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CASE STUDIES

INMARSAT GLOBAL GOVERNMENT

COMMUNICATIONS MADE CERTAIN

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CON TENTS

ANSUR AND INMARSAT SOLUTIONS

INDONESIA ENHANCES DISASTER PREPAREDNESS

The deployment of an interactive communication system ensures images and video can be shared with disaster recovery teams in the event of terrestrial communications failure following a natural catastrophe.

Indonesia is the world's fourth most populous nation. Its population of almost 250 million is situated across some 6,000 inhabited islands. The Indonesian archipelago, comprising some 17,500 islands, borders the Pacific, Eurasian, and Australian tectonic plates, with 150 active volcanoes and frequent earthquakes. It is considered one of the world's most vulnerable countries in terms of natural disasters and has experienced some of the most devastating tectonic events in recorded history, including the 2004 Indian Ocean Earthquake.

The Indonesian National Board for Disaster Management (known as BNPB – Badan Nasional Penanggulangan Bencana) is responsible for preparing for and managing the country's disaster response.

After the recent earthquakes in Indonesia, the terrestrial and mobile networks stopped working and 'Visual Situational Images', required for the assessment of the damage and time-critical decision making, could not be shared.
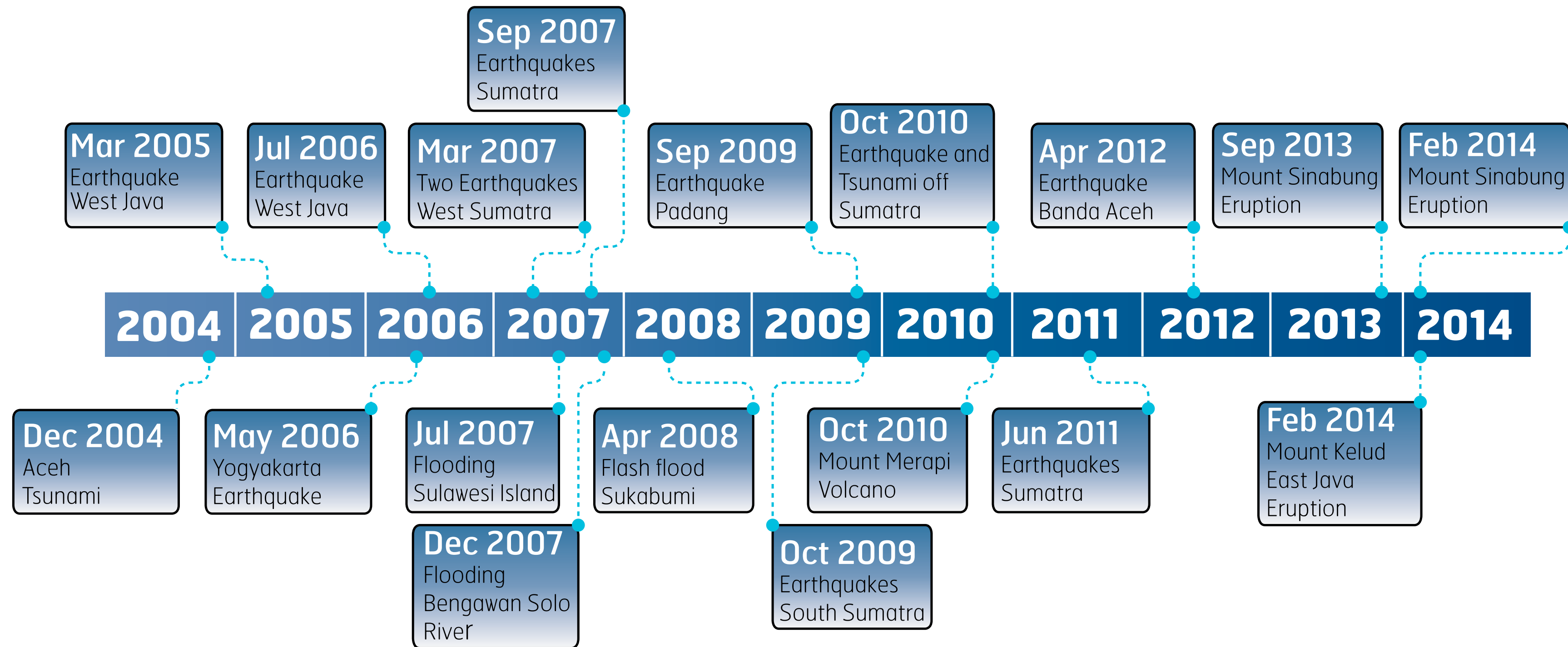
The BNPB has chosen AnsuR, a world leader in mission-critical visual communications solutions, and Inmarsat, the leading provider of global mobile satellite communications services, to pre-deploy an emergency communications infrastructure, which will support the country's disaster response in the event of a natural catastrophe.

Mani Wannan, President Director, PT Asia Inc Xplora, responsible for the project in Indonesia said: "The AnsuR software and Inmarsat equipment were part of a larger contract, all targeted to help Indonesia manage disasters better. The importance of this delivery was highlighted by the visit of the minister and the Head of BNPB, Dr. Syamsul Maarif during delivery."

Dr. Harald Skinnemoen, CEO of AnsuR, said: "We are proud to have been able to implement our ASIGN system for mission critical interactive image communications, so that field teams can provide the Civil Protection with fast, relevant high-definition visual content via interactive photo and video communications. With the low bandwidth use it is optimised for use over the Inmarsat BGAN service."

Andy Start, President of Global Government, Inmarsat, said: "Inmarsat was founded over 30 years ago to save lives, and humanitarian support remains at the heart of what we do. Our award winning, mobile satellite voice and data services powerfully support relief and reconstruction efforts across the world, with BGAN deployed by first responders ranging from Télécoms Sans Frontières (TSF) to the United Nations."

Timeline

Mar 2005 — Earthquake West Java

Jul 2006 — Earthquake West Java

Sep 2007 — Earthquakes Sumatra

Mar 2007 — Two Earthquakes West Sumatra

Sep 2009 — Earthquake Padang

Oct 2010 — Earthquake and Tsunami off Sumatra

Apr 2012 — Earthquake Banda Aceh

Sep 2013 — Mount Sinabung Eruption

Feb 2014 — Mount Sinabung Eruption

2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014

Dec 2004 — Aceh Tsunami

May 2006 — Yogyakarta Earthquake

Jul 2007 — Flooding Sulawesi Island

Dec 2007 — Flooding Bengawan Solo River

Apr 2008 — Flash flood Sukabumi

Oct 2009 — Earthquakes South Sumatra

Oct 2010 — Mount Merapi Volcano

Jun 2011 — Earthquakes Sumatra

Feb 2014 — Mount Kelud East Java Eruption

Twenty regions in Indonesia will pre-deploy equipment consisting of AnsuR's high definition, interactive image communications system – ASIGN – and robust terminals which will be able to access Inmarsat's BGAN mobile satellite communications service. In addition, the pre-emptive deployment will include two Unmanned Aerial Vehicles (UAV) with advanced cameras on-board, running ASIGN and additional BGAN satellite communications equipment on the ground.

In the event of a natural disaster, BNPB's headquarters will have full situational awareness via this ability to receive images and videos from the site of the catastrophe even when the area's terrestrial communications infrastructure has been either disabled or destroyed. Additionally, Inmarsat's BGAN service will ensure that first responders and those caught up in a disaster can stay in contact with the outside world via both voice and data connections.

THE ASIGN SYSTEM

The ASIGN system is an innovative mission-critical visual communications solution, providing most efficient interactive access to high quality photo and, video content relevant for operational impact.

Geo-tagged images can be sent instantly from the field to HQ via Inmarsat Satellites to provide visual situational awareness, integration with maps and satellite earth observation, enable rapid analysis by experts anywhere in the world, and thus critical decisions to be made faster

Three Steps for Disaster Management
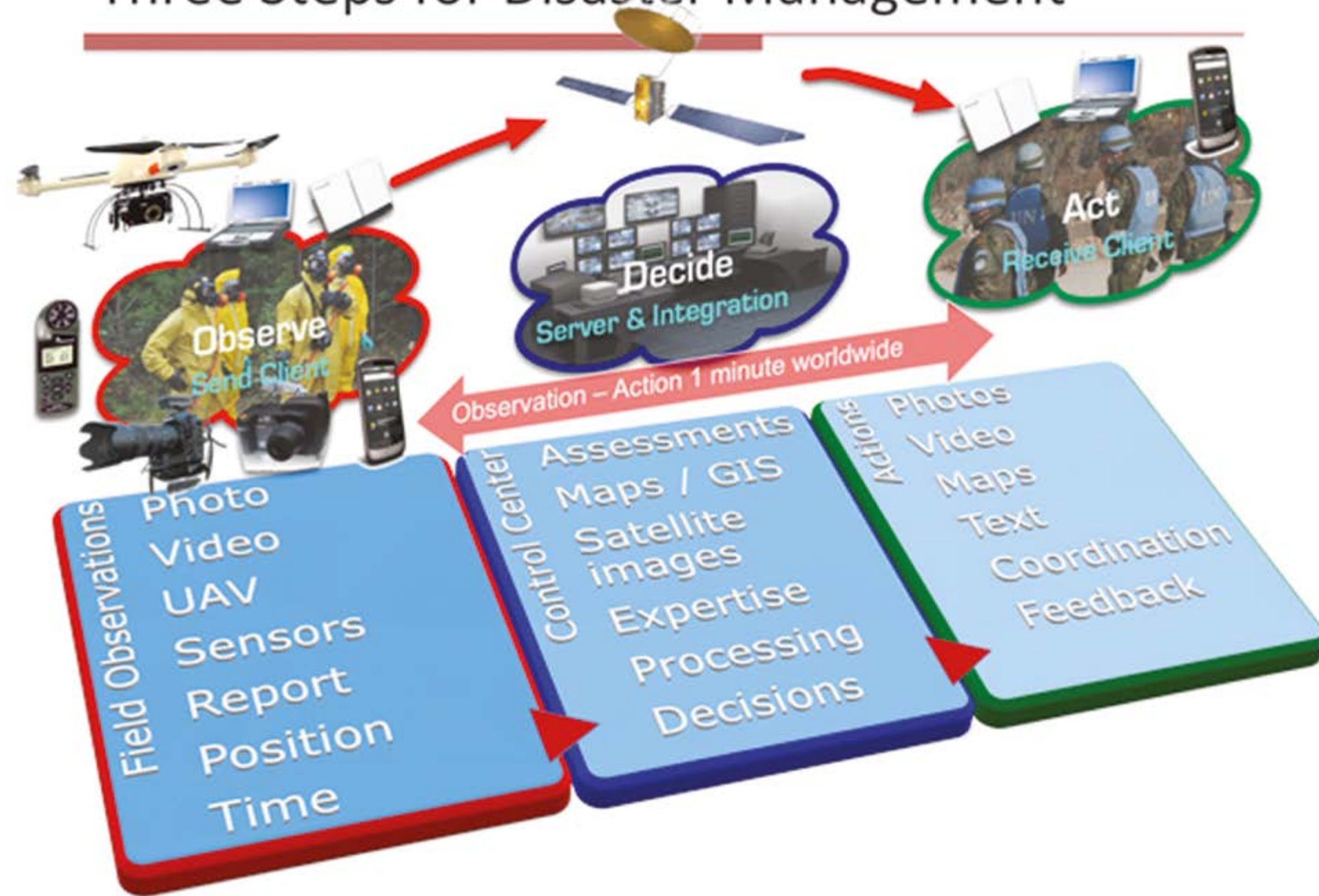
BRAZILIAN ELECTIONS

BRAZIL ACHIEVES WORLD'S FIRST ELECTIONS USING BGAN

THE WORLD'S LARGEST BGAN DEPLOYMENT

BGAN terminals by rilip.com

Brazil has a history of innovation in voting. It was the first country in the world to implement fully electronic elections. In 2008, it became the first nation to use BGAN mobile satellite technology for voting. BGAN enabled fast, secure, reliable and cost-effective transmission of results from 1,125 remote precincts throughout Brazil—the world's largest BGAN deployment to date.

CUSTOMER

Brazil's Tribunal Superior Eleitoral (Superior Electoral Court), the agency responsible for national and municipal elections. Headquartered in Brasilia, the federal capitol.

CHALLENGE

Establish faster, more reliable data and voice communications with electronic polling stations in hundreds of small rural villages lacking access to terrestrial networks.

SOLUTION

Replaced low-bandwidth satellite phones with BGAN service from Inmarsat, terminals from Addvalue, and 24/7 training and support from Tesacom, an Inmarsat partner.

RESULTS

Achieved secure, efficient and cost effective satellite communications for 1,125 remote sites. Simplified training. Cut voting data transmission time from hours to minutes.

NEED FOR SUPERIOR REMOTE COMMUNICATIONS

Brazil was the first country in the world to hold fully electronic elections, successfully shortening the time required to count ballots, which could take more than a week in a presidential election. However, to transmit electronic polling data from hundreds of small villages in rural areas, technicians for Brazil's

Tribunal Superior Eleitoral (TSE) used laptops connected via satellite phones.

Frequently, the signal would get lost and transmission was slow. Maximum data speed, in fact, was only 9.6 kbps. Transmitting electronic ballots, counting votes, and returning results to regional electoral courts took 12 hours or more. Final counts, therefore, were not available until the day after polls closed—a frustrating situation for voters and candidates alike. In 2008, the TSE issued a tender looking for more reliable, secure and cost-effective satellite communications for 1,125 remote polling stations to be set up for municipal elections in the fall. After three intense rounds of bidding against two competitors in Brazil, Tesacom—an Inmarsat partner based in Argentina—won the contract. Tesacom joined forces with Inmarsat and Addvalue to provide TSE with a complete BGAN solution.

The BGAN terminals offered flexible service options, including simultaneous voice and data connectivity at speeds up to 492 kbps—about 50 times faster than the previous service. Addvalue's Wideye SABRE 1 terminal was compact, robust, simple to use, and inexpensive. Value added services—including bulk activations, data encryption, dedicated VPN, terminal authorization, cost controls, and real-time traffic monitoring—proved essential to success.

Since there were only four weeks between the purchase order and elections, timing was critical. It

took just two weeks to obtain 1,200 BGAN terminals from Addvalue in Singapore, and just three days for Tesacom to activate all the SIM cards. Tesacom offered train-the-trainer programs to 300 TSE employees, and produced a seven-minute training DVD for all first-time users.

With massive logistical aid from the Brazilian Army, which was responsible for election security, TSE transported all the BGAN equipment and electronic ballot boxes to rural precincts via helicopter, truck and boat.

"During BGAN testing at a rural village we transferred data from ten polling stations to the Court. It took just five minutes—a speedy success."

Rivaldo Pereira Borges,
Director of Technology, Regional Electoral Court-Mato Grosso do Sul

IMPRESSIVE SPEED, SECURITY AND RELIABILITY

BGAN enabled extremely rapid transmission of voting results to the Superior Electoral Court in Brasilia. Communications were so fast, in fact, that Val Oliveira, a TSE technician, said, "It's as if you're in the room next to the Court, where all the votes are counted." TSE personnel in the field used BGAN for both voice calls and FTP data transfers for the election. They set up a private network linking all 1,125 polling stations via IPSec VPN through Stratos BusinessAccess, a secure network totally isolated from the Internet and unauthorized access.

Tesacom and the TSE where able to monitor call data records for each terminal in real-time,

ensuring continuous information flow—a distinct advantage over previous elections. While the actual transmission of election data required just minutes with BGAN, counting the votes and delivering final results to regional organizations still took about four hours. Nevertheless, total elapsed time was two-thirds shorter than previous elections. Results were reported by 11 p.m. the same day—to everyone's delight.

The BGAN system suffered no congestion or network issues despite unusually heavy usage. At times, for example, nearly 500 BGAN terminals within a geographic area achieved simultaneous transmission on a single spot beam.

The SABRE™ I brings high-speed office grade communications to your briefcase, anytime, anywhere. Simple to use, sub-laptop sized, fully self-contained.

FEATURES

- Simultaneous voice & data communications
- Data rate up to 384 kbps
- Built-in Ethernet and Analog Phone interfaces
- Supports voice, email, messaging, VPN, FTP, VoIP, FoIP and video media streaming
- Designed for non-technical user
- Swiveled antenna mount facilitates easy pointing
- Built-in menu driven graphical user interface for use without a laptop
- Light weight, robust and reliable
- Wide range of accessories to meet your needs
- Wi-Fi supported (by 3rd party external wireless router)

RACE2RECOVERY TEAM COMPLETES THE DAKAR RALLY

"Race2Recovery epitomises the spirit of the Dakar."

Etienne Lavigne
Director of the Dakar
Rally, A.S.O

HELP FOR HEROES

Race2Recovery are a racing team with a huge difference. In 2013, the team of 28 mainly disabled male and female war veterans became the first predominantly disabled team to complete the world's most arduous race, the infamous Dakar Rally.

Their incredible combination of determination in the face of adversity and sense of humour inspired thousands around the world and was undoubtedly one of the highlights of the Dakar history. Inmarsat is provided the team with Inmarsat portable and vehicular BGAN terminals, IsatPhone Pro handheld phones and an unlimited voice and data service to allow them to keep in touch during their tough desert preparations in Morocco, as well as during the 8,000 km rally itself.

Getting their story out quickly and accurately - supported with startling pictures and live video interviews with global news outlets - helped the team raise awareness of their challenge and raise over £300,000 for Help for Heroes. With the satellite communications equipment and service supplied by official Communications Sponsor, Inmarsat, the team was able to communicate their progress through to the media as well as posting updates to the charity's website, Facebook and Twitter accounts.

On a logistics side, the team relied on the voice and text capability of their IsatPhone Pro to ensure that the racers had a clear line of communications to their management and mechanical team in the bivouac often located in remote areas of the Atacama Desert or high in the Andes. Not only did this allow the racers to brief their support team on mechanical issues, but crucially also allowed a secure link to inform each other about very real safety concerns and accidents. This was perhaps never as important as when the crew was involved in a fatal road traffic collision in Peru where two Peruvians were killed and three Race2Recovery team members were seriously injured. The IsatPhones allowed the support team on the ground to coordinate the emergency services as well as being utilised to inform family members in the UK of the incident and to maintain a crucial communications link throughout their hospitalization.

800KM
The distance of the Dakar rally

£300,000
The target to be raised for Help for Hero's

28
The number of war veterans competing in the Race 2 Recovery team in 2013

AN OUTSTANDING ACHIEVEMENT

On top of the voice connectivity made possible through the IsatPhone Pros, Inmarsat also provided the team with two different classes of BGAN Terminal, the Thrane and Thrane Explorer 700 and the Explorer 500.

With a film crew in tow throughout the race and often incredibly close to the action, it was they who were given the Class 1, Explorer 700 with it's data speeds of up to 492 kbps and the ability to stream live video at close to broadcast quality – all from a completely mobile satellite terminal. The Explorer 700 demonstrated incredible resilience and ruggedness, particularly as it was relied upon on a daily basis during the 14 day, 6000 mile extreme off road race. Not only was the terminal incredibly quick and easy to setup but it also was light and portable, stowing away easily when not in use.

The Explorer 500 was mainly used by the support crew in bivouac for crew welfare communications, which were crucial for team morale and by the PR team who were able to maintain and update the UK social media. Both terminals required very little power and were superbly robust and easy to use - particularly when fatigue set in after many 20-22 hour days.

EQUIPMENT

8 x IsatPhone Pro
1 x Thrane & Thrane Explorer 700 BGAN
1 x Thrane & Thrane Explorer 500
    BGAN with magnetic large disc
    antenna

Team Laydown (28 Crew, 10 vehicles)
4 x Qt Wildcat race cars
2 x crew per car (total of 8 crew)
1 x Renault Kerax Race truck
3 x crew
2 x 8x8 T5 Support trucks
5 x crew total
2 x Land Rover Discovery's
4 x crew each (total of 8 crew)
1 x Land Rover Defender 130
4 x crew
Route – 6,000 miles
Peru, Chile, Argentina, Chile

ISATPHONE PRO

- Telephony
- Voice mail
- Text and email messaging
- Longest battery life – 8 hours talk time, 100 hours standby
- IP 54 rated
  - dust, splash and shock resistant;
  - operates -20°C to +55°C
  - best humidity tolerance, 0 to 95%
- Global coverage, no roaming charge
- Bluetooth support
- Range of docking solutions – vehicular, maritime, land

EXPLORER 500

- The most used terminal in the world of BGAN. Unmatched in deployed quantities, the EXPLORER 500 is the preferred choice to support various applications
- Powerful: The ideal combination of performance and portability. Provides simultaneous high quality voice and data access at speeds up to 464 kbps. It supports LAN, USB, Bluetooth and phone/fax interfaces
- Lightweight: Weighing only 1.4 kg and smaller than a standard laptop. Making it easy to carry along when travelling the world

EXPLORER 700

- Versatility: The flagship in the EXPLORER Series provides multiple interfaces to support a wide range of applications. Ideal for video streaming applications and large file transfer and can be used by smaller workgroups sharing a temporary or semi permanent office environment
- High-speed: The fastest BGAN terminal on the market with download and upload at 492 kbps. Moreover, it supports Inmarsat's BGAN X-Stream, on-demand streaming at +384 kbps for applications demanding outstanding performance
- Rough environments: Designed to withstand severe environmental conditions such as humidity, dust, extreme weather and changing temperatures

"We are very grateful to Inmarsat for their support. And, I'm delighted to report, that their satellite communications played a major role throughout the race. Having access to portable and robust data services and satellite phones as we crossed the mountains and deserts of southern South America was crucial to our safety and performance. It also enabled us to keep family, friends and supporters across the world up-to-date with regular postings on social media sites."

Captain Tony Harris,
Race2Recovery's team Co-Director and a former Captain in the Royal Regiment of Fusiliers

"This is an outstanding achievement, I have followed the team's progress in South America with mounting admiration. I appreciate that overcoming serious injury is tough enough but to have then competed on equal terms with the world's greatest off-road drivers across the exceptionally difficult terrain of the Dakar Rally ... well, that is staggering!

"Inmarsat is proud to have supported the team and to have helped them to raise money for Tedworth House Personnel Recovery Centre, a Help for Heroes project in the UK."

Andy Start, President
Inmarsat Global
Government.

GERMAN RED CROSS

RED CROSS EMERGENCY EXERCISE

BGAN SUPPORTS GERMANY'S LARGEST EMERGENCY EXERCISE

In Germany's largest-ever emergency exercise – MCI SOGRO 500 - a crash involving two aircraft carrying 500 passengers was staged at Frankfurt Airport. First responders swung into action to deal with this Mass Casualty Incident (MCI) getting the 'victims' to hospital and bringing the situation under control.

In the disaster scenario terrestrial communication networks had failed, but the authorities were able to rely on an Thrane & Thrane Explorer 500 BGAN terminal - supplied by Inmarsat partner CPN Satellite Services - to transmit vital information.

The purpose was to test out emergency response procedures and technology designed to ensure quicker and more efficient treatment of casualties. More than 1,570 people were involved in the October 2010 exercise - including police, fire and ambulance, together with more than 455 emergency vehicles.

The BGAN terminal, played a vital role in helping the German Red Cross Frankfurt to coordinate the complex rescue operation by ensuring that data for each patient was captured and sent to the incident command centre.

It meant that hospitals were able to prepare more quickly for incoming casualties, and patient data was readily available to both rescuers out in the field and medical staff.

1570
PEOPLE INVOLVED IN THE EXERCISE

455
EMERGENCY VEHICLES

500
PASSENGERS IN SIMULATED AIRCRAFT CRASH EXERCISE

ABOUT BGAN

BGAN service provides simultaneous voice and data communications globally from small and lightweight satellite terminals.

Connect your BGAN terminal to a portable PC or smart device using Standard IP to access the internet for applications such as web browsing and email, or choose from a range of guaranteed Streaming IP rates to meet all your data, voice and video needs.

BGAN is accessible via a range of small, lightweight satellite terminals, which provide performance options to suit different operational needs.

The smallest terminals are designed to suit single users. The larger terminals offer a WLAN capability and are particularly suitable for small teams that need to establish a temporary office for an extended period. They are also suitable for users requiring higher bandwidth to enable applications such as live broadcasting.

EXPLORER 500 BGAN TERMINAL

Easy to transport. Quick to deploy. Powerful in operation. Choose the EXPLORER 500 for the perfect balance between form and function.

PROFESSIONAL PERFORMANCE

EXPLORER 500 offers the performance you need to carry out your work in the field, with high quality voice and data up to 464 kbps.

With the power to provide standard/premium voice, email, web browsing, VPN, video/audio streaming and access to work specific IP applications, location or environment is no longer a barrier to getting the job done.

DESIGNED FOR PORTABILITY

EXPLORER 500 is smaller than a standard laptop and weighs just 1.4 kg. Yet it still supports LAN, USB, Bluetooth and phone/fax interfaces, and is incredibly simple to deploy. Your ability to communicate and do your job will not weigh you down. When it comes to setting up you can be online in minutes so critical contact can be made as and when it is needed.

RELIABLE CONNECTIVITY

There is a reason why EXPLORER 500 is the most used BGAN terminal in the world; media, government, humanitarian and utility users know that it is designed and built to last.

HOW BGAN WAS USED

A new system - in which each patient was given a wristband with a RFID (Radio Frequency Identification) chip - was tested for the first time during the exercise.

The idea was to replace an old paper system, which relied on coloured cards to record information about each patient and their injuries, with technology that could provide patient data in real time.
Under the new system, the colour of each wristband was used to indicate the degree of injury, while additional data, such as age, sex and a photograph of the person, was captured on data capture handsets (PDAs) and transferred to the RFID chip.

The chip could then be read by other rescue workers, and the collected data additionally transmitted from the PDA to the command centre via the WLAN using the BGAN terminal.

BGAN KEY BENEFITS

- Reliable communications
- Global coverage
- Rapid deployment and set up
- Simple operation
- Cost-effective communications solution
- BGAN operates where terrestrial infrastructure has been lost / compromised / overloaded

COMMUNICATIONS MADE CERTAIN

HOW TO BUY

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