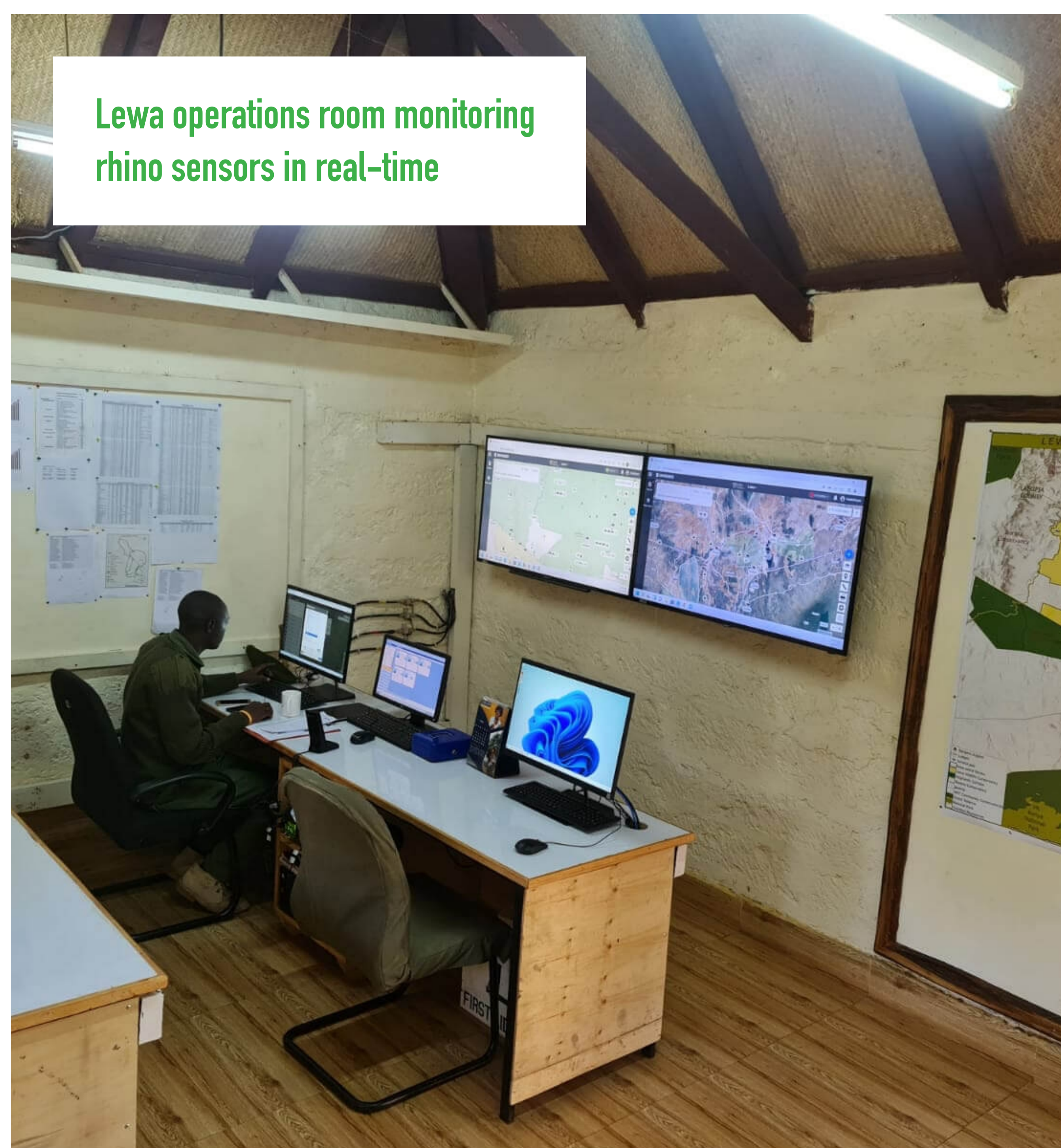


## Collaborative explorations include:

- Livestock trackers, monitoring movements and environmental conditions are being tested to manage forage and water sustainably, especially during periods of extreme drought, with the potential to use data for carbon health reporting.
- New lightweight tracking sensors for monitoring the location of surveillance drones during anti-poaching operations, informing counter strategies.
- Sensing devices are getting ever smaller, including asset tracking sensors, vehicles, different species, canine and ranger trackers are being tested at partner reserves.
- We regularly communicate our results with all field partners to create a dynamic ecosystem of knowledge sharing, so innovative technology can make impact quickly on the ground.



Camouflage gateway, supporting Ol Jogi Wildlife Conservancy



Lewa operations room monitoring rhino sensors in real-time

## Ongoing work to sustain solutions

Our engineers and partners work to support sites with ongoing maintenance and management of deployed technology solutions, including:

- Building local technical capacity to own and self-manage solutions.
- Providing monthly or fortnightly meetings with each site, to give mentorship, technical support and direction.
- Guiding reserves through decision-making, servicing and planning. Ensuring all systems are in frequent use, reliable and operating to their full capabilities.
- Assisting in the replacement of damaged equipment caused by things like lightning strikes.



# Capacity Building and Empowering Communities

We aim to support partners who empower community stewards in data collection, collaborative planning and implementation. We encourage partners to share insights broadly with communities to bring benefits, including resilient farming, effective town planning and peaceful coexistence.



**We invest in the technical education of field partners to ensure the successful adoption and sustainable benefits of tools.**

We provide local training to develop skills and build future conservation technology champions. This period, we are expanding our work to help community members pursue and build careers in ICT park management, identifying and upskilling tech-savvy individuals, capable of maintaining the vital digital infrastructure of protected areas.



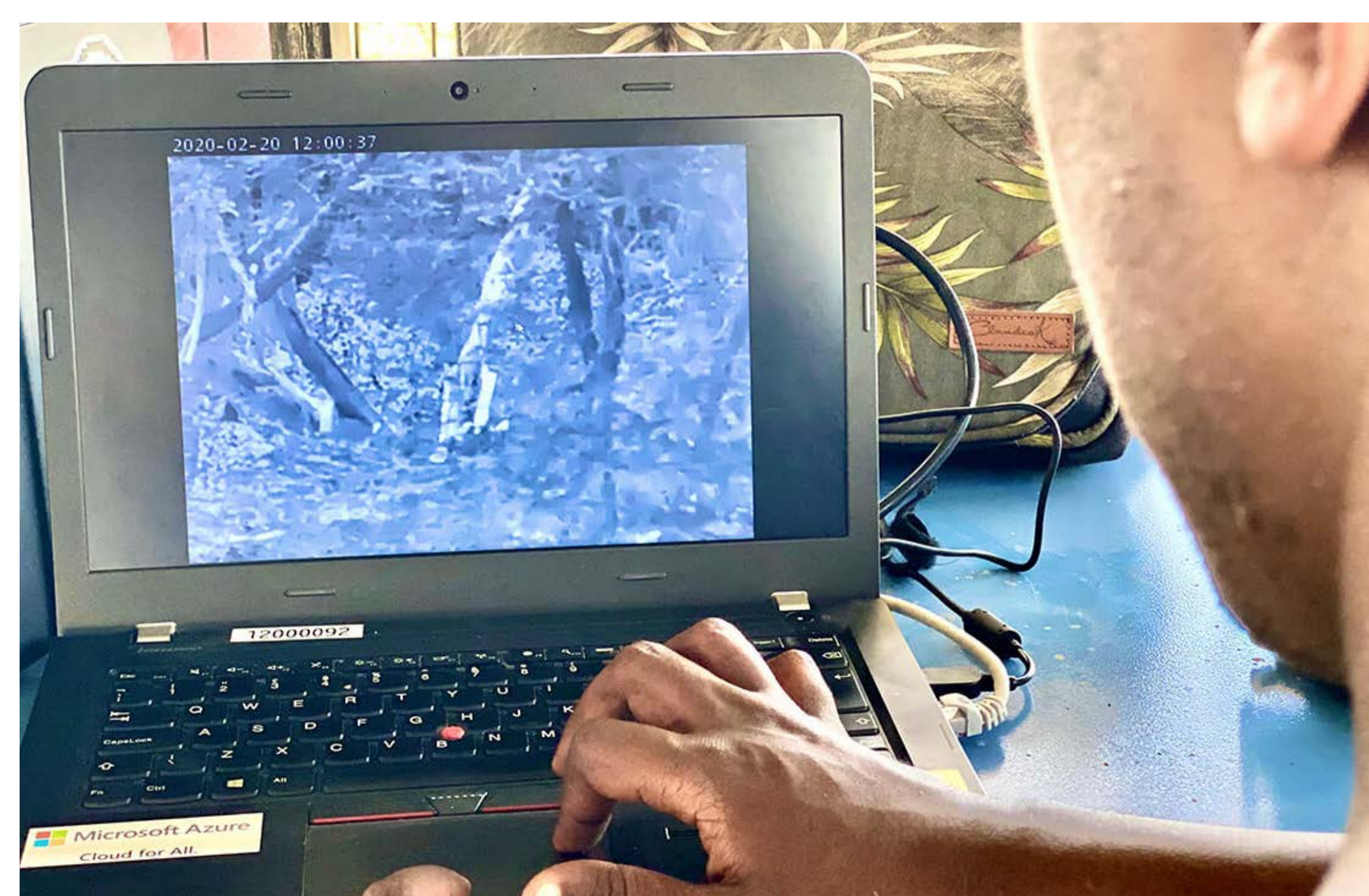
# Developing Conservation Technology Champions



Credit: NRT/Paul Wambugu

## We build technology capacity locally through key initiatives:

- **Empowering local organisations:** We provide technology advice and skills, along with ongoing support and training to all partner sites. This helps them onboard and sustain new tools effectively.
- **Providing essential resources:** We ensure our partners have the right software, licenses and resources for their data needs.
- **'Satellites for Biodiversity Award' capacity-building programme:** Grantees in Kenya, Papua New Guinea and Namibia can access one-to-one assistance in tasking, capturing, downloading, analysing and extracting insights from high-resolution satellite imagery.
- **Facilitating knowledge sharing:** We promote the exchange of knowledge and best practices among all partners.



# Upcoming 2024 – 2025: Technology Champions for Increased Sustainability



## TECH ECOSYSTEM

ADOPTING A HOLISTIC 'TECH ECOSYSTEM' APPROACH IS CRUCIAL FOR SUCCESS. INCLUDING ENSURING TECHNICAL ROBUSTNESS, FOSTERING COMMUNITY ENGAGEMENT, TRAINING AND DATA MANAGEMENT.



Lapalala unites sustainable conservation with ground-breaking environmental education, emphasising the interconnectedness of people and nature



Conservation technology can offer new channels of employment to local people living in and around conservation areas. As the need for Park IT management rises, technical job opportunities are increasing. As part of our upcoming capacity-building and community benefit program, we aim to professionalise this career path and **develop technology champions capable of sustaining the technologies that significantly enhance species and ecosystem protection.**

We are collaborating with partners to **enhance exposure to technical opportunities within the existing**

**environmental curriculum delivered through conservation schools.**

For example, Lapalala Wilderness School, engages 400 local schools that visit the reserve for hands-on conservation and ecology education.

We are **developing new educational content** designed to train local talent in data analysis, radio communications, and IT management. By inspiring tech-savvy individuals to pursue ICT careers in park management, and using Lapalala as a pilot site, we aim to expand this educational effort to more schools, enhancing their curricula.



# Knowledge Sharing for Collective Success

We help shape the field of conservation technology, bridging private and public sectors sharing learnings on a global stage.

## March, 2024

### United Nations Headquarters, New York

Under the theme 'Connecting People and Planet: Exploring Digital Innovation in Wildlife Conservation', Sophie Maxwell joined esteemed experts Dr. Krithi Karanth (Centre for Wildlife Studies), Jorge Ahumada (Wildlife Insights) and Adams Cassinga (Conserv Congo) in addressing country ministers. They discussed leveraging technology to meet international 30 x 30 conservation targets and overcoming challenges in technology deployment in the field. We emphasised fostering a collaborative 'tech ecosystem' approach, highlighting technical robustness, community engagement, training and sustainability as crucial components.



Credit: © Alex Rood



## March, 2024

### United Nations Headquarters, Geneva

Our Technical Director, Swabir Abdulrehman, showcased CCF's initiatives, highlighting the use of cutting-edge technologies to empower local conservationists and communities. He urged technology companies to recognise their responsibility to protect global biodiversity.



Credit: © Alex Rood

## December, 2023

### UK Tech Conference, London

At the techUK conference, the spotlight was on leveraging technology for biodiversity conservation. Our Communications Manager, Emma Oldham, shared learning on how the CCF integrates private-sector technological capabilities and resources with local field teams to enhance wildlife and ecosystem protection.

# December, 2023

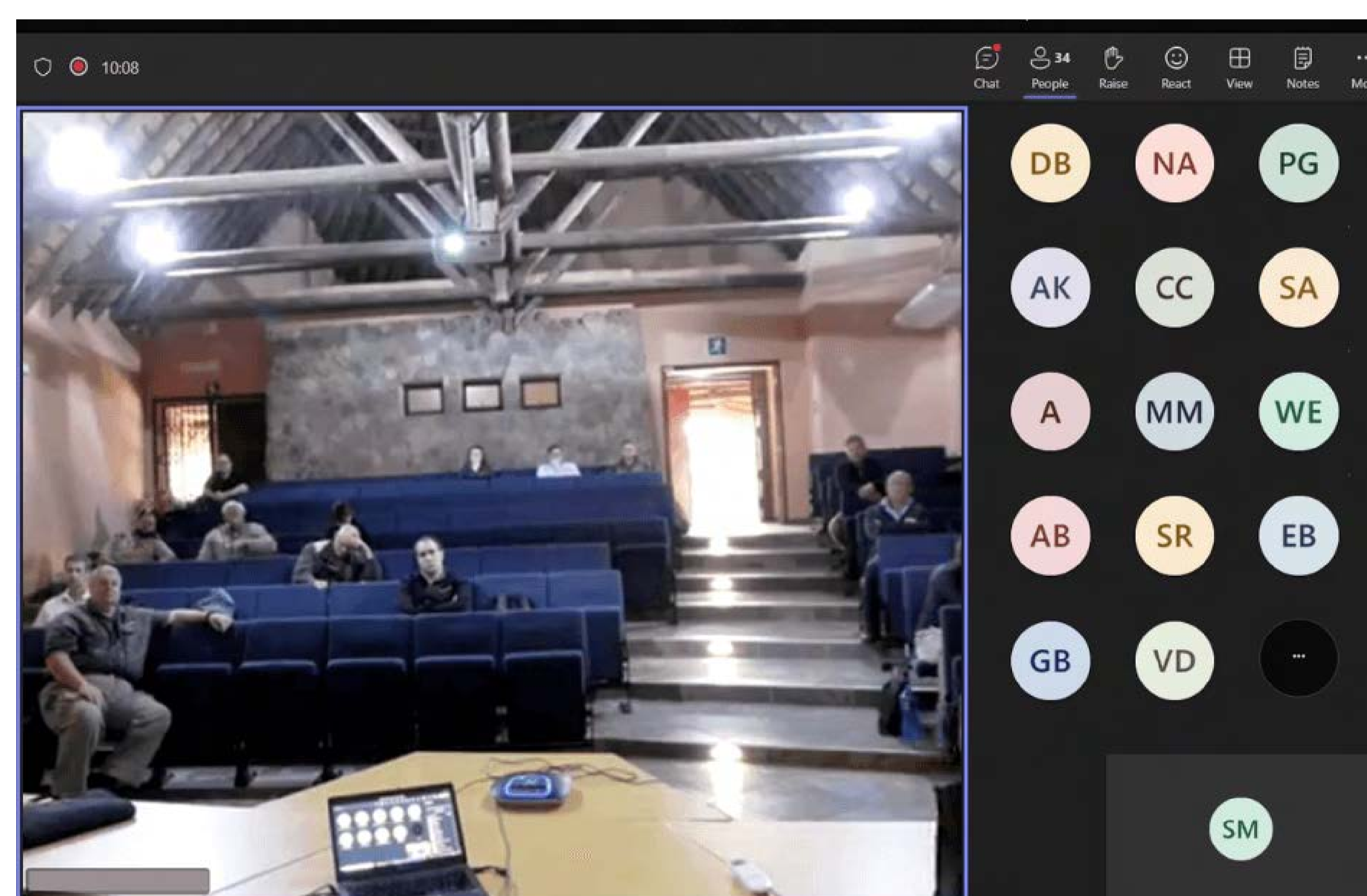
## EarthRanger User Conference, South Africa

The Annual EarthRanger User Conference in Cape Town brought together nearly 500 conservationists from 250 organisations across 40 countries to discuss new conservation technologies and methodologies.

A panel including Sophie Maxwell and Swabir Abdulrehman, (51 Degrees) alongside Colette Terblanche (Peace Parks Foundation), and Tim van Dam (Smart Parks) shared lessons from the use of Cloud-Based Sensors and LoRaWAN technology for enhancing conservation efforts in Africa. We highlighted LoRaWAN’s capabilities in monitoring, safeguarding and managing wildlife and habitats in Northern Kenya.



Credit: © Haskins Studios



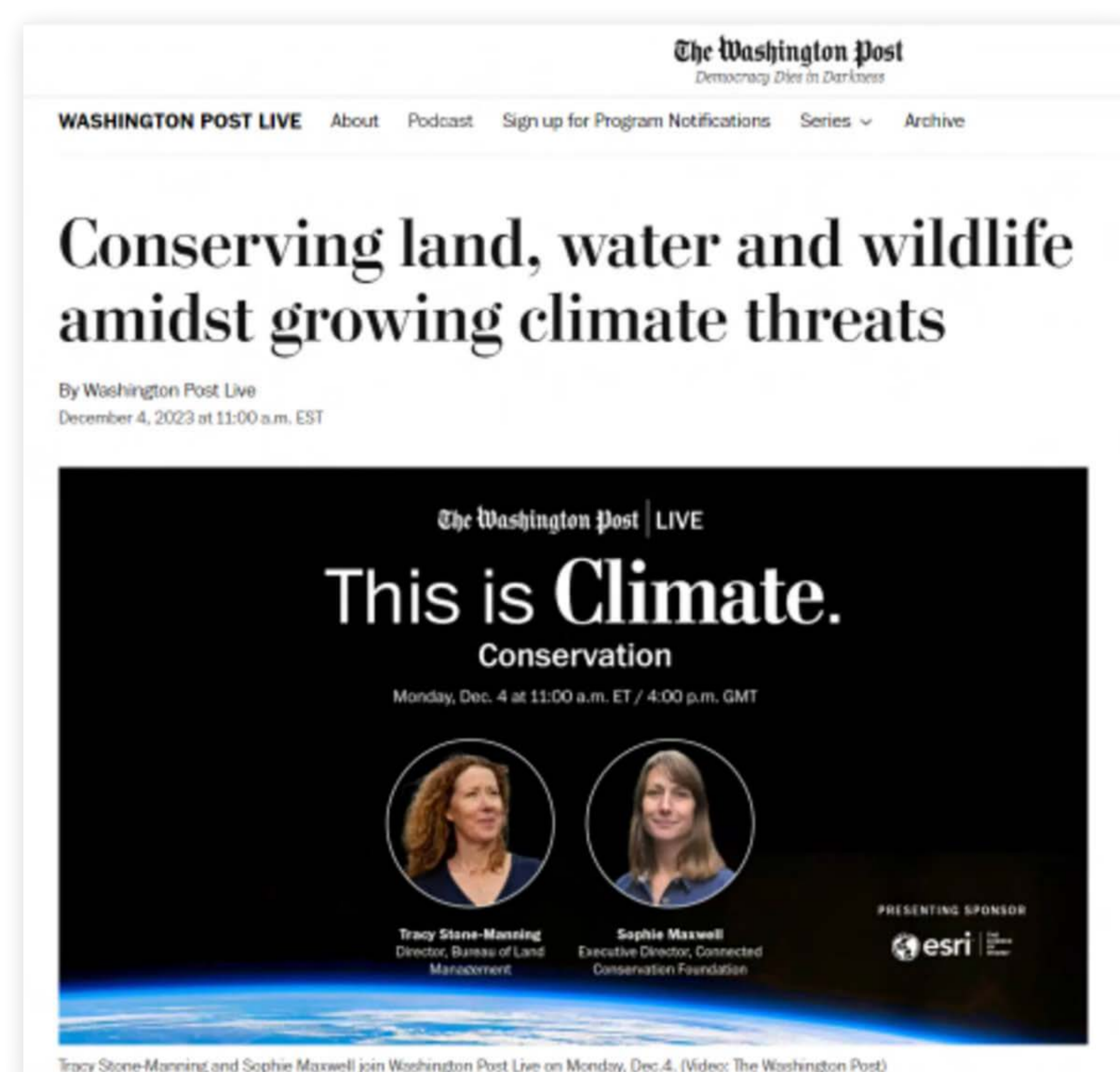
# July, 2023

## LoRaWan Networks and Rhino Sensor Workshop

Hosted by PeaceParks Foundation, we shared insights and experiences in deploying LoRa Networks and Rhino Sensors with a diverse community of conservation technologists working across parks in Africa.

## Growing global awareness through the media

We are proud that our work was recognised by some of the most prestigious publications including the *Washington Post*, *CITES*, *The World Economic Forum*, *Mongabay* and *Fast Company*. We prioritise showcasing the success of our partners and local communities.







# Expanding our Global Team and Operations



## Registration of our South African non-profit arm

We established a new registered charitable entity in South Africa, deepening our local roots and enabling us to tailor our conservation initiatives to address region-specific challenges. By anchoring ourselves in this locale, we aim for a more local impact, aligning with the needs of the South African context and building relationships with key funders and stakeholders in the region.

## Expanding our team

We are thrilled to have welcomed two new faces to the team:



### Swabir Abdulrehman, Technical Director

Joining us from 51 Degrees, Swabir has impressive experience in designing and leading in-field deployments of a range of conservation technologies including large-scale communications networks, LoRaWAN connectivity, EarthRanger integrations and a full range of wildlife monitoring technologies.



### Japheth, GIS & Data Science Specialist

Japheth is now supporting the operations and technical aspects of our satellite programs. His expertise boosts our capabilities, to work closely with partners such as the Airbus Foundation and Satellite for Biodiversity award grantees. Japheth has started implementing technical improvements and training with our Round 1 Award winners, assisting in reporting on analysis, methodology and results.



### Emma Oldham, Communication and PR Manager

Whilst not a new addition, Emma goes above and beyond through her diligent collaboration with all our partners. She actively ensures that local voices, perspectives and challenges are not just included but placed at the forefront of our storytelling efforts. Emma's work demonstrates how collaborative approaches actively drive meaningful impact across our initiatives.



# Catalysing Investment and Private Sector Contributions

We are recognised by the United Nations as a leader in connecting those in developing countries with the private sector, to secure the digital technologies for preserving our natural world. Simultaneously, we help our corporate partners focus their technology and capabilities for large-scale conservation impacts.



**To date, we have facilitated over \$11 million in groundbreaking technology, engineering and data investments in the field, enhancing positive outcomes for nature and local communities.**

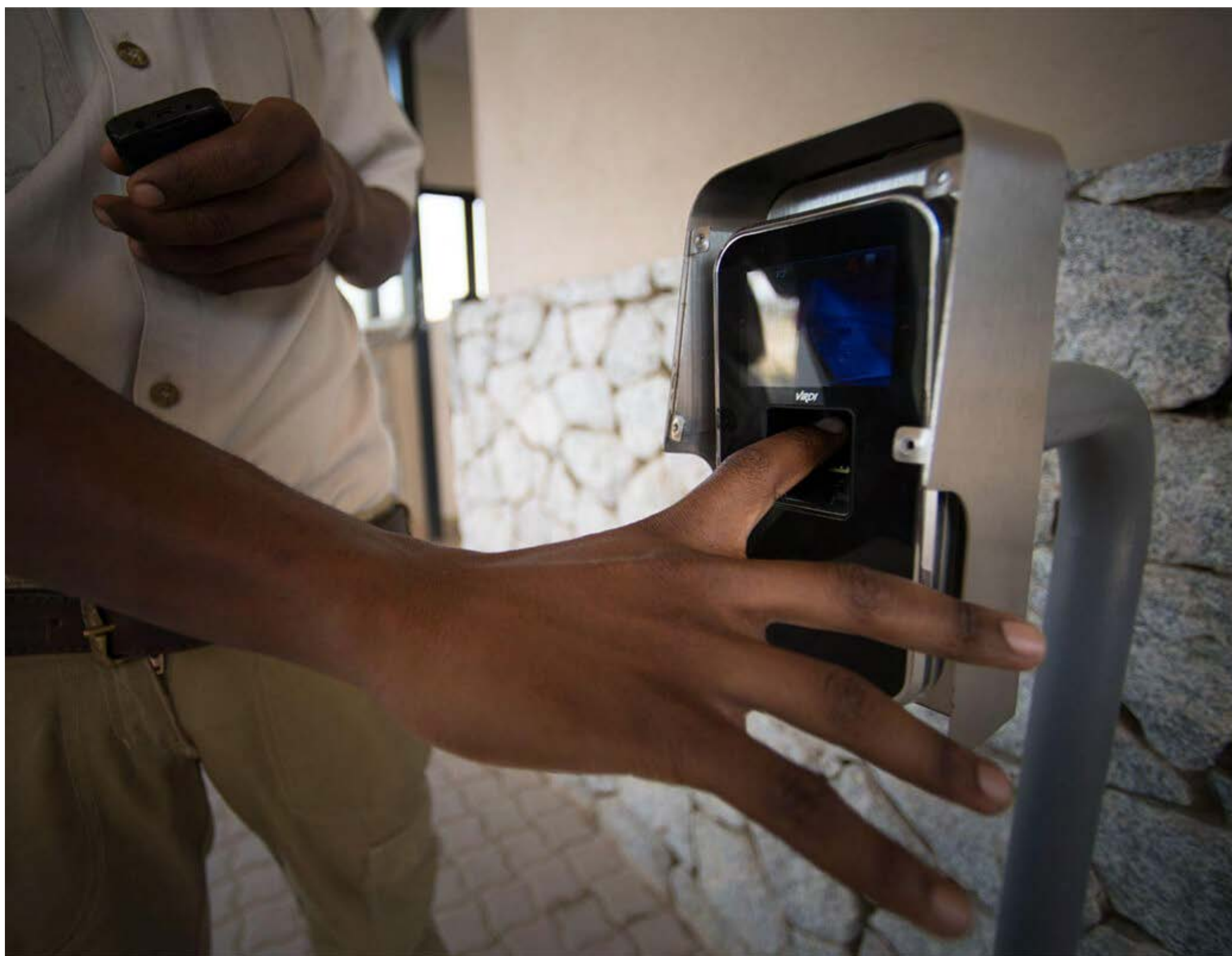
This effort attracts additional match-funding from government and philanthropic organisations, which goes directly to conservation sites.



# Advancing an Impact Assessment Framework for Conservation Technologies



We are continually enhancing our impact assessment framework for conservation technologies, focusing on developing robust evaluation methods for technology intervention in conservation.

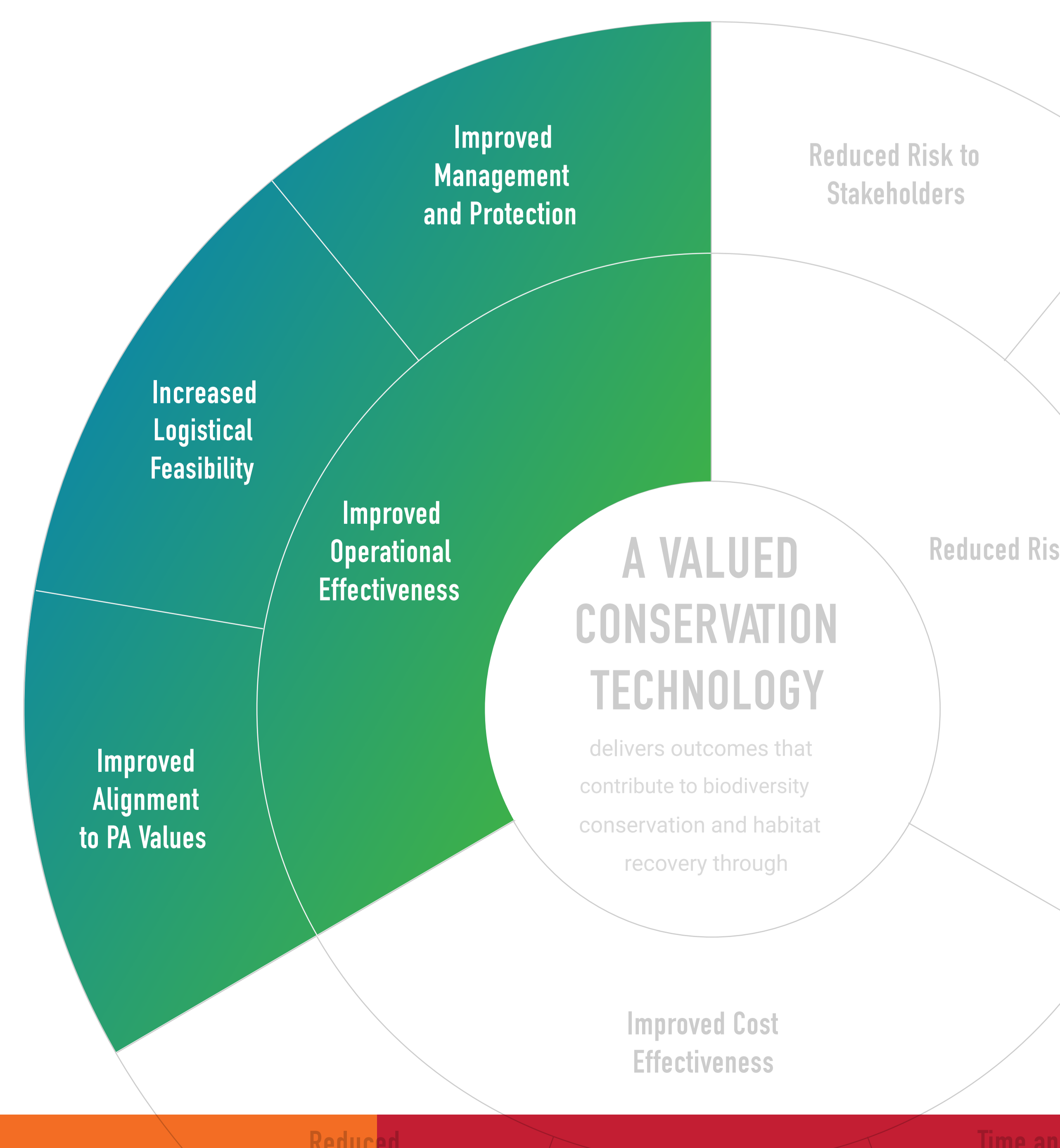


Building on the groundwork laid in Phase 1, where we collaborated with Conservation Alpha and a consortium of experts to establish the initial framework and taxonomy, **Phase 2 now focuses on testing and refining the technology impact assessment framework across multiple sites**, including the Sabi Sand Nature Reserve (SSNR) in South Africa.

We're **evaluating technologies against agreed-upon criteria**, such as threat detection accuracy, speed of information relay for management decisions and the quality and reliability of data for informed action. By applying the framework in real-world settings, we aim to empower managers to conduct baseline surveys before and after technology deployment, ultimately **guiding future investment and intervention decisions**.



**OUR LONG-TERM GOAL IS TO MAKE THE FRAMEWORK OPENLY ACCESSIBLE TO THE CONSERVATION COMMUNITY - ENABLING PRACTITIONERS TO EASILY ASSESS THE IMPACTS OF TECHNOLOGY IN PROTECTED AREA MANAGEMENT**

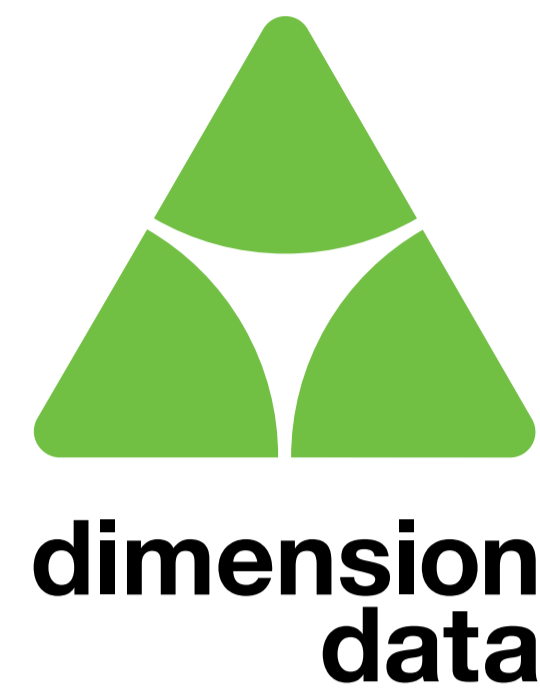




# Our Partners and Donors

Our work is enabled by the generosity and technological expertise of our innovative partners. CCF would like to sincerely thank the following collaborators and partners for their invaluable support:

Founding partners:



New partners:



Actility



We're bolstering the bond between sports and nature through our growing partnership with Birdies4Rhinos. This team of international golfers is raising funds for CCF projects by donating for every birdie they score. A warm welcome to the new players who have joined: Tommy Fleetwood, Ewen Ferguson, Paul Marks, Rupert Kaminski, Louis Albertse, and April Angurasarane.

We are immensely grateful for their efforts in raising the profile of conservation projects protecting rhinos at high-profile tournaments across the globe. A huge congratulations to Niklas Norgaard for securing first place on the leaderboard in 2023 with the most birdies scored throughout the year!

“

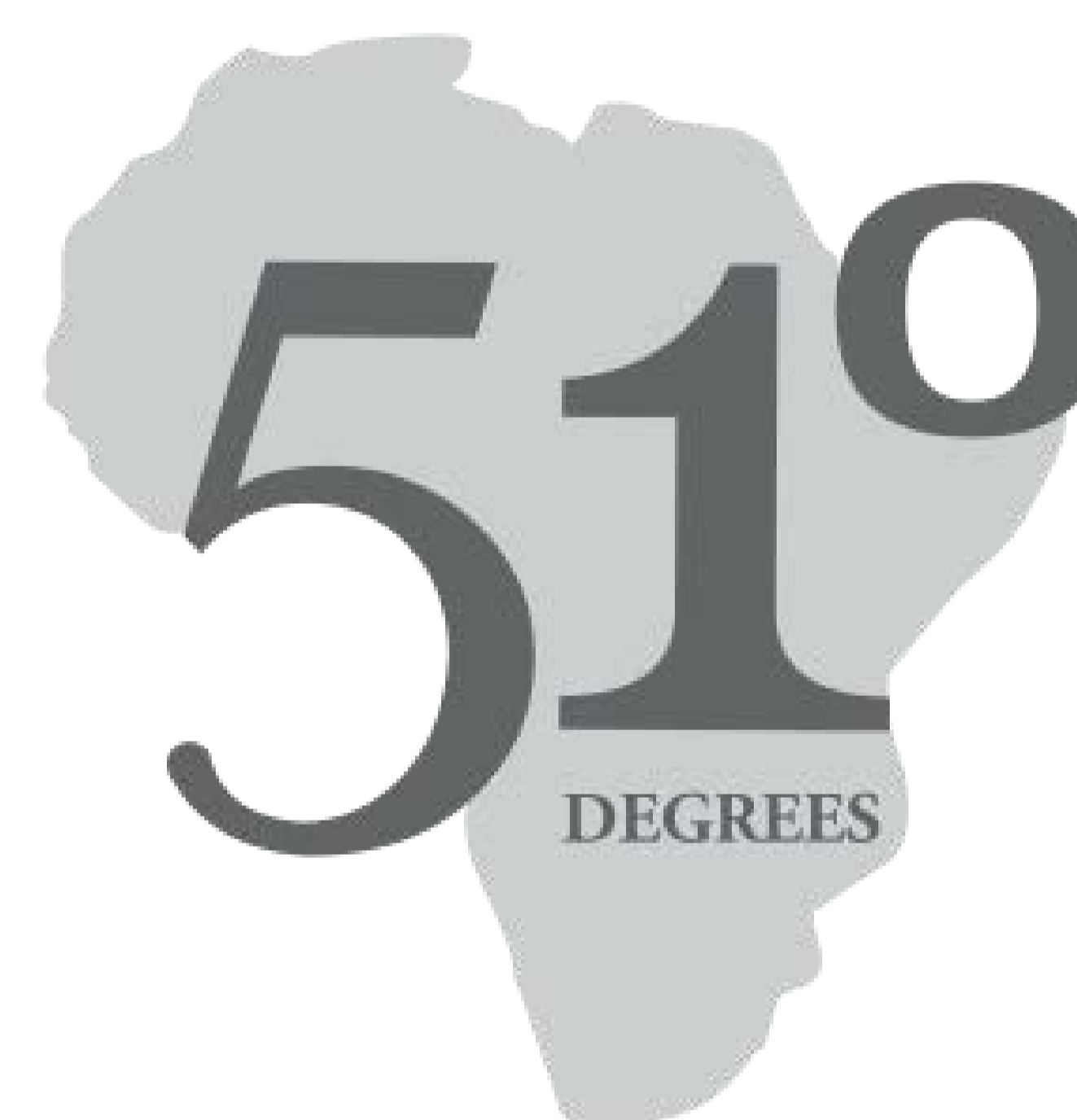
MY PASSION FOR ANIMALS HAS ALWAYS HELD A SPECIAL PLACE IN MY HEART. WHEN I SAW THIS INITIATIVE, I KNEW STRAIGHT AWAY I WANTED TO BE PART OF IT. EVERY SWING ON THE GOLF COURSE TRANSLATES TO SUPPORT FOR CCF. I HOPE TO INSPIRE MORE INDIVIDUALS AND CORPORATIONS FROM MY COMMUNITY TO RALLY BEHIND THIS NOBLE CAUSE

”

— Niklas Norgaard



# Thank You to All Our Collaborators and Partners



Mishcon de Reya





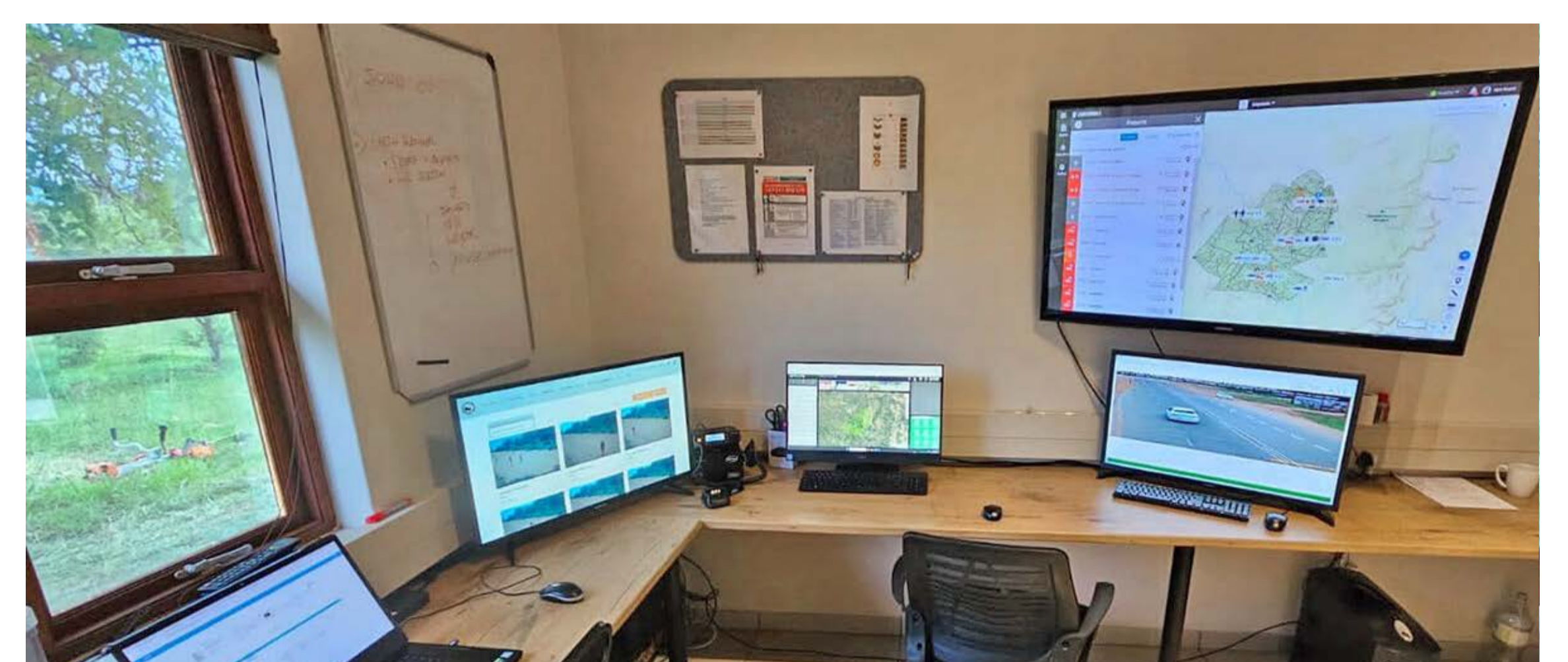
# Upcoming Projects '24 - '25

Alongside bringing technologies to help protect and manage conservancies, we look to empower local communities with data, tools and education to steward their lands and harness jobs opportunities.



## Enhancing Conservation and Community Education

Lapalala Wilderness Foundation  
South Africa



### SOLUTION

LAPALALA WILDERNESS SCHOOL WILL RECEIVE, RELIABLE INTERNET ACCESS, ENRICHING STUDENTS' LEARNING EXPERIENCE AND ENVIRONMENTAL EDUCATION

Lapalala Wilderness school is an exceptional conservation legacy spanning 48,000 hectares of breath-taking and diverse habitat, with an upcoming expansion of 7,000 hectares. It is dedicated to protecting biodiversity and providing environmental education, partnering with 400 local schools that visit the reserve's educational facilities to undertake hands-on conservation and ecology learning.

We have designed and secured new technologies for wildlife conservation, community outreach, and environmental education at Lapalala Wilderness Nature Reserve and the adjacent Lapalala Wilderness School, unlocking donations to support two key projects for the reserve.

## We have unlocked donations to support two projects here:

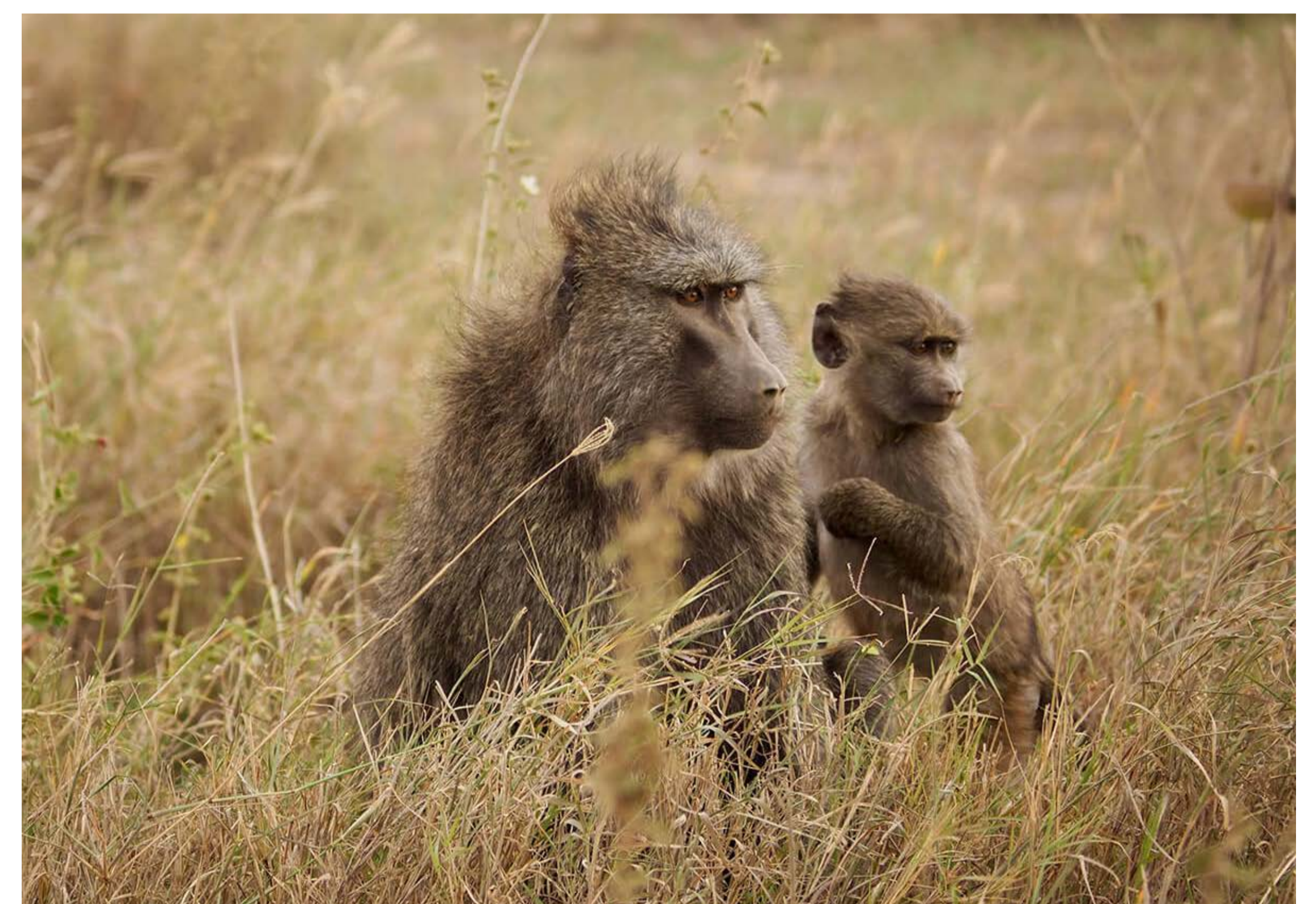
1. **New advanced LoRaWan Networks along with an array of sensors are on their way to assist in the management of both black and white rhino and other threatened species, such as pangolin.** The technology will also assist in infrastructure and area integrity management in the main reserve and the planned 7000-hectare expansion.
2. **Donated Cisco MR36 wireless access points to provide reliable internet access for the Lapalala Wilderness School's environmental education and community outreach programmes.** This will improve how local people of all ages learn about the environment and increase inspiration on environmental job opportunities.



## Protecting Uganda's Wildlife with Advanced IoT Solutions

### Uganda Conservation Foundation Uganda

Supported by the Connected Conservation Foundation and Cisco, the Uganda Conservation Foundation (UCF) is **preparing to deploy a LoRaWAN IoT network in Kidepo Valley National Park.** This network will leverage existing tower infrastructure and deploy a variety of low-power, cost-effective sensors to enhance conservation efforts. Data will be transmitted from across the park to a central control room and visualised through EarthRanger software, enabling effective management of the protected area.



### SOLUTION

**THIS VITAL DIGITAL INFRASTRUCTURE WILL HELP UCF SECURE THREATENED SPECIES, HELP MANAGE AND SUSTAIN ECOSYSTEM SERVICES FOR LOCAL COMMUNITIES, ENSURE RANGER SAFETY AND EFFICIENT USE OF RESOURCES.**



# Upcoming: Scaling Regional IoT Networks in Kenya

Our collaboration to improve data insight and governance in Northern Kenya has been highly successful. This coming year, we are partnering with 51 Degrees and the Kenya Wildlife Service to scale up the deployment of LoRa Networks in and around national parks.

**BIG LIFE**  
FOUNDATION

## Increasing Impact with Technology in the Greater Amboseli Ecosystem

**Big Life Foundation  
Kenya**

We are partnering with Big Life Foundation to protect East Africa's wildlife, including one its most famous elephant populations. With support from CCF and Cisco, Big Life will install a LoRaWAN network in the Greater Amboseli Ecosystem. This will revolutionise Big Life's ability to track its conservation operations, including 23 cars, 25 vehicles, 42 ranger units and 2 airplanes. This real-time data will feed into a central operations room, giving managers the ability to coordinate rapid responses to incidents, and more efficiently manage operations over a vast area. Uses in future will be expanded to include wildlife tracking and environmental monitoring.



### SOLUTION

LORAWAN TECHNOLOGY LOWERS TRACKING COSTS BY UP TO 90% IN SOME CASES. THIS COST-EFFECTIVENESS ALLOWS BIG LIFE TO ALLOCATE MORE RESOURCES TO CRITICAL CONSERVATION EFFORTS.



THE SAFARI COLLECTION

**FOOTPRINT**   
trust

## Modernising Maasai Mara with Technological Solutions

**The Safari Collection Footprint Trust  
Kenya**

We're supporting The Safari Collection Footprint Trust (TSCFT) to drive positive change in local ecosystems through tourism. With donations from Cisco, TSC will enhance management in the Maasai Mara National Reserve, including the installation of a new LoRaWAN network and building staff capacity. TSCFT will also establish a **state-of-the-art operations room to serve as the nerve centre for managing reserve activities and enhancing conservation efforts.**



### SOLUTION

NEW LORAWAN GATEWAYS PROMISE TO EXTEND COVERAGE TO OVER 90% OF THE RESERVE, ENHANCING WILDLIFE TRACKING AND MONITORING CAPABILITIES.





## Preserving Tsavo's Heritage with the Help of LoRa Gateways

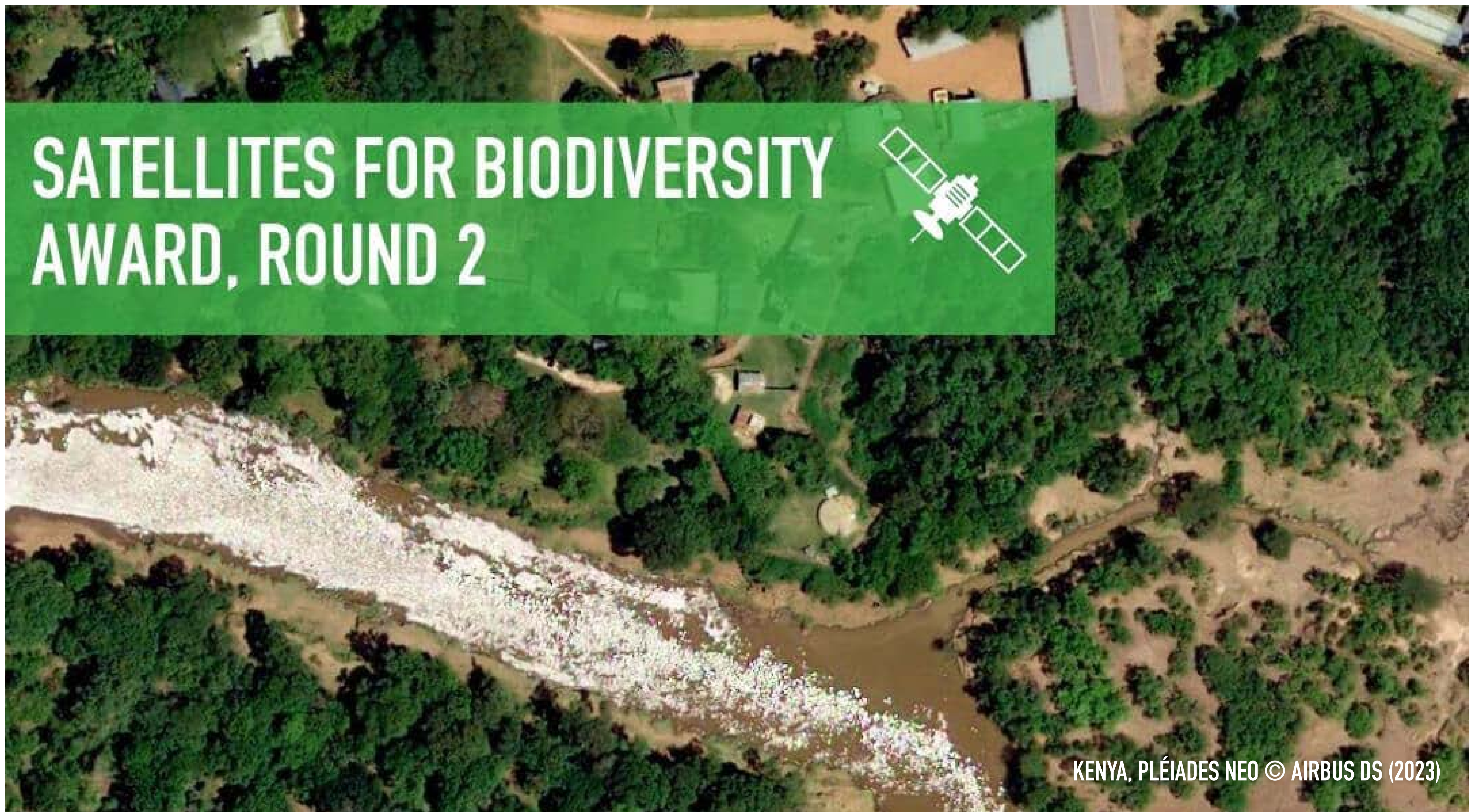
### Sheldrick Wildlife Trust Kenya

We're helping tackle human-wildlife conflict and poaching in the Tsavo Conservation Area. With support from Cisco, we're integrating donated LoRa gateways into the Sheldrick Wildlife Trust's technical toolkit. This enhancement will **bolster monitoring along electric fence lines, ensuring the safety of wildlife and local communities from potential conflicts.**



### SOLUTION

**LORA TRACKING TAGS ON JUVENILE ELEPHANTS AND RHINOS WILL ENABLE RANGERS TO MONITOR THEIR MOVEMENTS WITH PRECISION.**

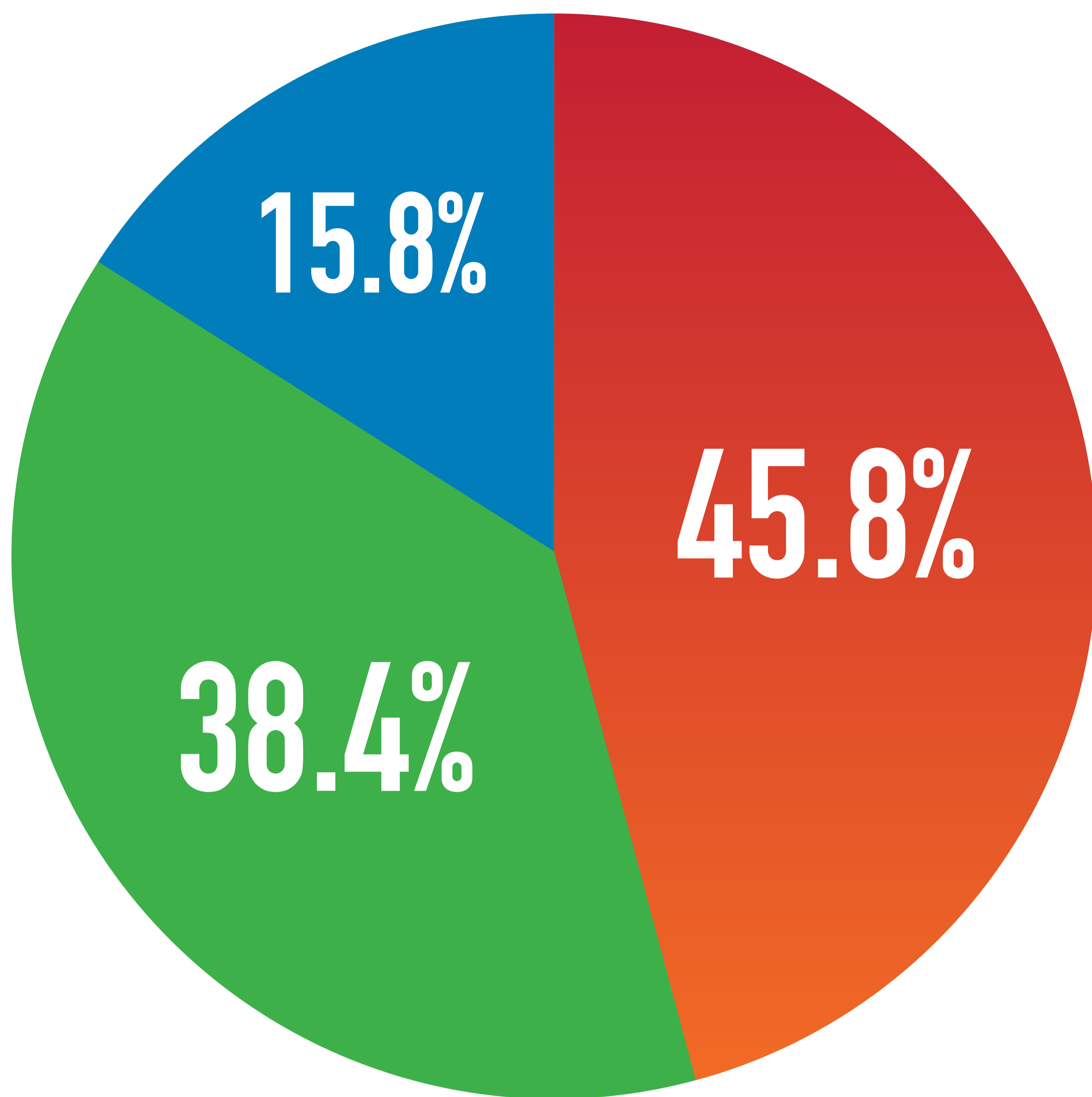


## Round 2 'Satellites for Biodiversity' award

Four winners will gain access to cutting-edge optical satellite imagery, featuring 30cm and 15cm spatial resolutions from Airbus Pléiades Neo, and 50cm from Pléiades. Additionally, they will receive \$6,000 in financial support, on-demand access to Airbus' Archive Library, complimentary ESRI software, and technical expertise from the CCF and Airbus Foundation.

# Financial Summary

Income and project expenditure for year ending March 2024



## Income

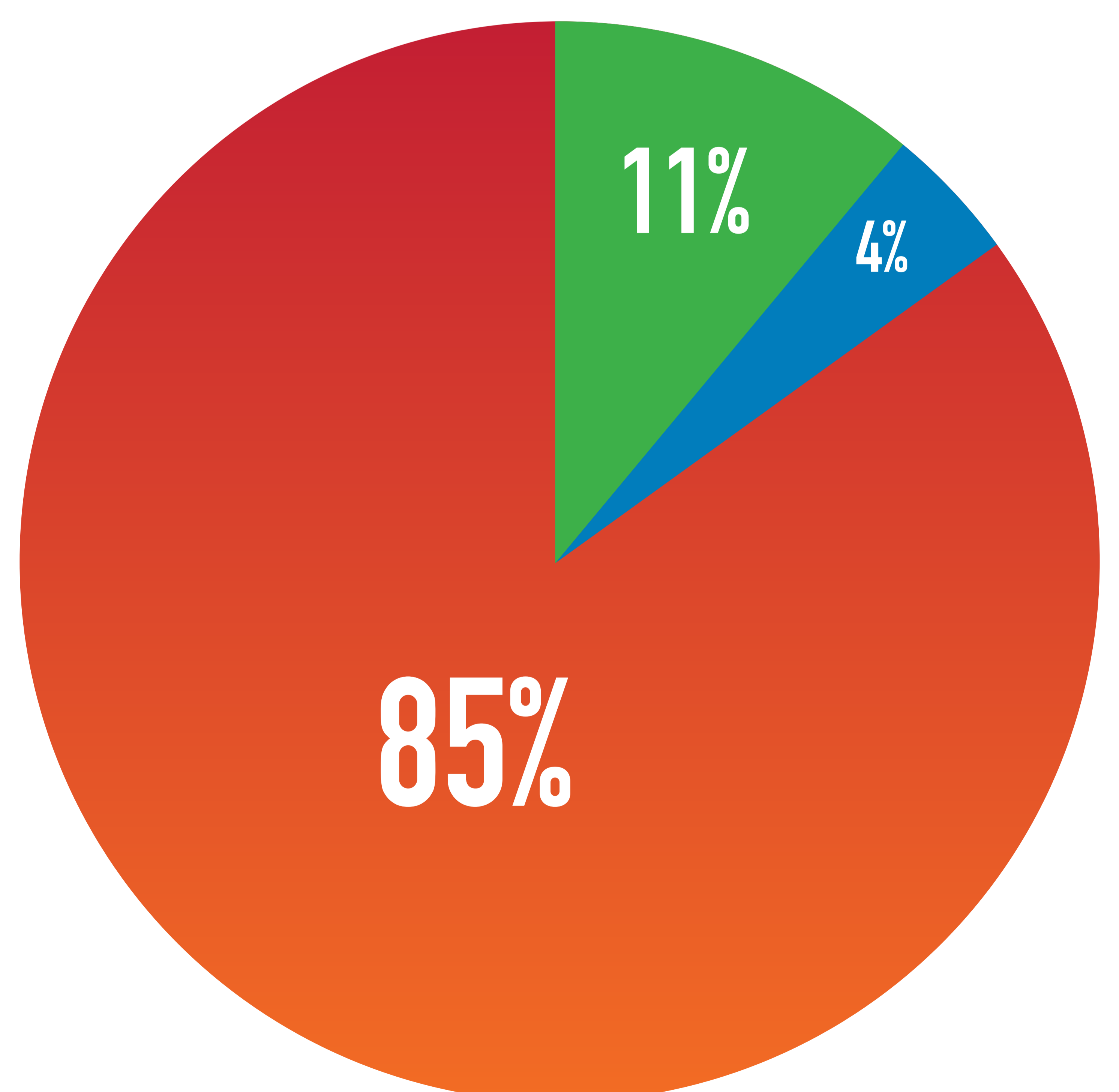
- Donations:  
£66,782 (UK)  
£420,000 (South Africa)

## Securing

- Data and cloud services:  
£200,000
- Equipment, software, licenses and in-kind engineering:  
£580,000

## Expenditure

- Projects, grants and support costs:  
£102,737
- Operations, OT and core salaries:  
£36,918
- Facilitating:  
£780,000



*NB: SA donation was received during the year, but no expenditure on this project was incurred until after the year-end.*

A lemur with large, prominent ears is perched on a tree branch at night. The lemur has greyish-brown fur on its back and white fur on its chest. It is looking directly at the camera with large, dark eyes. The background is dark with some green foliage visible.

**“ FROM EVERYONE AT CCF, OUR SINCERE THANKS AND GRATITUDE FOR YOUR COLLABORATION AND PARTNERSHIP. THE WORK IS COMPLEX AND DIFFICULT, BUT VITAL. WE CHALLENGE OURSELVES TO GO BEYOND ”**

— *Chairman Bruce 'Doc' Watson*

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