



Connecting Remote Islands – GSM & Broadband Networks for Indonesia

Thousands of small, remote islands are in urgent need of affordable telecommunication services.

These islands have little population, zero to unreliable electrical grids, huge infrastructure bottlenecks and low levels of income. Omoco's DIY GSM solution helps deliver affordable mobile and broadband connectivity to connect such remote locations with the rest of the world.

For the first time, the telecom industry has an affordable and sustainable solution for the millions of island inhabitants of Indonesia who are still without voice and data access.



INTRODUCTION

One out of every nine people in Indonesia is an islander. 150 million Indonesians live their lives on approximately 17,000 inhabited islands. Thousands of these islands have a population of less than 1000 inhabitants. These islands are not covered by mobile and broadband services.

Small islands have characteristics that make them especially challenging when building out telecom infrastructure. Limited size, geographical dislocation, proneness to natural hazards, non-existent or unreliable electrical grid and low income level are the top few.

What little telecommunications capability an island may have today comes with a high price tag of connectivity via satellite. But the advantage of having a phone could dramatically change an Indonesian's life. A fisherman, returning from a day at sea, could call ahead and learn who is buying at a higher price and go directly to the harbour of choice. A doctor on a nearby island could call to check on a patient, instead of making a trip across the water. The uses for telecom are manifold.

THE CHALLENGE

Omoco understands the significant deployment challenges in installing wireless network solutions on islands where electrical grids are non-existent or unreliable, road access is frequently difficult and diesel fuel is expensive. ARPUs are so low that businesses can't justify traditional GSM deployment strategies. Remote island communities also lack technical manpower. A truly island-optimized base

station has to be assembled by non-professionals – often people who cannot even read or write.

All these factors make the traditional GSM system deployment simply too expensive and complex to provide an acceptable and profitable business case to the operator.

OMOCO'S DIY NETWORK-IN-A-BOX SOLUTION: EXTENDING EXISTING GSM NETWORKS

Omoco's solar powered Network-in-a-box rural GSM solution is ideal for remote islands. It provides GSM and Broadband through the Cascading Star Architecture that places coverage and capacity where it is needed, quickly, affordably, and with near zero OPEX and low CAPEX.

The key elements in the do-it-yourself NIB GSM network are Omoco 1 and Omoco R. Several of these NIBs can be connected in a chain to provide continuous coverage.

Omoco NIBs are mounted on rooftops or on flat ground within the operating radius of an Island Site. These "stars" extend the reach from any existing GSM network node. It's fast, simple and it drives CAPEX and OPEX to new lows. Islands benefit through Local Switching – Omoco uses the distributed architecture that enables local calls between islands to be routed within the local system instead of sending them back to a switch on the mainland. This requires no connectivity to satellite or undersea cable, thus bringing costs down significantly.

Omoco by design has very low power consumption and maintenance cost. An Omoco rooftop Village Site packs into few small crates and is designed for easy assembly and installation by local workers.