

# Satellite Communications Solutions Play Key Role in Indonesian National Search & Rescue Agency Efforts to Find Air Asia QZ 8501

**Case Study:**

*Thuraya assists Search and Rescue teams in effort to find victims and wreckage of Air Asia flight QZ 8501*

**Client:**

*BASARNAS  
PT MSS*

**Products:**

*Thuraya IP  
Thuraya NettedComms*

**Area of Operations:**

*Indonesia*



**BASARNAS (Badan SAR National) - Search & Rescue organization**

On December 28, 2014, an Air Asia flight travelling from Indonesia to Singapore plunged into the Java Sea. Tragically, all 162 passengers on board were killed. In the hours that followed, Search and Rescue teams, on land and at sea, began the difficult task of searching for the victims and the aircraft wreckage.

Indonesia is one of the largest archipelagic countries in the world with a total of 17,506 islands and a population of 253 million people. The country is flanked by the continents of Asia and Australia and the Indian and Pacific oceans. Indonesia has a strategically strong geographic and economic position as it forms part of the Malaccan Straights, from which it leverages global trade and tourism. However, this geographical position

**Key requirements for BASARNAS**

The integration of reliable, low-cost voice and data communication solutions linking remote branch offices with headquarters in Jakarta.

A fully integrated voice and data communication solution for maritime operations integrating existing command & control systems.

Existing SAR vessels with legacy phone and data systems to interface with the SAR agency's headquarter's core system.

Radio systems integrated into a common Push to Talk (PTT) network.

Improved data throughput and call toll quality, and reduced costs with total reliability.

Robust satellite terminals that cope with adverse weather conditions and require low power consumption.

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also places Indonesia on the brink of natural disaster as it lies on four active tectonic plates: Indo-Australia, Eurasia, Pacific, and Philippines plates. Indonesia also sits in the middle of the “Ring of Fire”, an area in which earthquakes and volcanic activity occurs frequently, as it is home to some 130 active volcanoes.

The Government of the Republic of Indonesia is fully responsible for the safety and security of citizens facing natural disasters. It deploys and relies on the National Search and Rescue Agency (BASARNAS) which plays a critical role during times of disaster. BASARNAS is committed to saving lives and its vision is to conduct successful Search and Rescue (SAR) operations efficiently, credibly, and safely, anytime and anywhere.

Providing SAR communications to remote island areas is an absolute necessity in ensuring efficient operations. BASARNAS has branch offices on many of these remote islands. The difficulty is that a lack of infrastructure makes communication extremely difficult.

The Thuraya integrated communications solution deployed by BASARNAS helped solve these communications problems.

## Communication Technology

The Indonesian Search & Rescue Agency has several offices scattered around the country. Many of these, however, are located on remote islands which have little to no infrastructure. The lack of communi-



cation technology from one island to another proved to be one of the biggest challenges in the search to locate the Air Asia QZ 8501 flight.

Fortunately, one remote office that was fully equipped is the Balikpapan branch. Their radio gateway was configured into a user group, allowing crew on board ships to talk directly to each other and to the Search & Rescue agency over the radio gateway. Vital messages were then passed on to headquarters over the Thuraya IP data link.

Ships fitted with Thuraya IP and Thuraya NettedComms allow crew to use a Push to Talk (PTT) function wherever they are. This means it is not essential for them to be based so close to a branch office in order to communicate effectively.

David Moss, Director of Government Services, Thuraya, said: “Thuraya has a corporate directive to put our technology to best use in saving and improving lives. We were privileged to work with BASARNAS and PT MSS our local service partners in developing a tailor made solution integrating technology

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## Partnerships

PT Mega Sarana Satelit (PT MSS), one of Thuraya’s service partners, is based in Jakarta. Together with Thuraya, PT MSS gathered market leading technology partners to provide an advanced integrated communications solution to meet the requirements of the SAR agency.

Equipment with proven reliability in adverse conditions, often used by military organisations, was brought in. The overall network incorporated existing communication assets already owned by BASARNAS. These run over a core network of Ultra Electronics (<http://www.ultra-electronics.com>) routers with Push-to-Talk (PTT) NettedComms being provided by Speakerbus - (<http://www.speakerbus.com>)

## Search Efforts

The search operation for the missing Air Asia Flight QZ 8501 is one of the most successful large-scale operations BASARNAS has ever conducted. The search was conducted over 80 days, cost Rp. 570 million, and involved the deployment of hundreds of trained divers and volunteers. More than half of the victims and countless pieces of the plane’s wreckage were found.

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## Crucial Information

BASARNAS, with a pressing need to save lives, deployed the flexible Thuraya NettedComms solution. The data connection linking headquarters and remote branch offices was conducted using Thuraya IP.

At the headquarters, the telephone system and data network connected to Ultra’s router equipment and linked to additional ultra-routers, provided data that was transmitted over the

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Thuraya link to provide crucial information.

The Thuraya NettedComms solution from Speakerbus provided a 'Push to Talk' (PTT) capability that enables users to talk immediately to a pre-defined group of people with a single press of a button. The network, managed at BASARNAS' headquarters, is easy to use with minimal training needed to operate it, thus saving valuable time.

Thuraya NettedComms uses technologies ranging from simple analogue voice to leading edge Voice over Internet Protocols (VoIP) to meet this requirement. This flexibility ensures the solution is fit for purpose, uses the best infrastructure

available, and is always simple to use.

Each remote branch office is equipped with the PTT system that includes a radio gateway that is connected to BASARNAS' existing radio systems.

For this mission, staff at BASARNAS headquarters configured a radio gateway linking the branch office closest to the search area into a dedicated PTT user group. This enabled ships conducting the search to talk directly to headquarters from existing ship radios.

Thuraya:  
<http://www.thuraya.com/thuraya-ip>

