CERAGON

CERAGON EMPOWERS LARGE MOBILE
OPERATOR IN SOUTH AMERICA TO

CONNECT AMAZON RAINFOREST COMMUNITIES

MOBILE

LATIN AMERICA

Once you visit the Amazon jungle, you understand how it can swallow an entire town in a matter of months so that it can't even be seen from the air. The varying shades of green, from light mossy to dark bottle, with almost no other colors create an impression of a lost world from adventure books. All kinds of huge trees, vines and plants are intertwined so densely that the sunlight almost does not reach the ground. Rubber boots are a blessing as you wade through rivers of water, sometimes concealing giant anacondas. The humid tropical climate, mud, endless mosquitoes, nonstop cacophony of sounds, and complete "disconnect" from the rest of the world make you crave for a return to civilization.

THE CHALLENGES

Increase subscriber base by offering Amazon communities advanced mobile services | Integrate region with rest of the country | Upgrade little to no mobile infrastructure | Provide reliable and high backbone capacity in jungle environment | Overcome difficult access to remote sites | Address heavy dependency on solar energy and generators

Building the most advanced 4G network from scratch to span across the Amazon rainforest with very little existing infrastructure is an ultra-ambitious and challenging plan – even for a large mobile operator. While offering mobile services was the primary driver, the carrier also saw a significant opportunity to provide broadband to the region's businesses and governmental organizations. The operator needed to deliver multi-Gbps capacity on a single frequency channel in extremely difficult propagation conditions, and to ensure a high level of link availability despite heavy rainfall common to the region. In addition, a heavy dependency on solar energy and generators in many remote sites had to be addressed by equipment with low power consumption.

THE SOLUTION

All-outdoor cell sites | Low power consumption | High-capacity backbone | Multi-core technology | Remotely upgradable solution

To enable advanced mobile services in the Amazon jungle, the operator adopted Ceragon's FibeAir IP20C-HP multi-carrier, high-power solution. By partnering with Ceragon, the mobile operator met all of its requirements, and created a compact, all-outdoor and scalable configuration spanning a total distance of more than 400 km. A highly successful network rollout helped integrate the region with the rest of the country, reduced the cost of living, and created new opportunities for local residents and governmental organizations alike.

Ceragon's all-outdoor wireless backhaul solution enabled the operator to:

- Deploy quickly high-capacity backbone links reaching 7.1 Gbps.
- Reduce power consumption by 50% (as opposed to typical long-haul solutions) and increase power efficiency, which were identified as critical requirements for successful project completion.
- Leverage the benefits of Ceragon's multi-carrier RF units to deploy 16+0 configurations with 8 radios.
- Provide the highest system gain and transmit (Tx) power, which allows the use of higher modulations to increase capacity and reduce antenna sizes.
- Minimize site visits by remotely activating additional transceivers; no additional equipment is needed, no truck rolls or tower climbs are required (especially important in inaccessible sites), and no service downtime is required.
- Save significant OPEX spending on antennas, site revisits, installations, tower loading and leasing.

Until recently, significant parts of the Amazon jungle were in danger of being "left behind" without broadband connectivity. The services that ordinary Americans and Europeans have been using for the past 20 years were still not a reality for numerous Amazon communities. Bringing broadband to these previously underserved areas advanced people's lives, facilitated distance learning, and promoted innovation.

Challenge us
to take you further