

Satcoms and natural disaster mitigation

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In a previous contribution to *Satellite Evolution Asia (SEA)*, I examined how nature's obstacles contribute much to the difficulties of deploying modern, high-bandwidth, wired networks that are capable of serving the growing demand for communications from the Small and Medium Enterprises (SMEs), Small Office Home Offices (SOHOs) and residential communities across the vastness of the Asian region. A region which can be characterised as a combination of extremes: on the one hand expanding conurbations with a level of demand for high-speed, broadband, connectivity that cannot be satisfied; and, on the other hand, remote towns and villages that are still without basic telephone services.

But, sometimes nature deals a yet more challenging hand. When natural disasters strike, as has happened very recently with the South Asia earthquake, and also not so long ago in the southern US which were ravaged by the latest in a series of unusually powerful hurricanes, and also

almost a year ago in the form of the Southeast Asian tsunami, communications links are usually disrupted, yet for relief workers who arrive on the scene these links are essential to bring together information from a wide variety of disparate, inchoate sources. For example: How many people have been injured or have died? Where are the injured victims located? Where should they be dispatched? What is the extent of the medical help needed? In all respects, rescue and relief workers rely very heavily on telecommunications to coordinate the complicated logistics of their operations.

However, until recently, the trans-border use of telecommunication equipment by humanitarian organisations was often impeded by regulatory barriers that make it extremely difficult to import and rapidly deploy telecommunications equipment for emergency without prior consent of the local authorities. Now, victims of disasters can benefit from faster and more effective rescue op-

erations, thanks to a treaty which simplifies the use of life-saving telecommunication equipment.

The Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations came into force 8 January 2005, following its ratification by 30 countries, with Venezuela becoming the thirty-first nation to ratify the Convention on 13 May this year. The seventeen-article, legally binding international treaty, was unanimously adopted on 18 June 1998 by the delegates of the 75 countries that attended the Intergovernmental Conference on Emergency Telecommunications (ICET-98), hosted by the Finnish government, in the city of Tampere. The Treaty was then open for accession, requiring the ratification of 30 countries to come into full effect.

The Convention calls on States to facilitate the provision of prompt telecommunication assistance to mitigate the impact of a disaster, and covers both the installation and operation of reliable, flexible telecommunication services. Regulatory barriers that impede the use of telecommunication resources for disasters are waived. These barriers include the licensing requirements to use allocated frequencies, restrictions on the import of telecommunication equipment, as well as limitations on the movement of humanitarian workers.

In addition, the Convention describes the procedures for request and provision of telecommunication assistance, recognising the right of a State to direct, control and co-ordinate assistance provided under the Convention within its territory. It defines specific elements and aspects of the provision of telecommunication assistance, such as termination of assistance. It requires States to make an inventory of the resources – both human and material –

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List of signatories to the Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and relief Operation (as of 2 June 2005).

Country	Date of Signature	Definitive signature (s) Ratification accession (a) Acceptance (A) Approval (AA)
Argentina	11 May 1999	
Barbados		25 Jul 2003 a
Benin	18 Jun 1998	
Brazil	12 Mar 1999	
Bulgaria	22 Sep 1999	20 Jun 2000
Burundi	18 Jun 1998	
Canada	15 Jun 1999	18 May 2001
Chad	20 Oct 1999	
Chile	18 Jun 1998	
Congo	18 Jun 1998	
Costa Rica	20 Jun 2003	
Cyprus	18 Jun 1998	14 Jul 2000
Czech Republic	4 Sep 2002	17 Jun 2003
Denmark	18 Jun 1998	2 Jun 2003
Dominica		26 Dec 2000 a
El Salvador	9 Aug 2000	18 Apr 2002
Estonia	25 May 1999	
Finland	18 Jun 1998	1 Apr 1999 A
Gabon	27 Apr 2001	
Germany	18 Jun 1998	
Ghana	18 Jun 1998	
Guinea		8 Oct 2002 a
Haiti	11 Feb 1999	
Honduras	25 Feb 1999	
Hungary	20 Jun 2003	7 Apr 2004
Iceland	20 Jun 2003	
India	29 Nov 1999	29 Nov 1999
Italy	18 Jun 1998	
Kenya	18 Jun 1998	12 Feb 2003
Kuwait	18 Jun 1998	13 Jun 2002
Lebanon	17 Nov 1998	
Liberia		16 Sep 2005 a
Liechtenstein		8 Jun 2004 a
Lithuania		9 Dec 2004 a
Madagascar	12 Sep 2002	
Mali	18 Jun 1998	
Malta	18 Jun 1998	
Marshall Islands	11 Nov 1998	
Mauritania	18 Jun 1998	
Mongolia	18 Jun 1998	
Morocco	1 Dec 1998	11 Mar 2003
Nepal	23 Apr 1999	
Netherlands	19 Dec 2000	6 Jul 2001 A
Nicaragua	18 Jun 1998	18 Nov 1999
Niger	18 Jun 1998	
Oman	19 Aug 1999	16 Apr 2003
Panama	20 Sep 2001	5 Mar 2003
Peru	14 Jan 1999	27 Oct 2003
Poland	18 Jun 1998	
Portugal	18 Jun 1998	

available for disaster mitigation and relief, and to develop a telecommunication action plan that identifies the steps necessary to deploy those resources.

Satellite-based networks are the solution

Previously, in the absence of an agreed multilateral framework that temporarily waives the normal formalities, delay caused lives to be unnecessarily lost, because speed is always of the essence in disaster recovery situations. With an effective framework now in place it is clear that, in many cases, satellite communications provide the only effective solution for disaster-stricken areas.

When inevitable disruption occurs to terrestrial communications platforms during such appalling events, the management and mitigation of emergency conditions always dictate an enhanced role for satellite links.

With billions of dollars worth of telecom budgets already having contributed to supporting economic and social development efforts worldwide, satellite solution providers have amassed tremendous expertise in implementing rapidly deployable (as well as cost-effective) networks, with the result that satellite communications have never been better suited to address the communications requirements for mission-critical applications in emergent and developed nations... in particular those that not only require ongoing social and economic development, but those needing emergency humanitarian assistance or disaster recovery management as well.

The compelling business models for satellite/terrestrial hybrid solutions which maintain when communities are not facing disaster are almost as well established as remote satellite solutions, but in emergencies the latter come into their own as no other communications platform can.

Fortunately, in today's world and with proper preparedness, there are a plethora of satellite equipment and services that can be readily available for use by the disaster recovery sector right from the time that the first responders arrive on the scene, and continuing throughout the disaster-recovery period. ■

Romania	18 Jun 1998	
Russian Federation	14 Mar 2002	
Saint Lucia	31 Jan 2000	
Saint Vincent and the Grenadines		14 Aug 2003 a
Senegal	20 Nov 1998	
Slovakia	16 Feb 2000	6 Feb 2001
Sri Lanka	5 Aug 1999	13 Oct 1999
Sudan	4 Dec 1998	
Sweden	10 Jun 2003	13 Sep 2004
Switzerland	18 Jun 1998	24 Apr 2002
Tajikistan	18 Jun 1998	
The Former Yugoslav Republic of Macedonia	3 Dec 1998	
Tonga		8 May 2003 a
Uganda	28 Oct 1998	5 Sep 2002
UK		18 Jun 2003 s
US	17 Nov 1998	
Uruguay	13 May 2003	
Uzbekistan	6 Oct 1998	
Venezuela	3 Apr 2003	13 May 2005