

SES: saving lives and livelihoods by satellite

SES White Paper
April 2014

Executive Summary

The Haiti earthquake in 2010 and the chaos that characterised the immediate response moved a consortium of companies to organise and develop a rapid response solution for global disaster relief and humanitarian missions.

The solution is a public-private partnership between Luxembourg's Ministry of Foreign Affairs, SES, HITEC Luxembourg and the Luxembourg Air Ambulance, and is supported by a number of operational and technical partners.

Emergency.lu provides communications support, connects and improves the first responses following humanitarian or natural disasters.

First deployed in South Sudan, the solution also assisted relief efforts after the devastation caused in central Philippines by Typhoon Haiyan, primarily through the restoration of connectivity to humanitarian workers and the deployment of Regular Deployment Kits.

More than 5,000 users have so far benefitted from the emergency.lu platform, which is a global public good provided to the worldwide Humanitarian Community by the Luxembourg Government.

In total, SES has performed six humanitarian aid missions and numerous additional demonstrations and training courses to civil protection and humanitarian aid organizations around the world in Mali, South Sudan, Venezuela, Nepal and the Philippines.

It's not often that a great business idea can be so quickly and efficiently adapted from a hard-nosed profitable business strategy to a humanitarian initiative that saves lives and livelihoods, whilst all the time demonstrating and proving the huge power and massive potential satellites for the benefit of humanity.

TECHNICAL AND OPERATIONAL PARTNERS OF EMERGENCY.LU



GRAND-DUCHÉ DE LUXEMBOURG
Ministère des Affaires étrangères

Direction de la coopération au développement



World Food Programme



Introduction

In January 2010, a huge earthquake (measuring 7.0) hit Haiti, destroying its capital of Port-au-Prince and killing more than 200,000 people. It was a tragedy of almost unimaginable proportions. About 1.5 million people lost their homes, 300,000 were injured and about 220,000 people died.

The confusing, distressing and tragic days following the Haiti earthquake showed that, despite great efforts in preparedness and response capacity worldwide, an effective humanitarian response to a disaster can still be fatally undermined if basic communication breaks down between and among those trying to help.

Emergency aid workers were often prevented from providing support in a coordinated fashion (many were quite simply stuck at the airport without access to basic communications with each other or others in the area), which meant that severe delays occurred in getting help to where it was needed most.

Making, installing and providing satellite services is good business for SES. Beyond their commercial aspect satellites

are also powerful tools that can be used for humanitarian ends; to connect people in emergency situations and help to save lives and livelihoods.

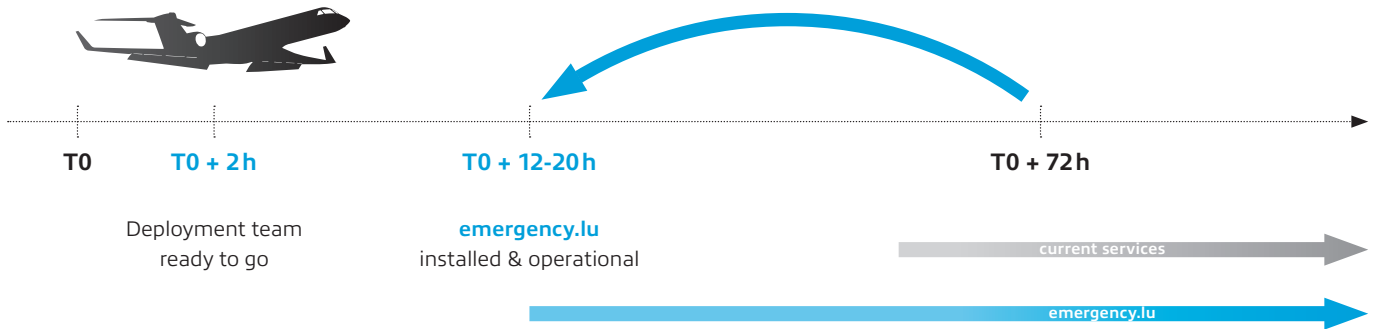
The human agony and the heartbreak of the Haiti earthquake moved SES to act. It joined with others in organising a consortium of Luxembourg companies to work on and develop a rapid response solution for future global disaster relief and humanitarian missions around the world. A partnership was established with the UN World Food Programme as global lead of the Emergency Telecommunications Cluster. Others in the consortium include ITU, UNOCHA and the EU, as well as private sector representatives Ericsson Response and Skype. WFP and emergency.lu will also work together to integrate the Emergency Preparedness Integration Centre (EPIC) and emergency.lu into one solution to meet demands for efficiency in humanitarian work.

Application / Definition

Emergency.lu, the solution, is a flexible, adaptable and quickly deployable emergency communication system designed to support, connect and improve the first responses immediately following humanitarian or natural disasters. It consists of satellite capacity and infrastructure (including ground terminals), communication and coordination services, and the transportation of equipment within 12 to 24 hours to almost any location in the world where a disaster is occurring or has occurred.

Emergency.lu provides vital connectivity for all ongoing humanitarian operations. The terminals use dedicated SES satellite capacity to re-establish vital communications links to improve the effectiveness of rapid response efforts. The service can be deployed almost anywhere on the planet, reducing dramatically the deployment time of traditional communications systems.

**TIME NEEDED FOR ADVANCED COMMUNICATIONS AND SERVICES
FOR IMPROVED MOBILISATION AND COORDINATION**



Source: emergency.lu

High Level Solution

First deployed in war-torn South Sudan in January 2011, emergency.lu was also deployed in a sudden onset disaster in November 2013 after Typhoon Haiyan devastated a large area of the central Philippines, wrecking up to 80% of the built environment and causing thousands of casualties, displacing millions of people and cutting off all means of communications. Despite being the first unscheduled deployment, emergency.lu was nevertheless still faster at setting up connectivity after Typhoon Haiyan than similar efforts during previous disasters.

As soon as rescue efforts could begin, emergency.lu deployed personnel and equipment to restore Internet connectivity for humanitarian groups. Gilles Hoffmann, team leader of the emergency.lu Philippine deployment, said: "As soon as we had fuel for our power generator, the system was built up and functional in less than two hours. We provided Internet in the City Hall and to some NGOs. The next day we spread out the connectivity to all needed locations with the help of our partners".

The communications infrastructure, enabled largely through SES, provides connectivity to humanitarian workers at various stages of the rescue effort. Responders can communicate between each other, enabling rescue teams to coordinate with the "On Site Operations and Coordination Center," along with their own headquarters.

In order to facilitate disaster relief in disaster-struck areas, SES's satellite capacity is pre-booked for emergency.lu. As the global relief effort moves past its critical phase, Regular Deployment Kits containing more robust satellite dishes are deployed. These kits resemble standard satellite dishes but are specifically designed for emergency operations, without any loose parts, and are quickly and easily installed.

As of today, more than 5,300 humanitarian workers in Philippines have registered for the "Emergency Telecommunication Cluster" network which distributes the emergency.lu connectivity. This communication allows a better coordination of all the relief efforts as well as sharing vital materials and documents such as data assessment reports, maps, and pictures.

The work done by emergency.lu has helped propel disaster relief to a new level of efficiency, as the first 72 hours are critical to saving the most lives. While no two natural disasters are the same, the teams that have been deployed have been able to learn valuable lessons from each disaster on how to continue to improve relief efforts.

In January 2013, emergency.lu was awarded the "Most Innovative Product 2013" prize at the inaugural Asia-Pacific conference of the Aid and International Development Forum (AIDF). In December 2013 emergency.lu won the "European Award" under the "Social Resilience Corporate Awards" offered by the French High Committee for Civil Defense. "The Social Resilience Corporate Awards" aim to reward every two years the best initiatives contributing to improving social resilience, security and protection of populations to major risks and threats.

Solution Definition

So what makes the system different? Unlike terrestrial infrastructure, satellite communications are enabled with the flick of a switch, providing instant high-capacity bandwidth wherever and whenever needed.

In 2012, SES designed the Emergency Rapid Deployment Kits, in order to quickly re-establish lifeline communications via satellite in the most remote areas.

The Emergency Rapid Deployment Kit resembles a very big beach ball, and is made of a strong inflatable cloth with a special coating that reflects and concentrates electromagnetic waves in the same way as a conventional satellite dish.

Once delivered to the disaster zone, a telecom terminal is connected in less than an hour to the inflatable antenna, pointing to a satellite 36.000 km up in the sky. The up- and down links provide high-speed internet connectivity for voice, data and image transmission. Wireless local networks allow aid workers on the spot to register their laptops, tablets and cell phones using the satellite capacity at no cost.

Once registered on the network, field workers can communicate with headquarters via Voice over Internet Protocol and instant messaging application, allowing agencies to track aid workers' movements and plan aid distribution routes. Using the deployed satellite kits, relief aid workers are also able to download maps, enabling them to get orientation and to assess the surrounding situation. Additionally, they are able to download data assessment reports and photographs directly to their devices.

Thanks to public funding as well as the commitment and professional skills of three Luxembourg based companies, emergency.lu is a free global public benefit to the international community. On the practical side, emergency.lu is supported by the expertise of the World Food Program as well as technical partners such as Ericsson Response and Skype.

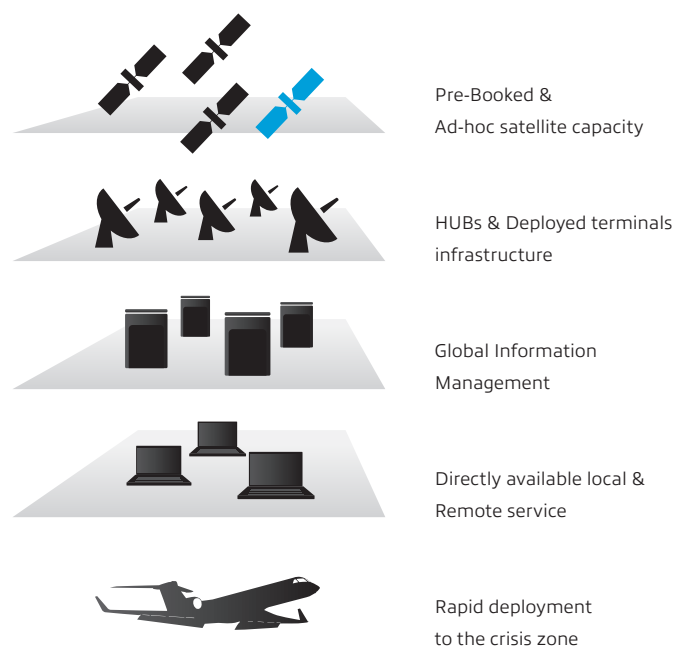
Business benefits

SES's business relationships, high quality service and exceptional satellite communications give it the expertise and knowledge required to act fast in difficult situations. Its culturally diverse regional teams are located around the globe to work closely with customers, offering additional support to emergency.lu, whose process and implementation are embedded within SES operations more generally.

Emergency.lu offers several benefits to the International Humanitarian and Disaster Relief Community. It's a genuinely innovative concept, providing:

- a rapid response solution for disaster relief and humanitarian operation
- a complementary solution to the international humanitarian tool-box
- stand-by response capacity
- multi-layer platform
- end-to-end services adapted to the requirements of the international humanitarian community
- coverage of the entire service chain including air transport, satellite infrastructure, terminals and services
- close coordination with the Emergency Telecommunications Cluster (ETC), the World Food Program (WFP) and the European Union
- support of the Luxembourg Government

VISUALISATION OF THE MULTI-LAYER PLATFORM THAT WILL IMPROVE THE EFFECTIVENESS OF RAPID RESPONSE



Source: emergency.lu



Summary

By the start of 2014, more than 5,000 users had benefitted from the emergency.lu platform, which is a global public good provided to the worldwide Humanitarian Community by the Luxembourg Government.

Unfortunately there are some disasters that emergency.lu has not been able to help with. The solution, genuinely innovative and even revolutionary in its scope, nevertheless depends upon the political approval of the authorities in the countries where the disaster has unfolded. Regrettably, in some cases such assistance has been refused.

Call to Action

SES is justly proud of the initiative. It's not often that a great business idea can be so quickly and efficiently adapted from a hard nosed profitable business strategy to a humanitarian initiative that saves lives and livelihoods, whilst demonstrating and proving the huge power and massive potential of the satellite for the benefit of humanity.

SES has shown that as well as providing leisure and information services, satellites save communities, lives and livelihoods.

Providing satellite services is our business. However, beyond their commercial aspect, satellites are also powerful tools that help to connect people in emergency situations.

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