NETCOMM CALLDIRECT SERIES
Keeping watch on Tsunamis
NTC-882

NetComm®

Base 3G Tower NTC-882 NTC-882
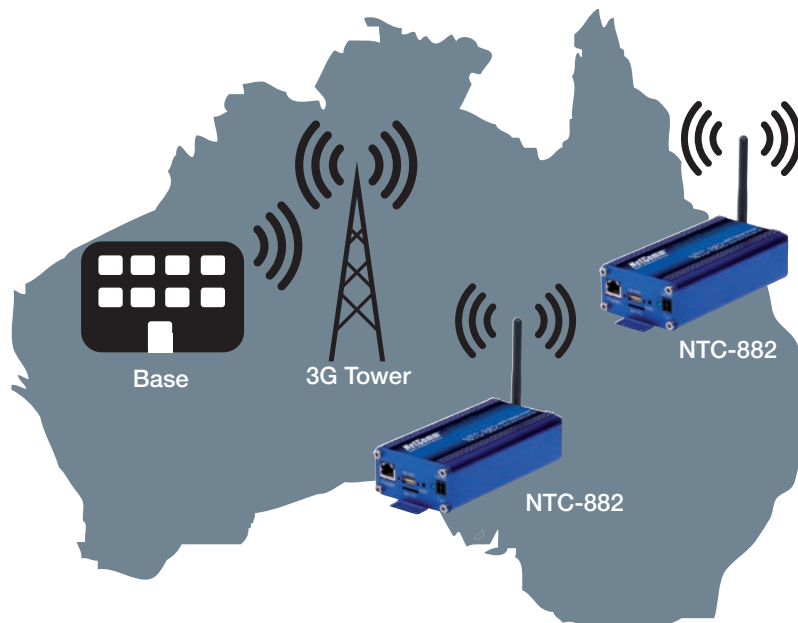
GENERAL INFORMATION

Issue: To create a robust and reliable tsunami early warning system for the Australia's northern coastline.

Solution: 3G network combined with a reliable cellular router mounted on offshore stations

Benefits: Reduced the need for PC units attached to each station
- Reduced cost
- Greater level of connection reliability
- Lower maintenance

Hardware: NTC-882 Cellular Router

Partners: Bureau of Meteorology

Monitoring a coastline as vast and remote as Australia's is challenging for any authority, let alone one that needs a full suite of data across multiple locations to be uploaded every minute of every day. This was the challenge facing Australia Bureau of Meteorology when implementing its component of the Australian Tsunami Warning System.

The system depends on collecting data from sensors installed both onshore and offshore. Many of these installations are within cellular range of the shoreline and have radar units that monitor changes at sea level. Sudden changes in sea level (particularly drops) can be indication of an impending tsunami. The sea level data from each of these stations is collated and uploaded to the Bureau's headquarters in Melbourne. When combined with tidal measurements, seismic readings and data from a variety of other ocean sensors, this information forms the basis for the issue of regional tsunami alerts.

The installation and operation of sensor equipment in remote and offshore locations obviously required a robust wireless solution. For the Bureau of Meteorology, using the 3G network and the rugged NTC-882 cellular router has proved to be the clear choice. The ability of the router to carry customized applications written into the unit itself eliminated the need for an expensive PC to be installed between the radar and the modem.

Being designed for adverse environments, the NTC-882 is contained within a metal case and utilizes industrial strength components. Its ability to operate in a wide temperature range (from -30^{0}C to 70^{0}C) make it ideal for deployment in outdoor applications.

The NTC-882 also has an integrated 'Keep Alive' system monitor that periodically checks the full status of the network connection by pinging an IP address. Should the unit determine that the connection has been lost, it automatically restarts itself to re-establish connection. This feature is vital in unmanned, hazardous or remote locations such as the offshore stations of the Tsunami Warning System.

The communication capability and the computing power of the NTC-882 have now enabled an effective and reliable solution to safeguard the lives of many people living in low lying areas along Australia's northern coast. Precisely because this solution is so cost effective, greater numbers of people throughout the Asia-Pacific region can now benefit from increased levels of protection afforded by the network.

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NETCOMM LIMITED ABN 85 002 490 486 PO Box 1200, Lane Cove NSW 2066 Australia
P: +61 2 9424 2070 **F:** +61 2 9424 2010 **E:** sales@netcomm.com.au **W:** www.netcomm.com.au