QUICK DEPLOY CRISIS CONNECTIVITY

A Signature Government Solution

Solution Brief

SES | Networks

IMPROVING CRISIS RESPONSE AND RECOVERY

Each year, natural disasters and premeditated incidents cost the world billions of dollars in economic losses, and uncountable loss of life. In 2017, some 93 million people were in need of humanitarian assistance, with a record funding appeal of $23.5 billion. This is more than five times the requirements of a decade earlier, for more than three times as many people. By 2030, humanitarian assistance costs are expected to rise to $50 billion per year.[1]

Restoring communications is key. Communities, businesses, and responders rely heavily on access to digital applications for everyday operations—especially during times of crisis. The restoration of communications and access to these applications are crucial to recovery efforts and community restoration.

When disaster strikes, satellite provides the reach and reliability needed to connect first responders and civil protection services—even in the most remote locations. Connectivity loss affects both governments and the private sector, driving increased cooperation between private and public entities when it comes to preparedness efforts that will ensure continuity of services. A well-established emergency connectivity plan will allow businesses, local governments and institutions to recover more quickly, avoid disruption of their services, and pool back-up services and assets as part of a wider community contingency and communications continuity plan—ensuring a more effective emergency response.

Where terrestrial networks fail, satellite communications can deliver guaranteed connectivity across continents while pushing through ever-higher data rates for a broad variety of crisis management applications.

At SES Networks, our unparalleled range of satellite-powered solutions lie at the heart of life-saving recovery and response operations across the globe. Powered by our combined fleet of Medium Earth Orbit (MEO) and Geostationary Earth Orbit (GEO) satellites, our quick-deploy connectivity services provide resilient communications in the field in record time to accelerate responsiveness and recovery.

1 *Humanitarian crises cost more than ever. But businesses can help.* World Economic Forum Annual Meeting. https://www.weforum.org/agenda/2018/01/humanitarian-crises-cost-private-sector-blended-finance/

OVERCOMING CHALLENGES IN A CRISIS SITUATION

Governments, NGOs and humanitarian organisations need well-formulated action plans to mobilise a response that mitigates the effects of emergency situations. Communications are an essential part of that plan, as miscommunication can result in unnecessary escalation.

Enable quick, reliable connectivity for first responders and the affected community

Governments and humanitarian organisations need immediate connectivity when local communication networks fail. This enables front-line responders to communicate and collaborate in the field, exchange information to assess the situation, coordinate an effective response, and identify real-time needs, while also ensuring operations continuity and scalability for local businesses. It also enables communication with remote experts, and interaction with mission critical cloud-based applications, including medical and e-health applications, and humanitarian, logistics and resource management applications. At the same time, the local community needs access to local WiFi hotspots, internet, and 3G and 4G/LTE networks.

Ensure crisis communication systems are easy to deploy, and personnel are trained

When disaster strikes, first responders get up and go—executing on the action plan in place. They need a communications system that is easy to establish and use, and that works with their existing networks and legacy systems.

- Quick deployment and easy relocation (for example, preconfigured Communications on the Pause terminals in IATA-compliant carrying cases)
- Connects with and supports the operation of first responders' legacy systems, voice, radio
- Works with a variety of in-field power supply sources, including renewables
- Provides backhaul communications to and from terrestrial networks

Robust, resilient, reliable and tested technology with no margin for error

In crisis situations, there's no time to risk untested or cumbersome technology. First responders—including humanitarian forces, police, civil protection, fire fighters, and other specialised units that deal with specific situations including nuclear, biological and chemical threats—rely on tried and tested technology that is proven for real-life operations in the most remote and harsh locations, with performance they can trust.

ON-DEMAND CRISIS CONNECTIVITY FROM SES NETWORKS

Our rapidly deployable crisis connectivity solutions include satellite assets, ground systems, network services and lifecycle services to ensure smooth deployment and operation throughout the entire mission.

GLOBAL COVERAGE WITH QUICK-DEPLOY CAPACITY

Our crisis communication solutions provide global coverage, transmission capacity that's immediately available, portable satellite equipment, and network infrastructure. This enables rapid-deploy connectivity for internet and cloud-based applications for first responders, NGOs, government agencies, military personnel, peacekeepers, and commercial businesses around the globe. Our MEO service delivers a fibre-equivalent and cloud-optimised service to ensure operations continuity and seamless continuation of connectivity for cloud-enabled applications. This enables NGO operations and joint forces operations, by supporting larger communities of users. End-users can bring their own devices to connect to our network, provided the terminal equipment is pre-tested and preconfigured to guarantee access and performance.

PROVEN EXPERIENCE WITH LEADING EMERGENCY COMMUNICATION PLATFORMS

Our solutions and team of experts have proven experience providing crisis connectivity services to leading emergency communication platforms, such as emergency.lu. This emergency response platform has been deployed 56 times since 2012, aiding in crises such as the Sierra Leone Ebola outbreak in 2014-2015, the Nepal earthquake in 2015, Hurricane Matthew in Haiti in 2016, and Hurricanes Irma and Maria in 2017. We also support crisis missions via our partnerships with other organisations, such as Project Loon, which provides balloon-powered internet when telecommunications infrastructure is damaged.

SEAMLESS COMMUNICATION ACROSS EMERGENCY AND TELEPHONE SERVICES

Our solutions enable seamless communication with other emergency services and public telephone services, both fixed and mobile. Our MEF-certified MEO service delivers global, high-performance, carrier-class Ethernet networks and services via satellite, and scalability from serving the needs of first responders to restoring the downed infrastructure. This enables local terrestrial networks to directly plug into our satellite network to get operations running again within days rather than weeks.

Satellite assets

- Satellite capacity in C-band and Ku-band with global coverage via our GEO satellite constellation
- High throughput, low latency and dynamically scalable Ka-band powered by the O3b fleet of MEO satellites on an occasional use basis
- Fast digital trunk bandwidth for local applications such as TETRA and/or LTE solutions connected to the Public Switched Telephone Number (PSTN), and internet access

Ground systems

Connectivity supported by quick deploy and semi-permanent terminals

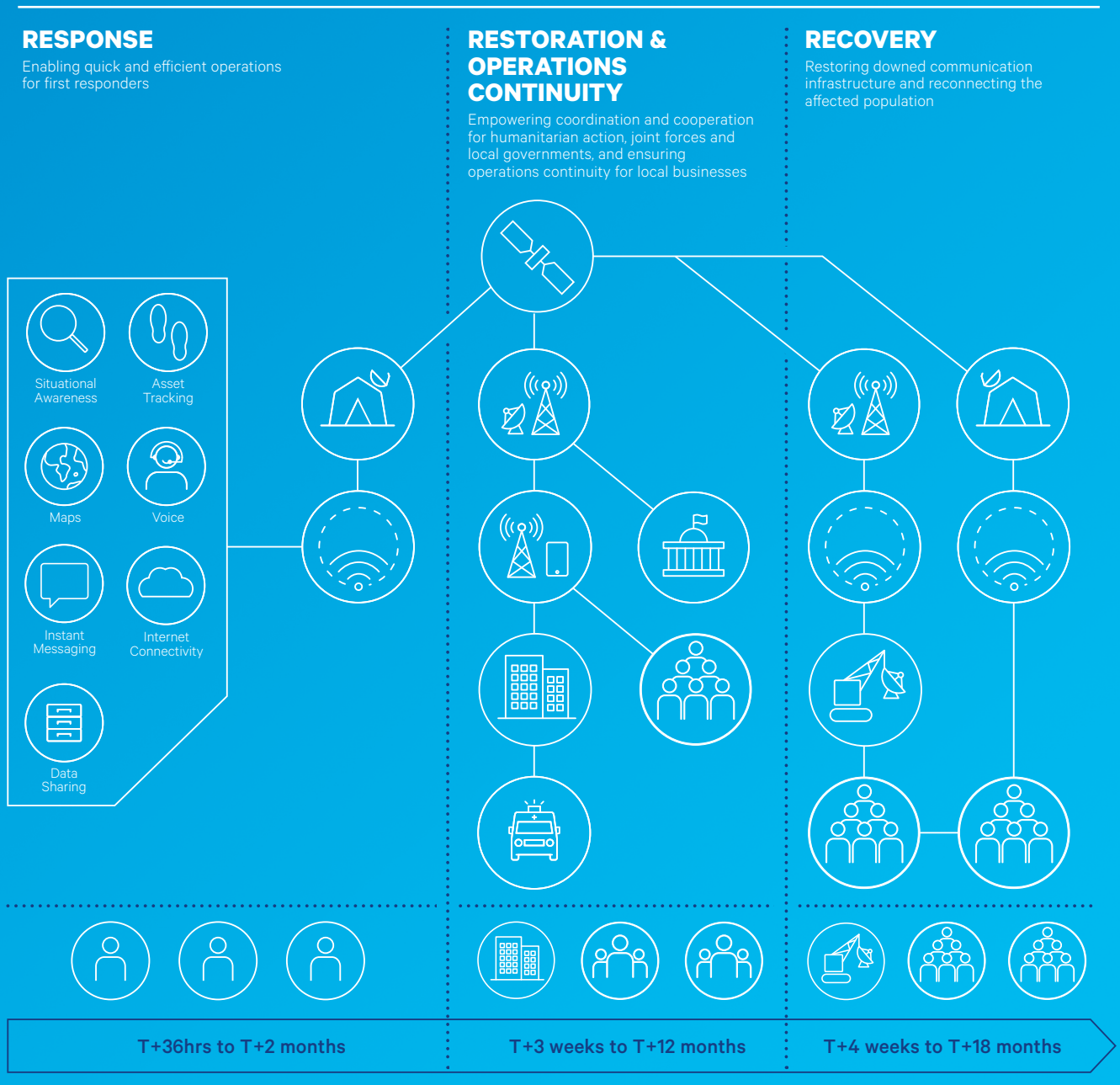
- 2.4m rugged terminals for C-band transmissions
- 1.0 to 1.2m antennas for Ku-band transmissions with iDirect Velocity-compatible modems
- Fully integrated AvL 1.2 and/or 2.0m terminal for Ka-band transmissions on our O3b MEO constellation

Network services

- Managed WiFi solution and VoIP solution
- Data network infrastructure and IP connectivity for data transfer (imagery, medical data, emails, etc.) from local applications to the data centre or cloud-based servers for sharing with other users and decision makers
- Local network supporting basic on-site communications for first responders, including VoIP, Push To Talk (radio), and meshed WiFi
- Cloud-optimised MEO connectivity for cloud-enabled applications

Lifecycle services

- 24/7 network and operations support via our service centres and dedicated team of experts
- Terminal lifecycle management (preparing terminals, regular upgrades and testing, mission management, terminal refurbishment and testing)
- Trainings



Crisis Communication Timeline

Response, restoration and recovery after disaster strikes or crises occur

GOVERNMENT CONNECTIVITY IN ACTION

Our government solutions are mission-proven on deployments around the world.

emergency.lu

EMERGENCY.LU

Re-establishing communication after crises

emergency.lu has been deployed in 56 missions across 15 countries on four continents. This mobile, satellite-base telecommunications platform was created to re-establish communications (internet, phone) after a crisis to support the coordination efforts of humanitarian organisations in the field and to help save lives during humanitarian emergencies. Luxembourg provides the emergency.lu service as a free global public good for the humanitarian community. emergency.lu is a public-private partnership between the Luxembourg government and three Luxembourg companies (SES Networks, Hitec Luxembourg, and Luxembourg Air Ambulance SA), which worked together to develop the solution, and have operated it since January 2012. emergency.lu is also used by the UN Emergency Telecom Cluster in support of major disasters.

LOON

Restoring connectivity after mudslides

Loon delivers Internet connectivity and support for 4G/LTE networks in rural and remote communities worldwide using rapid deploy stratospheric balloons. In March 2017, regions in Peru received nearly ten times the typical rainfall, causing widespread flooding, mudslides, and significant damage to the telecommunications infrastructure. Working with Loon, we provided fibre-equivalent O3b MEO connectivity, which, together with Alphabet's high-altitude balloons placed in the stratosphere at 18km above sea level, enabled restoration of 4G/LTE connectivity in the disaster-affected area. Within 48 hours, emergency responders and local citizens were able to connect with telemedicine services, communicate online and via social media access, procure resources online, and stay up to date on the latest developments.

ADVANCE PLANNING FOR EFFECTIVE EMERGENCY RESPONSE

While the emergency response community cannot prevent every crisis from happening, they can mitigate the effects by having the right action plans in place. Experience has shown that communication is vital to a coordinated and effective response, whether the crisis is a natural disaster or premeditated incident. A well-established emergency connectivity plan will allow faster recovery for local businesses, governments and institutions so they can continue to serve their community. This takes end-to-end communication solutions that are ready to go, easy to deploy and operate, and that have a proven track record in the field. The ability to get communication networks up and running quickly speeds recovery efforts for the affected population, and requires solutions that are scalable, compatible, and that work together with legacy systems. Local businesses and institutions can also support the community's wider contingency and communications continuity plan by contributing their services and equipment to assist in providing an effective emergency response.

SES Networks delivers everything emergency responders need to get communications up and running quickly—in the toughest environments and most remote off-grid locations in the world. Our unique combination of global GEO coverage and high-throughput MEO coverage can deliver connectivity from tens to hundreds of Megabits per second as needs evolve, whether the mission lasts for weeks, months or even longer. Our crisis connectivity solutions ensure smooth deployment and operations throughout a wide variety of missions, whether you need to support the actions of first responders, enable humanitarian organisations to coordinate and collaborate with others both inside and outside the disaster area, ensure operations continuity for local businesses and governments, or restore downed communications infrastructure to reconnect the affected population.

Talk to us today about how on-demand connectivity can improve your crisis management.

Ready to pre-plan communications for your emergency response teams?

getconnected@ses.com

SES HEADQUARTERS

Château de Betzdorf
L-6815 Betzdorf
Luxembourg

REGIONAL OFFICES

Accra | Ghana
Addis Ababa | Ethiopia
Bogota | Colombia
Bucharest | Romania
Dubai | United Arab Emirates
Florida | USA
The Hague | The Netherlands
Istanbul | Turkey
Kiev | Ukraine
Lagos | Nigeria
London | UK
Miami | USA
Mexico City | Mexico
Moscow | Russia
Munich | Germany
Paris | France
Princeton | USA
Riga | Latvia
Rio | Brazil
São Paulo | Brazil
Singapore | Singapore
Stockholm | Sweden
Warsaw | Poland
Washington DC | USA

Published in November 2018.

For more information about SES, visit www.ses.com

SES | Networks