ip access

Small cells everywhere

Small Cells Connect Developing World

Innovative small-cell system connects previously isolated villages, delivering econmonic and social benefits to more than one million people

ALTOBRIDGE™

Rural small cell solution

Over one thousand remote communities worldwide have access to mobile communications for the first time thanks to a low-cost, low-power small-cell solution developed by ip.access and Altobridge.

The two partners have created an innovative mobile product that overcomes operator unwillingness to build networks in rural areas where the average revenue per user (ARPU) would be too low to justify the deployment costs.

Altobridge integrated two IP-based small cells from ip.access into an outdoor, weather-proof unit to build a base station with a coverage range of up to 10 kilometers and capacity for up to 1,500 subscribers. The system uses solar power during the day and battery back-up power at night. For backhaul, the small-cell system uses satellite technology that has been optimized to minimize bandwidth use, which reduces transmission costs.

The result is that the solution can have a return on investment for operators in less than 24 months for as little as 600 subscribers where ARPUs are as low as $4 per month.

The solution's total cost of ownership is lower than competing systems because:

- The backhaul technology employs compression techniques so that a voice call uses just 4 kilobits per second, whereas competing systems need up to 14 kilobits per second per call;
- Each cell site has an average power consumption of 90 Watts, while competitors would typically use 130 Watts or more;
- A sectioned antenna pole is used for easier assembly and the entire installation, commissioning and user acceptance process takes two to three days.

K-NET
Optimized Network Solutions

"This development has allowed some serious civilization into these villages."

-- Richard Hlormador,
K-Net chairman and chief architect

Altobridge is a leading small cell solutions provider for remote communities, enabling mobile network operators to bring mobile connectivity to isolated areas at low cost. The Altobridge lite-site™ has been specifically designed to optimize satellite bandwidth, minimise power consumption while using 50% less backhaul than competing optimised solutions.

ip.access

Making a Difference in Ghana

One country where these small cells are making a difference is Ghana, which has a population of about 25 million. K-Net, a telecommunications provider headquartered in Accra, Ghana, chose the small-cell solution to supply mobile communications to isolated villages as part of a national project called Managed Rural ICT Development (MRID) in 2012. The solution is now commercially operational in at least nine villages.

Kutu Krom in the Western region of Ghana is one of the communities reaping the social and economic benefits from mobile connectivity. Previously, villagers had to climb a nearby hill to make and receive phone calls. But since K-Net arrived and installed the small-cell system in just two days, the mobile service has created jobs, new businesses – such as mobile phone charging shops -- and improved access to information about employment opportunities for the villagers

Village chief Nana Kutu Achaempong III explained how the service has helped his people. "In case of emergencies, it has become easier for us to assemble leaders and folks," he said. "Previously, we had to send emissaries to invite people, but now we reach them on phone and within 20 minutes we have all gathered."

K-Net's project in Ghana is just one example of how the small-cell solution from Altobridge and ip.access has connected remote communities. Other operators that have deployed the solution include Maxis in Malaysia, Indosate in Indonesia, Orange in Niger, Mobicom in Mongolia, Asiacell in Iraq and Our Telecom in the Solomon Islands.

SMALL CELL FORUM
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Awards 2013
WINNER
Social vision – promoting small cells for social/economic/environmental development

"ip.access and Altobridge have developed a robust solution that can cover 10 kilometers, support 1,500 subscribers and use optimized satellite backhaul and solar power. Above all, it is economical and has already connected over 1,000 remote communities."

-- David Chambers
Lead judge & editor of ThinkSmallCell

Challenge

Provide mobile communications to rural villages with solution that meets very low cost requirements and overcomes power supply limitations

Solution

Altobridge integrated ip.access small cells into a solar-powered outdoor unit that features optimized satellite backhaul and streamlined installation processes

Outcome

The solution has a return on investment for operators in less than 24 months for 600 subscribers where APRUs is $4 per month

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