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DIGITAL LIFELINES

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BBC NEWS

Building digital life lines

By Jonathan Fildes
Science and technology reporter, BBC News

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A tour around a Telecom Sans Frontieres communications centre

"Mom, where are you calling from? Your voice is trembling, are you sure everything is alright?"

These were the first words Carmen Hernandez heard after getting through to her son on the phone following the massive earthquake that struck Peru in August 2007.

Mrs Hernandez lived in Pisco, where the quake hit hardest.

"Please keep talking, it's so good to hear your voice," she replied.

The huge quake left at least 500 people dead and thousands homeless in the Ica region, south of the capital Lima.

It instantly wiped out electricity, fresh water and communication infrastructures.

But Mrs Hernandez was able to speak to her son in Spain thanks to the work of charity Telecoms Sans Frontieres.

Tough call

The group are currently on standby to deploy to Burma; they are waiting for authorisation to enter the country.

"The UN-sponsored organisation specialises in setting up communication links at times of emergency, for use by charities and those affected.

"In natural disasters in particular, the communications are disrupted," explained Oisin Walton of TSF, during a training exercise in Pau, southwest France.

"The GSM antennas are down, the landlines are down."

TSF was started to address this need and to take the burden of setting up temporary communications infrastructures away from other charities with more pressing concerns.

But the organisation, which is 10 years old this year, was started by two charity workers because of a much simpler need.

"We saw that people would come to us and they would pull a little piece of paper from their shoe with a telephone number on it," explained co-founder Monique Lanne-Petit.

"[They would] ask us, 'would you please call this person who is my friend, or my relative and tell them that I am here and tell them that I am safe?'"

The first phone call they offered anyone was to an Albanian refugee caught up during the conflict in Kosovo in 1998.

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"He was in tears and smiling at the same time," said Miss Lanne-Petit. "It clearly made a tremendous impact on his life."

Since then, TSF has deployed on countless missions all over the world, offering calls to thousands of people.

The group worked in Sri Lanka and Indonesia following the tsunami in 2004; in Pakistan following the earthquake in 2005 and in Peru in 2007.

Recent funding of $2m from the UN Foundation and the Vodafone Group Foundation means that the charity - which still only has 15 permanent staff - can be "in country" for 200 days every year.

No number

During those operations the charity offers two basic services: a communications infrastructure for charities and what it calls "humanitarian calling operations".

TSF KITLIST

BGan satellite link (data and voice: 496kbps). Primary connection
Gan M4 satellite link (data and voice: 64kbps). Used as backup
Large VSAT satellite dish for long term deployments
At least two satellite phones including a mobile device
Mobile phones and local sim cards if GSM infrastructure intact
Routers and access points for communication centre
Wireless relays to extend coverage
PCs, printer and scanner
GPS
Power packs including car batteries and solar panels

"We go around either the camps or the affected villages where we offer to each affected family in the area a three-minute call anywhere in the world," explained Mr Walton.

This was the service that Mrs Hernandez had used in Peru. During that operation, she was one of more than 600 families who made a call to a loved one.

"Generally people call their family either in the country or abroad," explained Jean-Francois Cazenove, the other co-founder of TSF.

"Many people call abroad because a lot of money comes from the diasporas in these countries."

Others just want to tell relatives they are alive or update them on the situation. But, according to Mr Cazenove, in certain disasters the calls also have another more crucial function.

"When people are in refugee camps, they are just a number, but when they call their family, their father, their mother, they are a person again," he said.

Precious resource

Clearly, the phone calls are important to people. But at times of disaster, the distribution of food, medical supplies and shelter are a priority.

And TSF play a part with this as well.

"With so many actors in the field - local, international NGOs, UN agencies, local authorities - coordination is very important," said Mr Walton.

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A look at a satellite-enabled 4WD

The charity sets up emergency telecommunications centres to allow groups to talk effectively.

These contain all the telecoms and IT equipment found in a normal office - including printers, scanners, laptops and phones - housed in a tent or temporary shelter.

Connections are via satellite links which offer anything between 64 kilobytes and half a megabyte of bandwidth. This can cost up to $10,000 per day.

So to reduce the amount of content downloaded, TSF has developed its own kit, including a router which automatically configures laptops that connect to the network.

The router automatically stops bandwidth heavy applications such as Skype and peer-to-peer

programs.

In addition, it blocks web content which sucks up precious bandwidth.

"When users download a web page it blocks the photographs," explained Mr Walton.

"A photograph maybe just 30kb but if there are 10 photographs that's 300kb."

Red alert

Key to all of TSF's activities is speed.

During the recent training session, volunteers constructed a fully functioning communications centre and were browsing the web within one hour.

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A look at TSF's kits for disasters

The setup included two satellite connections and even wireless relays to increase the coverage of the connection.

Most of the kit - weighing 200kg - had been carried in three suitcases that are packed and ready to go at all times.

"We generally deploy within three hours," explained Mr Cazenove. "We have a commitment with the UN to deploy within 48 hours but we are generally in the field within 24."

Alerts generally come via text message from a web service called the Global Disaster Alert and Coordination System (GDacs).

During the training, the team received a red alert warning them of a possible tsunami triggered by an earthquake in the Pacific.

Within minutes, they were on the phone to their base in Thailand, to check that they were ready to go. TSF also has a base in Nicaragua.

The alert was eventually downgraded - it had occurred in a largely unpopulated area - but the team had been ready to drop everything and board a flight.

"It is very important for us to deploy rapidly because rapid response is the key to saving lives," said Mr Cazenove.

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http://news.bbc.co.uk/go/pr/fr/-/1/hi/technology/7367135.stm

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