ICTs FOR DISASTER RESPONSE

Tatiana Lawrence, Vice President Regulatory

31 AUGUST 2017

BOGOTA

OVERVIEW

- Role of ICTs in disaster response and preparation
- Best practices
  - Government
  - Iridium
- Push-to-talk services
  - What they are
  - Advantages for disaster response
- Opportunities to improve policy to make better use of ICTs in disaster response

IRIDIUM – A SATELLITE CONSTELLATION LIKE NO OTHER

A vital, global communications provider of mobile voice and data services via 66 in-orbit satellites

- Serving near 900,000 subscribers
- Key Applications: handsets, machine-to-machine (M2M), maritime, aviation, government, emergency & remote voice and asset tracking
- Building Iridium NEXT constellation. Two successful launches
- New constellation will deliver expanded capacity and higher data speed capabilities
- **Global Coverage**
- Independent of terrestrial infrastructure
- Providing connectivity when terrestrial networks are not available.

CRITICAL ROLE OF ICTs IN DISASTER RESPONSE

Emergency Communications: Sequence of Events

1. Disaster Warning
2. Evacuation
3. Disaster Strikes
4. First Responders
5. Search & Rescue
6. Disaster Assessment
7. Reinforcements Arrive
8. Cleanup

Mobile Satellite Services are critical in the early stages of natural disasters, geopolitical events and crises.

GOVERNMENT BEST PRACTICE

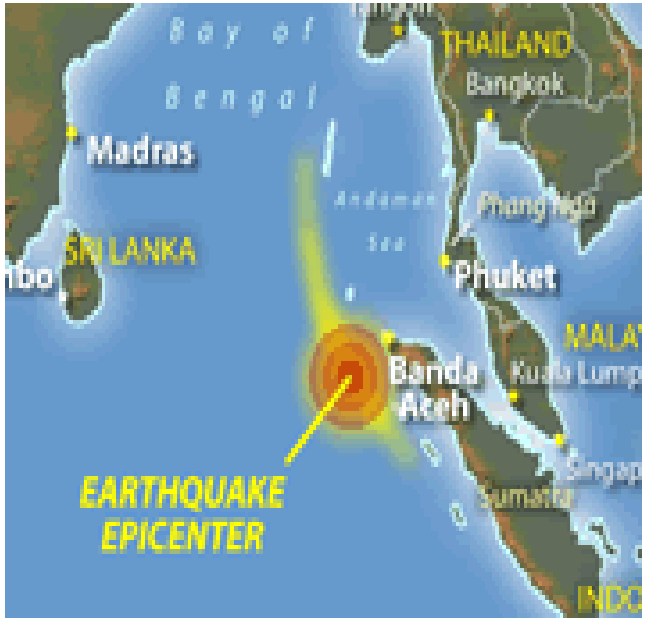
- Developing disaster communications management plans
- Pre-positioning emergency equipment and solutions
- Developing alert and early warning systems
- Training
- Maintaining equipment
- Advance licensing and type approval
- Work across regions and with all stakeholders to eliminate barriers and improve response capabilities

IRIDIUM'S BEST PRACTICE

- Working with distribution partners:
  - Ensure supply chain continuity
  - Facilitate rapid deployment
- Providing phones with solar charging accessories
- Promoting pre-positioning of phone for preparedness
- Supporting government efforts to develop national preparedness plans
- Iridium has donated 70 phones to the ITU, and works with ITU-D closely to assist when disaster strikes

HISTORICAL USAGE OF IRIDIUM FOR DISASTER RECOVERY

- South Pole rescue (2001)
- September 11 (2001)
- Asian Tsunami (2004)
- Pakistani Earthquake (2005)
- Hurricanes Gustav, Hanna and Ike (2008)
- Tropical Cyclone Aila (2009)
- Zimbabwe Floods (2009)
- Haiti Earthquake (2010)
- Japan Earthquake (2011)
- Hurricane Sandy (2012)
- Nepal Earthquake (2015)
- Ecuador Earthquake (2015)
- Hurricane Harvey (2017)
-

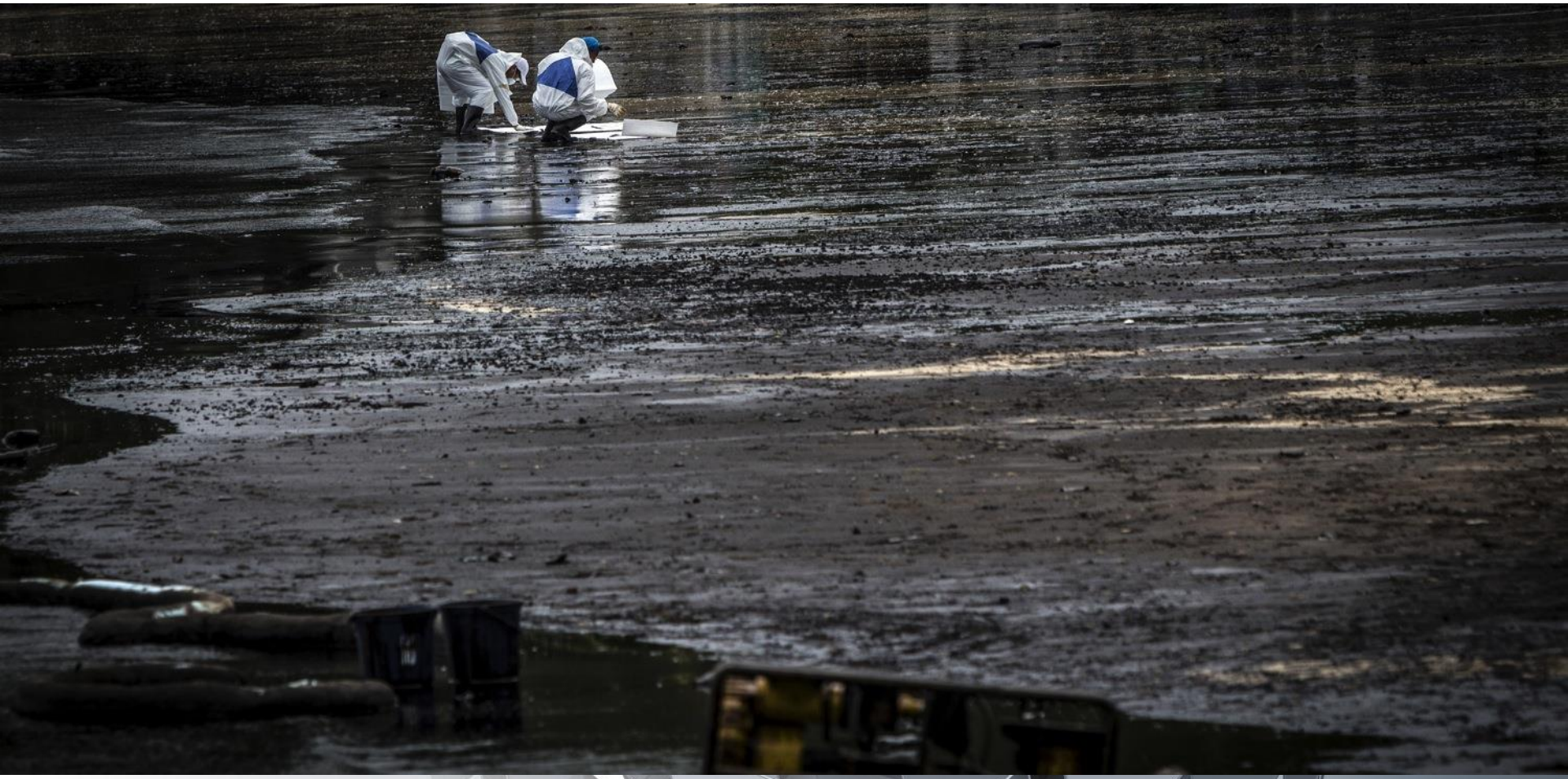


SEARCH AND RESCUE

- Bluefin-21 submarine searches for Malaysia Flight 370

MARINE CLEANUP

MetOcean buoys transmitting via the Iridium network help with the clean up of the largest accidental marine oil spill in history in the Gulf of Mexico in 2010.

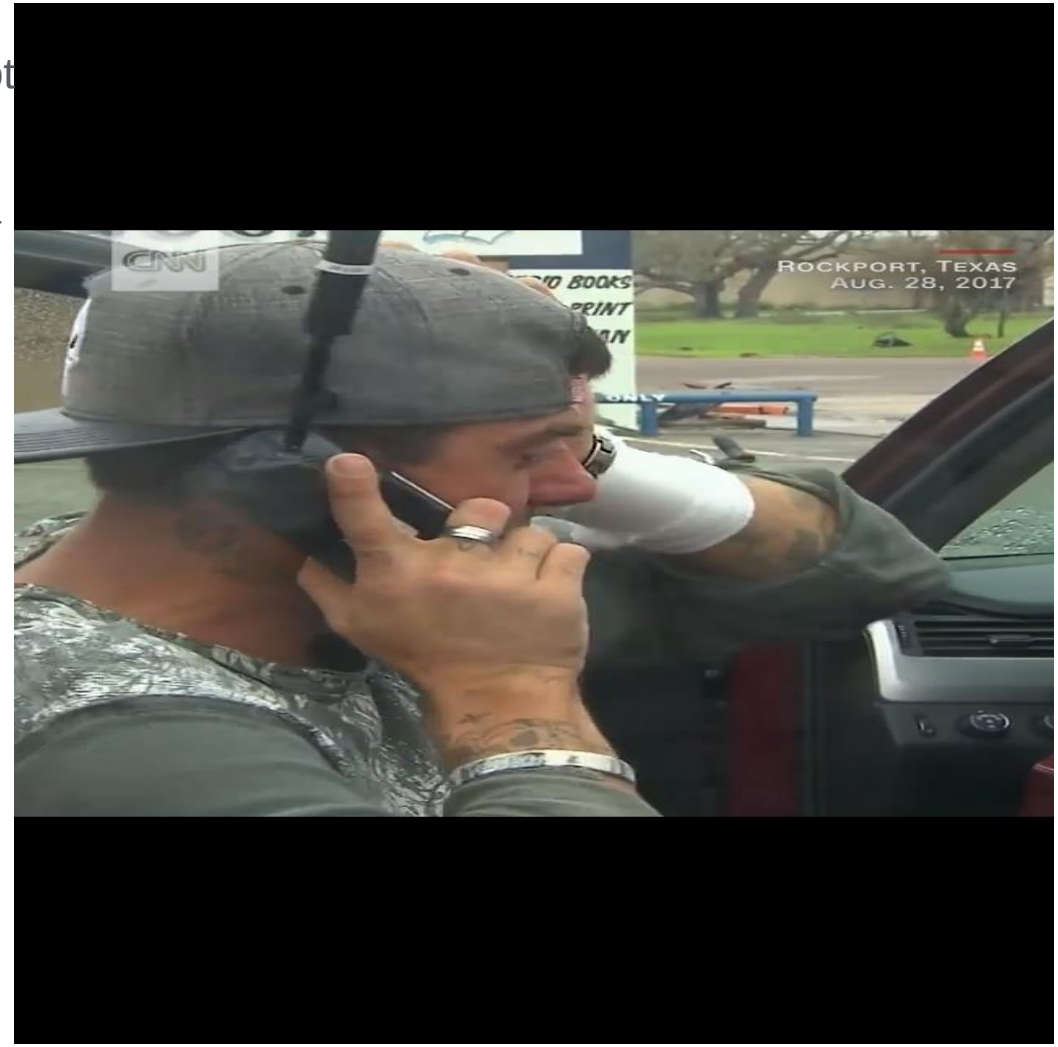


DISASTER RECOVERY

- Supporting firefighters during Texas wildfires

HURRICANE HARVEY

- Iridium traffic has increased
- Cellular communications is not available everywhere in the Hurricane Harvey disaster area



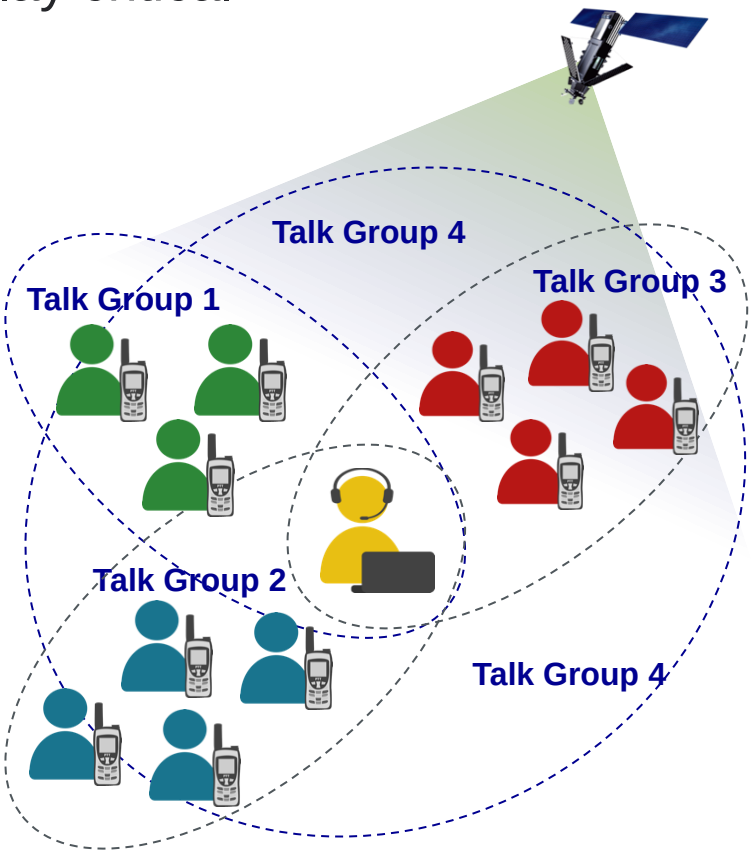
EXAMPLE: ADVANTAGES OF SATELLITE PUSH-TO-TALK SERVICE

- Push-to-talk (PTT) – two-way communication service
  - Similar to ‘walkie talkie’
- World’s only global Push-to-Talk Network
  - Efficient – no wasted time
  - Clear – higher quality information transfer
  - Durable – handsets built for physically stressful conditions
  - Options for connectivity – person-to-person communication

- Satellite PTT advantages:
  - Reliable: satellite networks operate beyond reach of natural disasters
  - Expanded coverage: wider geographic coverage than terrestrial networks
  - Cost-effective: no repair required post-disaster and less expensive set-up
  - Interoperable: integration with all other networks

SATELLITE PUSH-TO-TALK SERVICE FOR EMERGENCY COMMUNICATIONS

- Flexible Talkgroups configurations can play critical role for emergency relief efforts.
- Programmed over the air in real time for fast and simple deployment globally



BETTER LEVERAGING ICTs IN DISASTER RESPONSE

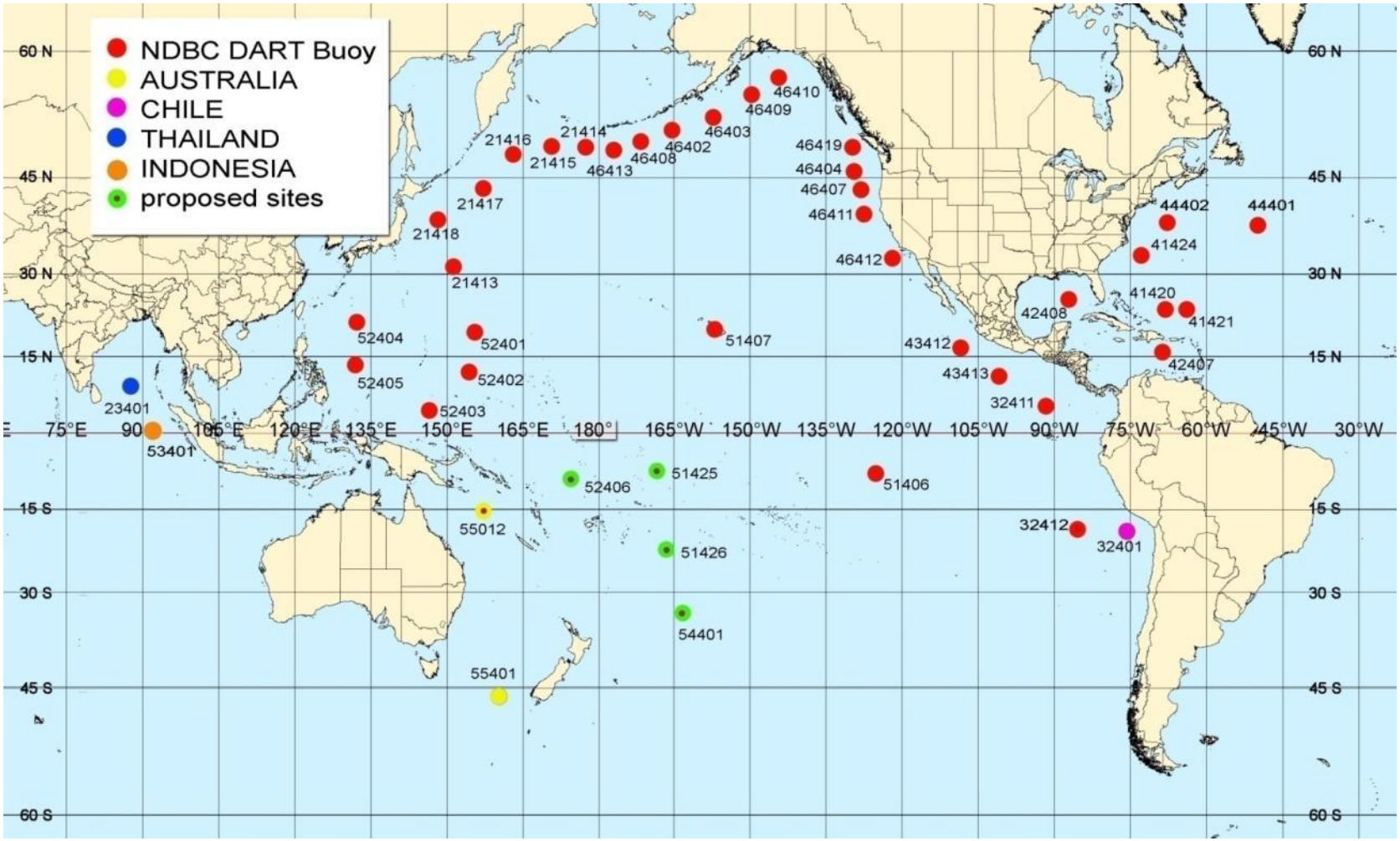
- Consider regulatory amendments **in advance** of disasters
- Simplified licensing procedures
- Lower licensing fees
- Special temporary emergency licensing procedures:
  - Exemption from onerous licensing procedures
  - No customs/import restrictions
  - Relaxed local gateway requirements

USE OF ICTs FOR DISASTER RISK REDUCTION

- Adoption of certain technologies or solutions **in advance** is essential
- Are traditional regulatory frameworks inhibiting disaster response?
- Example: M2M applications
  - Range of solutions for: environmental monitoring, disaster detection, early warning
  - Innovation and flexibility key – ability to develop tailored solutions
  - Emerging solution for disaster response that doesn't fit traditional regulations
- Regulatory review an essential part of disaster risk reduction

EARLY WARNING

DART®II TSUNAMI WARNING SYSTEM



RECOMMENDATIONS

- Develop disaster management plans
- Put equipment, early warning/alert systems in place
- Review regulations to ensure flexibility
- Introduce special licensing procedures for disaster response
- Work with industry to ensure swift disaster responses and promote disaster preparation

Thank you