The Role of Local Partnerships in the Evolution of end-to-end Solutions for Delivery of Emergency Alerts to Under-developed Regions

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Alert Delivery via WorldSpace : Features

- Adopts the Common Alert Protocol (CAP)- International standards for all hazards, all media alert delivery
- Covers more than 100 countries with one secure uplink
- Can be addressed by country, group, tier or even the current location of the receiver
- Delivered with a latency of **less than 10 seconds**
- Automatically triggers a siren/alarm
- Displays text and automatically switch to audio information in local language
- Caters to diverse requirements/infrastructure ranging from a sophisticated weather office to a fisherman out at sea
- Goes beyond conventional modes of communication and supplements/complements other technologies
- Survives the most hazardous conditions & power failures
- Re-usable for the daily requirements of the community (entertainment, agriculture, health, training)

Portfolio of Services

- **Text only:** Trigger the alarm and display the CAP parameters as text on the AREA receiver

- **Text plus Switch to one of WS channels:** Trigger the alarm and display the CAP parameters as text on the AREA receiver; Switch to an existing BCID like CNN or a data channel like RANET

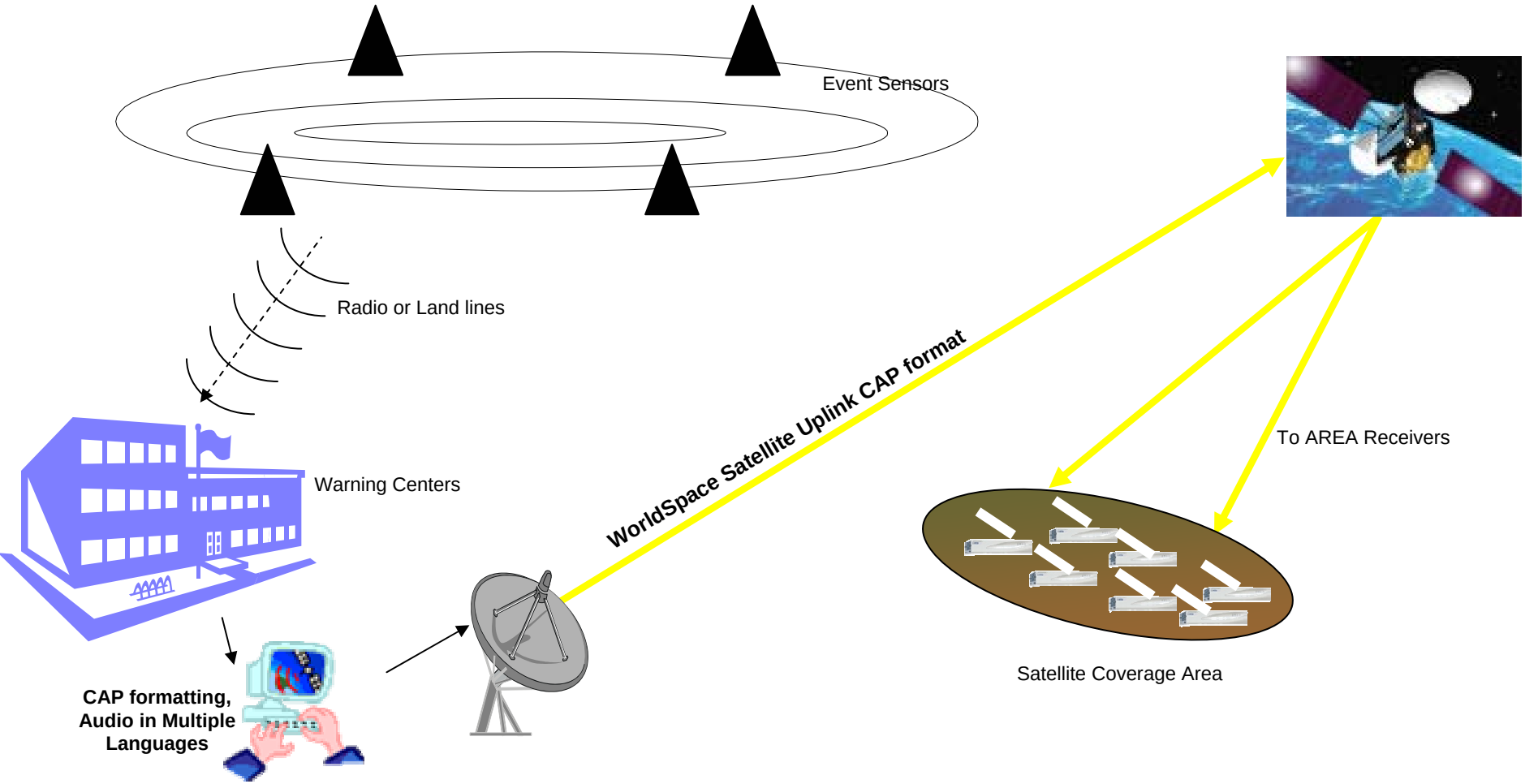
- **Text plus shared Disaster Audio channel:** Trigger the alarm and display the CAP parameters as text on the AREA receiver; Switch AREA to play the Disaster Audio channel in which the Alert provider can insert audio announcements relating to the Disaster (including in local languages)

- **Text plus Dedicated Audio channel:** The alert provider leases from WS a dedicated 16 kbps audio channel the content of which is maintained by the alert provider 24X7, with a CUG encryption for this audio. At the onset of alert the designated AREA receivers trigger the alarm, display the CAP parameters as text and switch to playing the dedicated audio channel.

Terminal Options

- AREA - Addressable Radio for Emergency Alerts
  - **AREA-C** Audio Alerts for Community Deployment
    (Remote Locations, Beaches, Community Centers, and Places of Worship)
  - **AREA-M** Alerts for the Mobile User
    (Trucks, Ships, and Trains)
  - **AREA-A** Audio and Data Alerts for the Computer-connected sites
    (Airports, Harbors, NGOs, and First Responders)

All Hazard Warning via WorldSpace Satellite

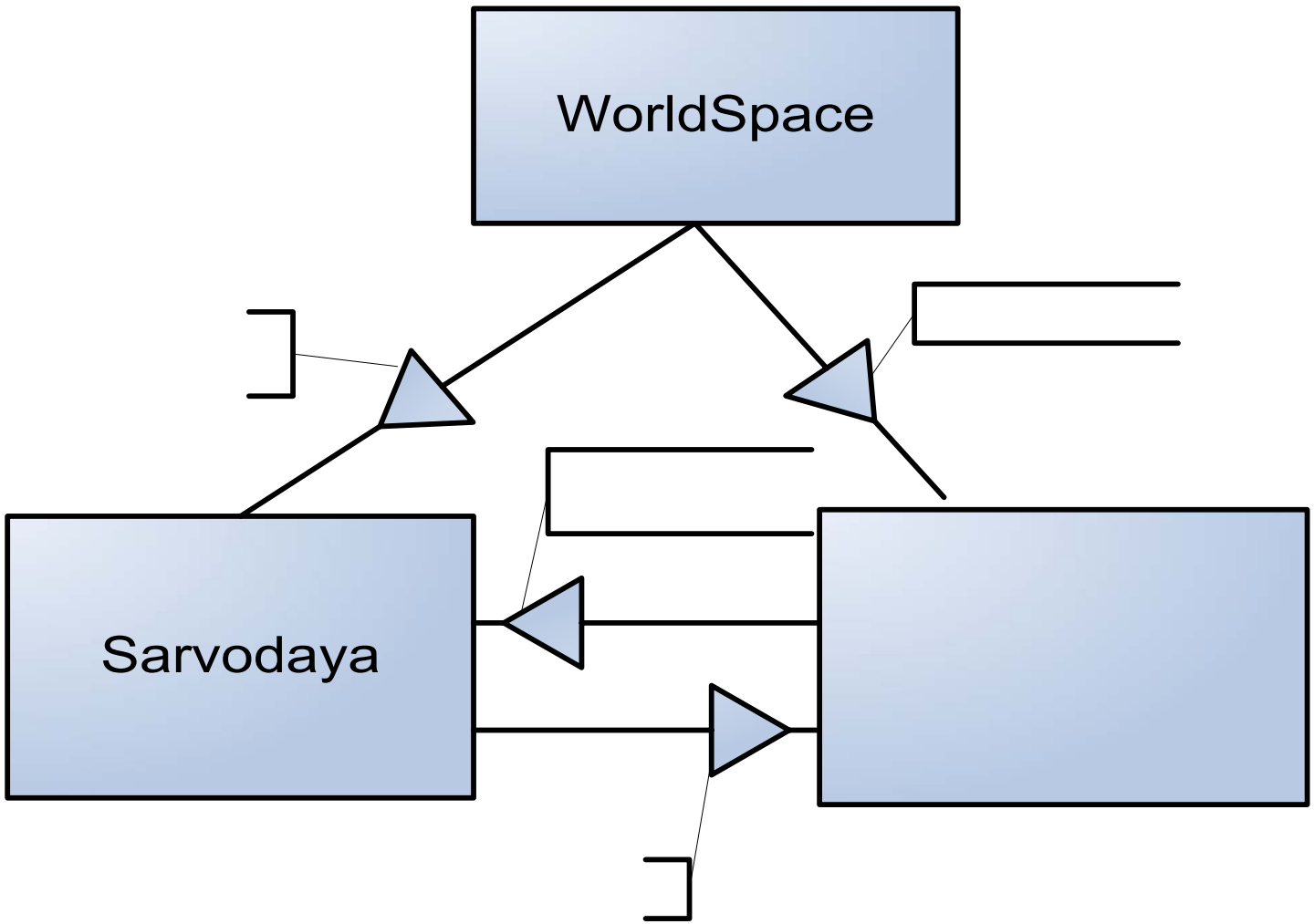


Highly reliable and proven satellite based system

The Implementation Challenges

- New Technology
- Alert Delivery is the responsibility of a government agency and usually that agency has no role or budget for social development
- Need for coordination among Ministries
- A comparatively large one-time investment if it has to scale up to its full potential
- Need owners for the activities at non-alert times (which is hopefully most of the time!)
- Continued training of personnel at the hub as well as in the communities
- Sustainability and upkeep of the system

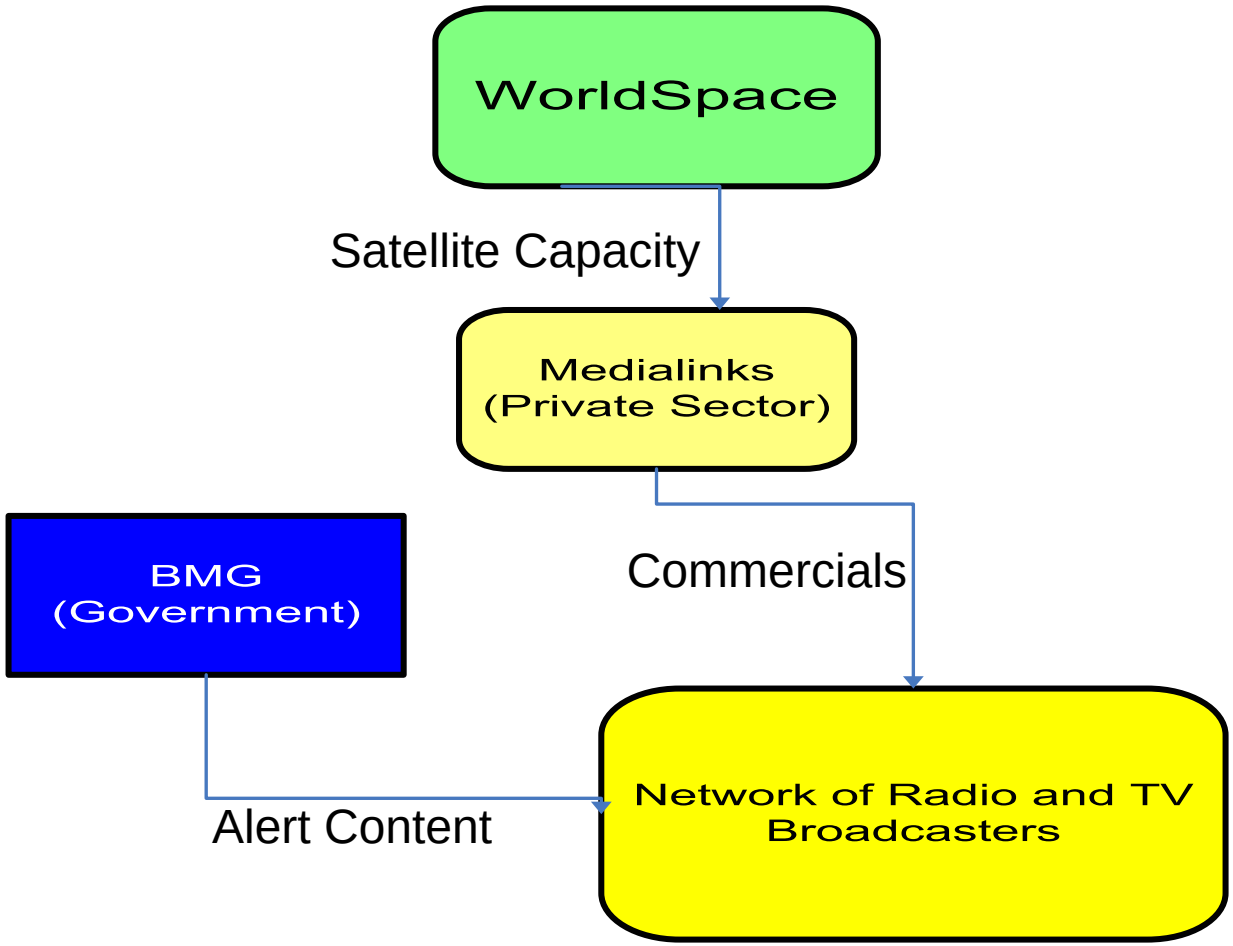
Model in Sri Lanka



Stakeholders: Sri Lanka

Re-use Strategy Chosen	Audio channel 24 x 7 for community use
Channel Capacity	WorldSpace
Alert Content	DMC (Government)
Audio Content	Sarvodaya (NGO)
Custodians for Receivers	Sarvodaya Village Units
Training & Upkeep	Sarvodaya/DMC
HIH Operation	Sarvodaya

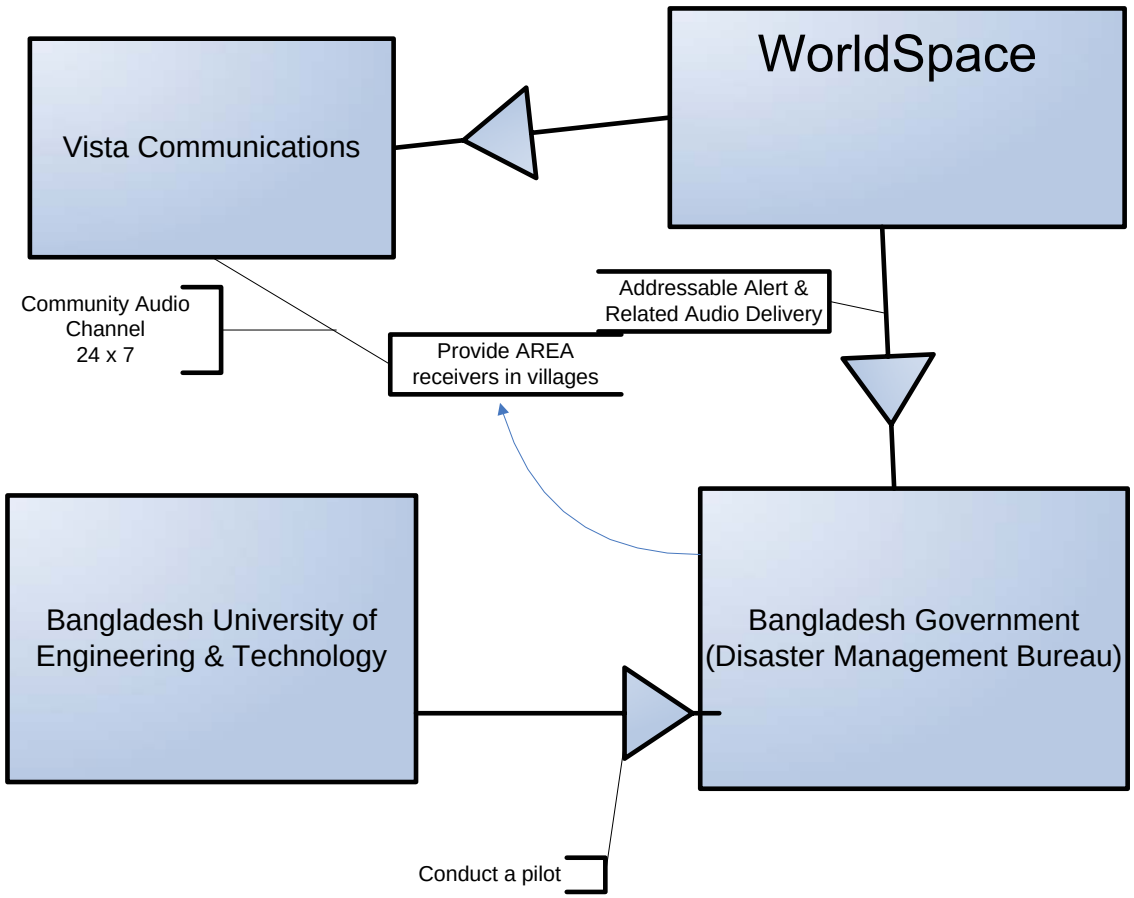
Model in Indonesia



Stakeholders: Indonesia

Re-use Strategy Chosen	Datacast for Group of Media Companies
Channel Capacity	WorldSpace
Alert Content	BMG (Government)
Datacast Content	Advertisers
Custodians for Receivers	Media companies
Training & Upkeep	Private Sector Integrator
HIH Operation	BMG

Model in Bangladesh



Stakeholders: Bangladesh

Re-use Strategy Chosen	Audio channel 24 x 7 for use in fishing boats (PFZ, Weather etc.)
Channel Capacity	WorldSpace
Alert Content	DMB (Government)
Audio Content	Vista Communications (Private Sector)
Custodians for Receivers	Individuals
Training & Upkeep	Vista Communications
HIH Operation	DMB- Trained by Vista and BUET

In Summary

- The Government Agency responsible for Alert Delivery needs local partners
- These partners can be NGO's, Private sector or other national organizations (Each country has to choose a model that best suits it)
- Non-alert time usage of the system **vital** not only for the economics, but for the local acceptance & up keep of the system
- If implemented in a large scale, across multiple projects and over a long duration, these solutions are cost-effective
- Need to bring in regional cooperation and inter-operability
- Important to adopt CAP and establish a Transmission Hub for all hazards, all media and all locations
- One point generation of the alert and multi point multiple media dissemination is reliable, scalable, sustainable and cost effective.