Open Source
Community Mobile Networks
UNICEF INNOVATION FUND

Are you a start-up with an open source tech solution that can help improve children’s lives?

APPLY today for investment
www.unicefinnovationfund.org
Brooklyn 5G summit
Making 5G a commercial reality

5G Millimeter Wave
Communications Infrastructure
Nicaragua
Autonomous Atlantic Region
Indigenous & Afro-descendants
Limited Roads
Limited Communication
GUYAMEL FRUIT COMPANY

GROWERS, PURCHASERS AND EXPORTERS OF BANANAS.

REGULAR FREIGHT AND PASSENGER SERVICE BETWEEN NEW ORLEANS CIENFUEGOS BLUEFIELDS
Cotton Tree Point, Bluefields, Nicaragua
Miskito King
1979
Sandinista Revolution
The Man Who Makes Reagan See Red

Nicaragua’s President Daniel Ortega
Autonomy
Autonomy gives communities the rights to manage their natural resources including cellular frequencies.
Average Per Minute Cellular Call

USA: 16¢
UK: 17¢
Nicaragua: 48¢
Brazil: 49¢
Argentina: 38¢
Russia: 5¢
Ethiopia: 4¢
India: 2¢
Teacher Salary

$200/month
Nicaraguans spend up to 25% of their income on communication
Major Telecoms

Don’t Invest in
Low Density
Low Income Areas
Monkey Point
No Network Coverage
People can’t call a doctor.
Punta Gorda
No Network Coverage
700 Million users without cellular coverage

UN's International Telecommunication Union
Mexico sees its first open-source village cellphone network

158 77 Share This Story! Let friends in your social network know what you are reading about Facebook Email Twitter Google+ LinkedIn Mexico sees its first open-source village network...

USATODAY.COM

September 16, 2013
Towers of Power

ITPG-GT.2699.001:

Learn about GSM cellular infrastructure by building your own network using open source hardware and software.
Software Based Cellular Networks

Harald Walte
Open Source
GSM Network

USRP 1

Linux Computer
Little Corn Island
Cellular Installation
Meetings with Communal Government
Equipment

BSC
Base Station Controller

BTS
Base Transceiver Station

Antennas
Omni-Directional
Community Cellular

Tower
Community Cellular
Community Cellular

Antennas

BTS

BSC
Solar Panel

Community

Cellular

Antennas

BTS

Solar Panel

Internet

BSC

Communal Radio Station

Remote Management

Long Distance Calls
Community Cellular Services

Unlimited local calls and texts

NEWS: Vaccine Campaign

Emergency 911
Pearl Lagoon Study

Units: Dollars per month

Average Postpaid: $14.38
Average Prepaid: $17.25
Maximum Post-Pre-Paid: $72.73
NYU STERN Entrepreneurial Challenge
Social Venture Award
COMMUNAL GOVERNMENT PEARL CELL
FISHLINE SMS
Community Advertising
FISHLINE
SELL ANYTHING
Not just fish!

Do you have something to sell?

Do you have a shop?

PC Fishline! 25% off all phones! If interested reply "Yes PC"

Advertise with FISHLINE and get announcement on the radio.
Challenges
Electricity & Infrastructure
Internet Backhaul
Solar Panel
Community
Cellular
Antennas
Internet
BTS
Solar Panel
Communal Radio Station
Remote Management
Long Distance Calls
BSC
Internet Penetration

- Costa Rica: 89%
- USA: 88%
- Central America: 47%
- Guatemala: 31%
- Honduras: 27%
- Nicaragua: 27%

www.internetworldstats.com/stats12.htm
Bluefields
Fastest Internet Nicaragua
Transport to Managua

Bluefields Colocation Facility
Bluefields Colocation Facility
Fiber Connection
Internet Service Provider
WebPh.one

Open Source Communication App for Community Networks
Internet Networks

Community Networks
WebPh.one
WebPh.one

Try it at: PearlCel.WebPh.one
Local Directory

<table>
<thead>
<tr>
<th>Local Directory</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Lodge</td>
<td>49927</td>
</tr>
</tbody>
</table>
| Radio Caribbean Pearl
PearlCel Office   | 43333        |
| Tourism Information | 41969    |
| Warner’s Place Hotel | 23956    |
| Flashy Wholesale and Money Trans... | 20977    |
Large Local Area Network Bluefields
Large Local Area Network
Bluefields

Internet Service Provider

WebPh.one
Large Local Area Network Bluefields

WebPh.one

Pearl Lagoon Network
THANK YOU
SayCel.com
Webphone.saycel.com
PearlCel.WebPh.one
Facebook.com/SayCelINica
Internet Networks

Community Networks
Internet Networks

Community Networks

WebPh.one
Problem:
Call from a web-enabled device to a Open Source Cellular BTS