

# “How Public & Satellite Sector Collaboration Can Be Strengthened for Disaster Relief”

Alexandria, Egypt  
14-17 April, 2007

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**Global VSAT Forum**

# About the Global VSAT Forum

- Non-Profit Association of the Satellite Sector
- 180+ Member Organizations in 90 Nations
- Enabling Satcom Service Delivery Thru:
  - Regulation & Policy: **Support for the Tampere Convention**
  - Capacity Building: **Training Offers Made to WGET, ITU**
  - Rapid Response: **Free Posting of Emergency Notices**
  - Facilitation: **Public/Private Sector Co-ordination**

# Disaster Relief: The Butterfly Effect

- Insured U.S. Damage for Frances, Ivan and Jeanne in September 2004 -- \$16.6 Billion
- Followed in 2005-2006 by Rita, Katrina, Tsunami, Earthquakes...
- **Result:** The Satellite Sector Has Tailored Disaster Relief Solutions & Packages...

And These Can Be Applied in the Arab Region



# The Satcom Tools: GMPCS

- Able to Be Procured in Advance of Disasters
- Pre-Positioning is Key
- Minimum of Training Needed



Globalstar  
handset



Iridium  
handset

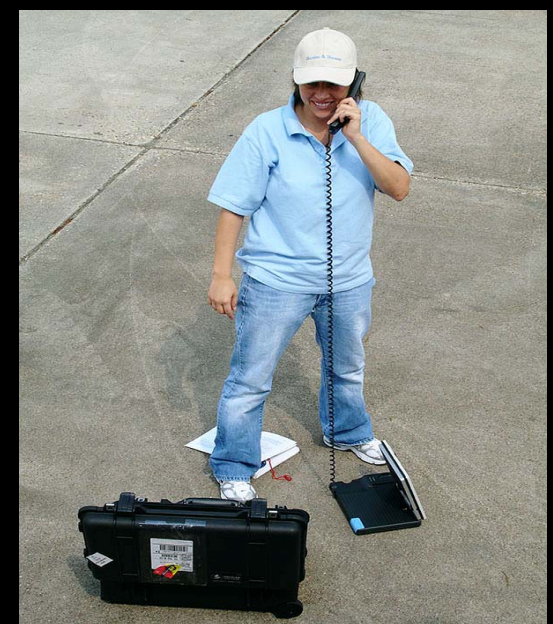


Thuraya  
handset



Inmarsat  
handset

# The Satcom Tools: Fly-Aways

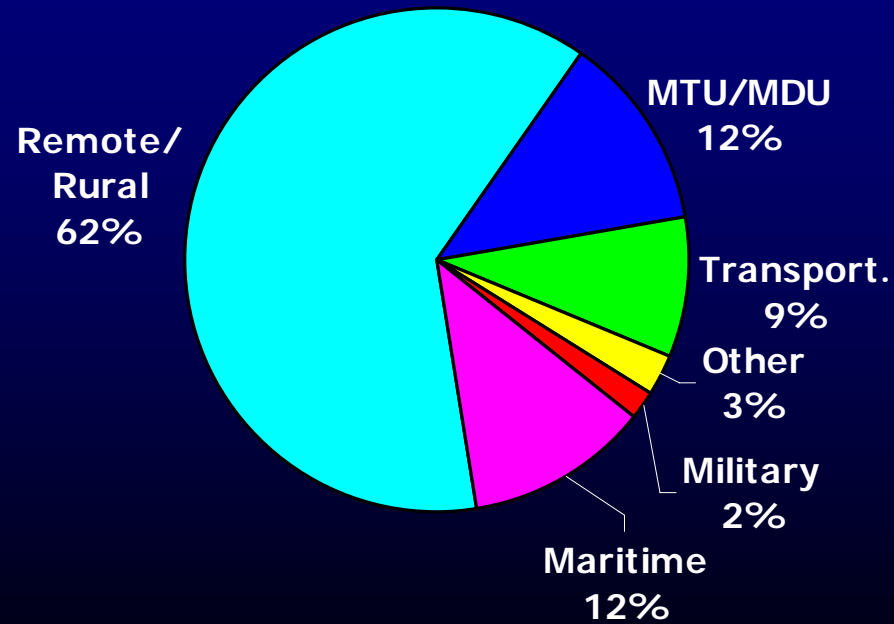


# The Satcom Tools: VSAT



# The Hybrid Tools: Satellite-Wi-Fi

Deployment of Current Satellite-WiFi Sites  
(2003)- By Application



Source: Northern Sky Research

## The Hybrid Tools: Satellite-GSM

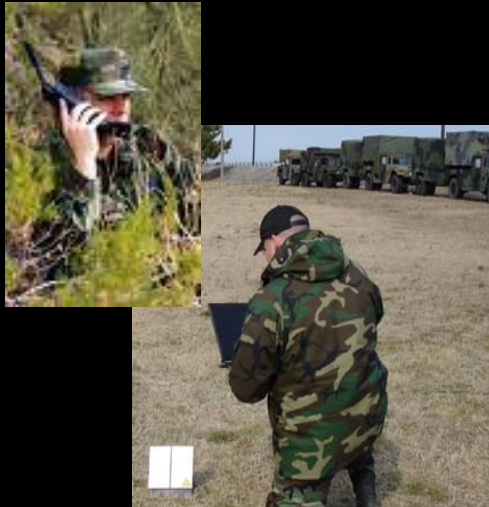
- SMS - the UConnect NGO team has been using a Management Information System database for sending SMS to thousands of users throughout Uganda, making announcements from the NGO.
- This had been quite effective with only a couple of the volunteers using web and email to send hundreds of SMS a day. Users then phone back on their mobiles to make further enquires.



# Satcom: An Operational Guideline

First 1-24 Hours

Disaster inventory  
rescue  
Command and  
Control



First 24 -48 Hours

Humanitarian calling, C2,  
Rescue, recovery, news



First 3-30 days++

Restoration  
Recovery operations



Increasing bandwidth requirements as response expands over time

# Pre-Positioning SatCom for Emergency Management

- Applications Example:

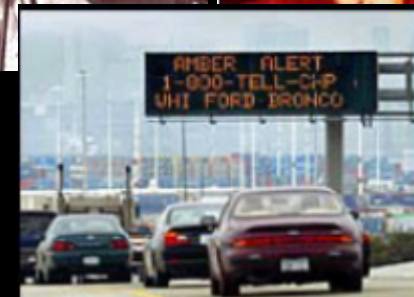
- Amber Alert System for Abducted Children
- Can Be Used to Deliver Public-Safety Announcements

- Achieving Multiple Objectives Thru Dual Use:

- E-Learning
- E-Health
- E-Commerce
- Rural Communications
- Military-Civil Combinations

- Articulated Packages:

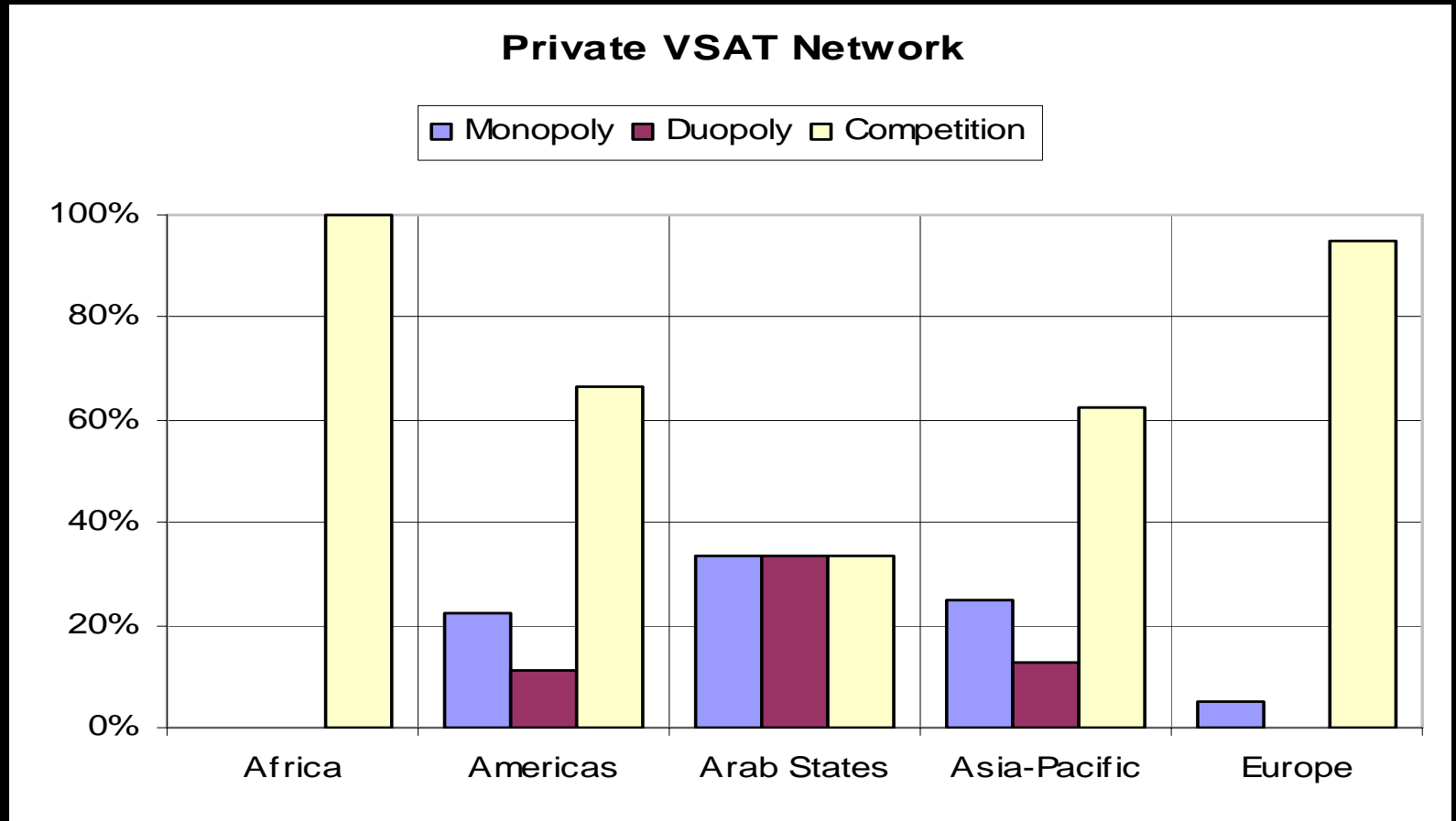
- Dedicated Network
- Shared Network
- "Insurance" Model



## Another Key Trend

- Increasing Cross-Pollination Between:
  - Emergency Managers
  - Business Continuity Professionals
  - Non-Government Organisations
  - UN Agencies
  - Private Sector
- Important Challenges Being Addressed Through Collaboration Include...

# Restrictive Regulations Can Inhibit Deployment



Source: ITU, Question 17-1 Report

# The UN Tampere Convention

- **Provides for Temporary Lifting of Regulations to Facilitate Rapid Deployment of Telecom Solutions**
- **Ratified Shortly After Asian Tsunami**
- **Can Be Invoked for Use in Any Nation**
- **Important Tool That Was Endorsed by GVF in 1998**
- **Encourage Your Administration to Sign**

# GVF Capacity Building Offer for Disaster Relief

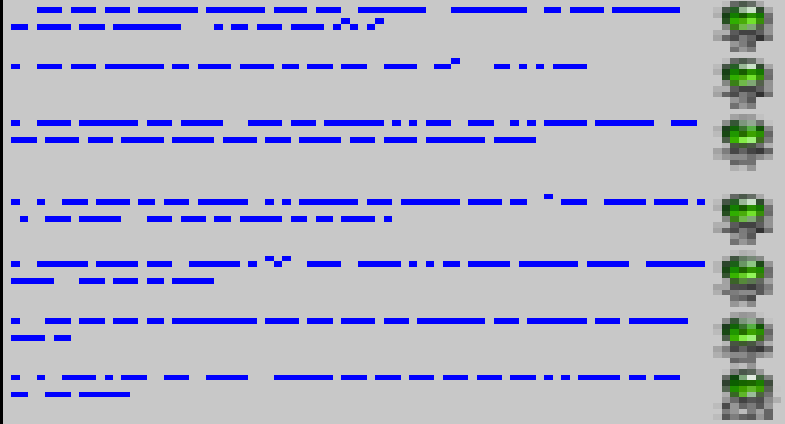
- **1-For-1 Offer to WGET Members and ITU**
- **Training Already Delivered to UNHCR, WFP, Oxfam, Others**
- **Special Arrangements Are Being Extended to Developing and Least Developed Countries**



# Satcom Capacity Building: A Snapshot

## Finalizing the satellite

Finalizing the satellite involves a series of steps, from design to launch and deployment. The process is complex and requires a high level of technical expertise and coordination.



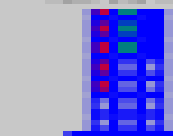
This composite image represents the operational and monitoring aspects of the satellite. On the left is a control panel with a screen and buttons. In the center is a graph with a red line showing an upward trend. On the right is a satellite mounted on a launch pad, with a large yellow sun in the background.

# Satcom Capacity Building: A Snapshot

## Using Orbital Multiple Access (OMA)

OMA allows a single satellite to serve a "cellular" number of users, providing more bandwidth

Single Satellite Serving Multiple Users (OMA)

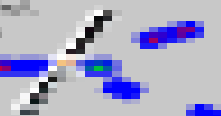


Ground Station

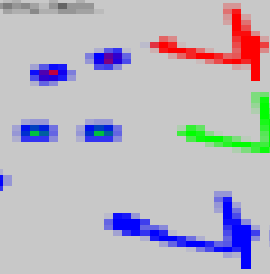
Each satellite is able to serve a number of users from the ground, depending on the technology used



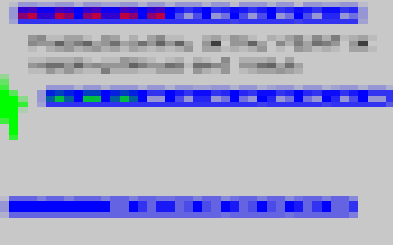
Multiple satellites serving multiple users, allowing for more bandwidth



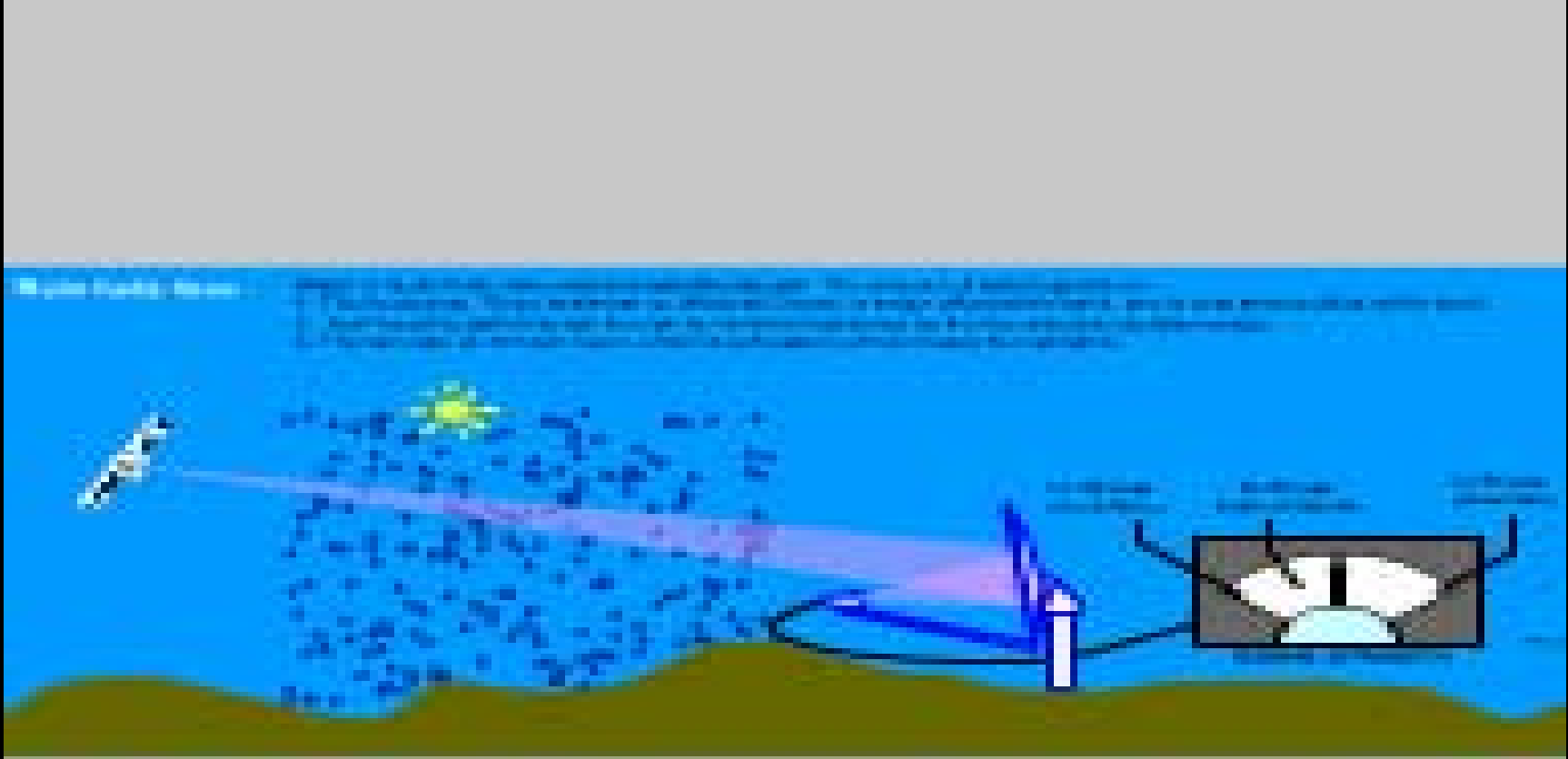
Each satellite is able to serve a number of users from the ground, depending on the technology used



Multiple satellites in the orbit, allowing for more bandwidth



# Satcom Capacity Building: A Snapshot



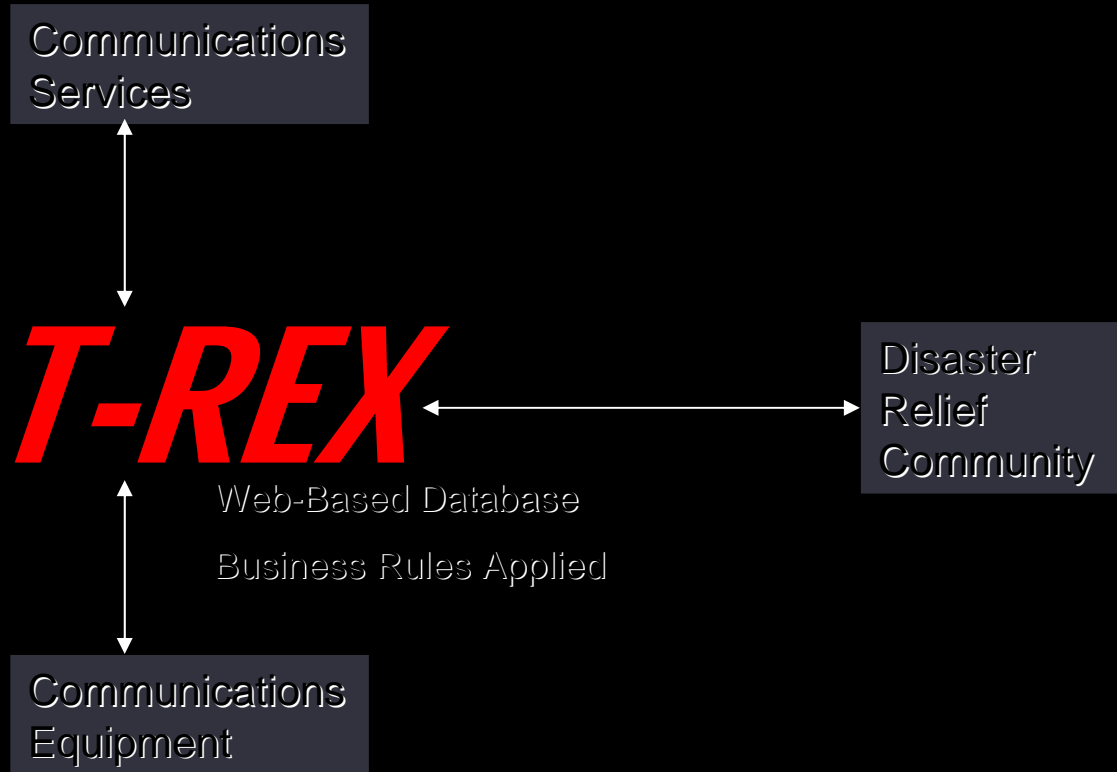
## And a Closing Thought...

### Should An Online Clearinghouse Be Established for Disaster Relief Telecom Systems and Services?

- For the user
  - Database of providers and their services
  - Proactive solutions to their telecommunications requirements
  - Automated and human help to assist in their decision
  - Technical, business and other support services
  - A one stop location for communications services
  
- For the provider
  - A new channel to disseminate information
  - A growing database of Disaster Recovery organizations with telecommunications requirements around the world
  - Filtering to get service to users quickly and efficiently
  - Proactive approach with minimal expenditure
  
- For the Disaster Relief Community and Satellite Industry
  - Employ all available resources where they are needed, when they are needed
  - Find and resolve redundant and contradictory requirements
  - Make satellite services easier and quicker to define and find

# Information (and Acquisition?) Flow

## *Streamlined Access Between Users and Providers*



## Contact GVF Today

- To Reach Out to the Satellite Sector
- To Collaborate on Regulatory Matters
- To Take Advantage of Capacity Building
- To Jointly Explore New Approaches

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