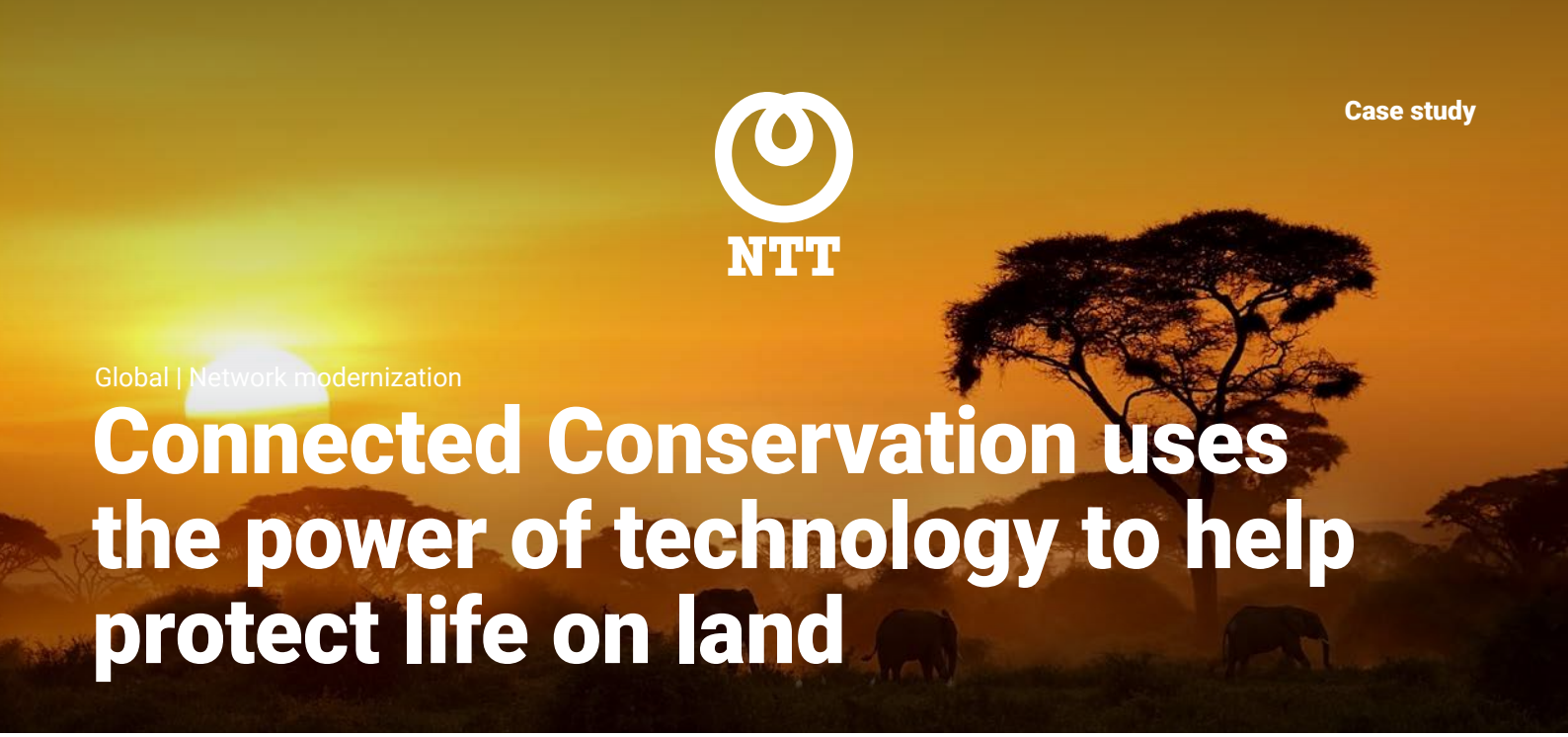

Case study

Global | Network modernization

Connected Conservation uses the power of technology to help protect life on land

Client profile

Connected Conservation is a joint initiative between NTT Ltd. and Cisco that uses the power of technology to protect wildlife and the individuals in charge of their safety. Starting in 2015 in a private game reserve adjacent to South Africa's Kruger National Park, the pilot project saw a dramatic decrease in poaching as a result of the intervention. In 2020 Connected Conservation expanded its reach to include six conservancies in Northern Kenya, with additional locations being added in 2021 including Botswana and Indonesia.

'In a connected world, linking technology and conservation with people has given us an opportunity to create a safe haven for species. It has allowed us to proactively protect species by implementing workable solutions in a harsh environment like the bush.'

Doc Watson,
Executive Advisor, MEA, Cisco Alliance, NTT Ltd.

Summary

Protecting life on land is a critical part of our mission. As part of our commitment to use tech for good and help achieve the UN's Sustainable Development Goals, we've partnered with Cisco and nature conservation authorities to help protect endangered species including rhinos, elephants and many others.

Starting with the pilot project in a private game reserve in South Africa we've implemented technology to help track the movement of people, and in so doing reduce the numbers of animals poached.

We've now extended this to conservancies in Northern Kenya, allowing them to use the power of technology to protect our natural resources.

Vision

Creating a world where animals can roam free

In 2015, we partnered with Cisco to launch Connected Conservation, an initiative to help protect and stop the poaching of rhinos through smart technology solutions. The project began with a pilot in a private game reserve adjacent to the Kruger National Park in South Africa and reduced poaching by 96% in the first two years of operation. The project was the first of its kind, because it was proactive and tracked the movement of people, leaving the animals to roam freely in their natural habitat.

The success of this initiative has seen it expand into six conservancies in Northern Kenya, including the Lewa and Sera Conservancies, which are dedicated to protecting endangered species and improving local communities. The conservancies are vast, covering over 200,000 acres of land, and containing 14% of Kenya's rhino population. The initiative allows the primary Joint Operations Center (JOC) in Lewa to stay connected to satellite JOCs, monitor the conservancies and track all of their animals, including elephants, lions, gerenuk, and giraffe, as well as over 200 rhino.

Which technologies?

- Secure networks
- LORA technology
- Digital radio network
- Data collection and analysis
- CCTV and thermal cameras
- Vehicle and asset tracking
- Acoustic fiber
- Seismic/magnetic sensors

Which services?

- Managed Services
- Technical Services
- Cloud services

Which partners?

- Cisco

'Connected Conservation mirrors the dedication to innovation we deliver our clients and is a shining example of how we disrupt and define the art of the possible.'

Chris Panzeca, Senior Director, Global Strategic Partner Sales, Cisco

Transformation

Using technology for good to empower conservation efforts

Critical to enabling the success of this solution is the ability of management and rangers to effectively communicate with each other.

The South African solution focuses on monitoring the hundreds of staff, suppliers, contractors, security personnel and tourists who enter and exit the reserve on a daily basis. We created an end-to-end solution, proactively stopping people entering illegally. If an incursion takes place, the solution triggers an alarm in the control center. An alert with exact coordinates for the incursion is sent to armed rangers' mobile devices, who patrol both on the ground and in a helicopter.

In Kenya, adopting a phased approach, we've deployed a Point-to-Point Reserve Area Network (P2P-RAN) to connect key sites using digital radio masts. These have been supplemented by infrastructure for digital radio communications to assist in wildlife management and keep rangers connected. This is supported by solar power infrastructure, masts and enclosures to support current and future requirements. At the JOC, we've increased the compute and storage infrastructure to support its continued evolution. Earthranger, the online software tool, allows the team to collect, integrate and display all historical and real-time data available from a protected area. It also helps reduce human/animal wildlife conflict should any animals wander beyond the boundaries and into the farmlands and grazing areas.

Phase one also includes the installation of thermal cameras at six waterholes enabling threat detection and prevention, as well as the deployment of Long Range Wide Area Network (LoRaWAN) gateways to support the reintroduction of rhinos and monitoring their adaptation and rehabilitation process into the wild.

This infrastructure will support and enable future phases of the project that will build on the learnings from the South African pilot.

Results

Building on the success to help global conservation efforts

Together we're laying the groundwork for the expansion of the project in Kenya to connect conservancies in the mountainous north-west regions to the P2P-RAN, allowing the JOC to monitor activity and communicate with the teams on the ground.

In conjunction with NRT we'll analyse which elements of the solution deployed in South Africa will deliver the greatest value.

These may include vehicle and asset tracking, LoRaWAN detection, operational and ecological sensors, machine learning and cognitive analytics, as well as leveraging acoustic fiber to detect, identify and deter threats.

With the South African reserve having seen a significant drop in poaching incidents and a 68% drop in incursions, we believe that we'll be able to see similar results in Kenya as subsequent phases of the project deployed.

Our vision is to help eliminate all forms of poaching, globally, through continued co-innovation with Cisco and our conservation partners. Alongside the expansion into Kenya we're looking to expand beyond Africa and bring together national and private parks, sharing information and tactics to safeguard more species across the world.