BRITISH COLUMBIA | Ministry of Citizens' Services

Telecommunications Services and Its Implications to Public Safety

Ivan Rincon

Executive Director, Project Management Catastrophic Response Actions

Information Communication Technologies Division

Ministry of Citizens' Services, Victoria, BC

Objectives

- Understand the importance of telecommunication services in Emergency Management
- Assess different factors to consider when discussing telecommunications within the context of Emergency Management
- Understand resources available to improve telecommunications footprints at local, regional, and provincial levels

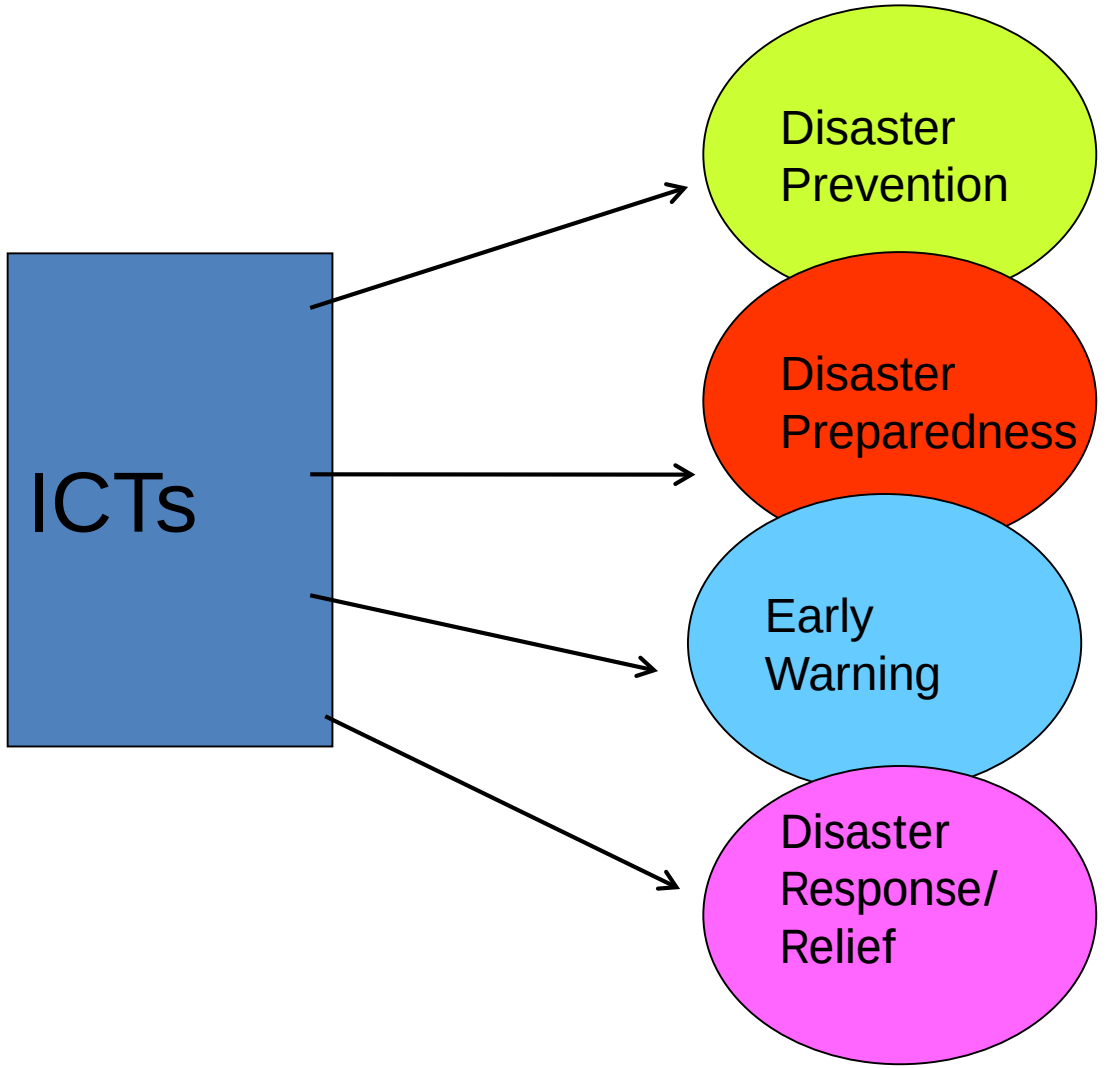
Experts: Canada's cellphone system vulnerable in disasters

CBC News

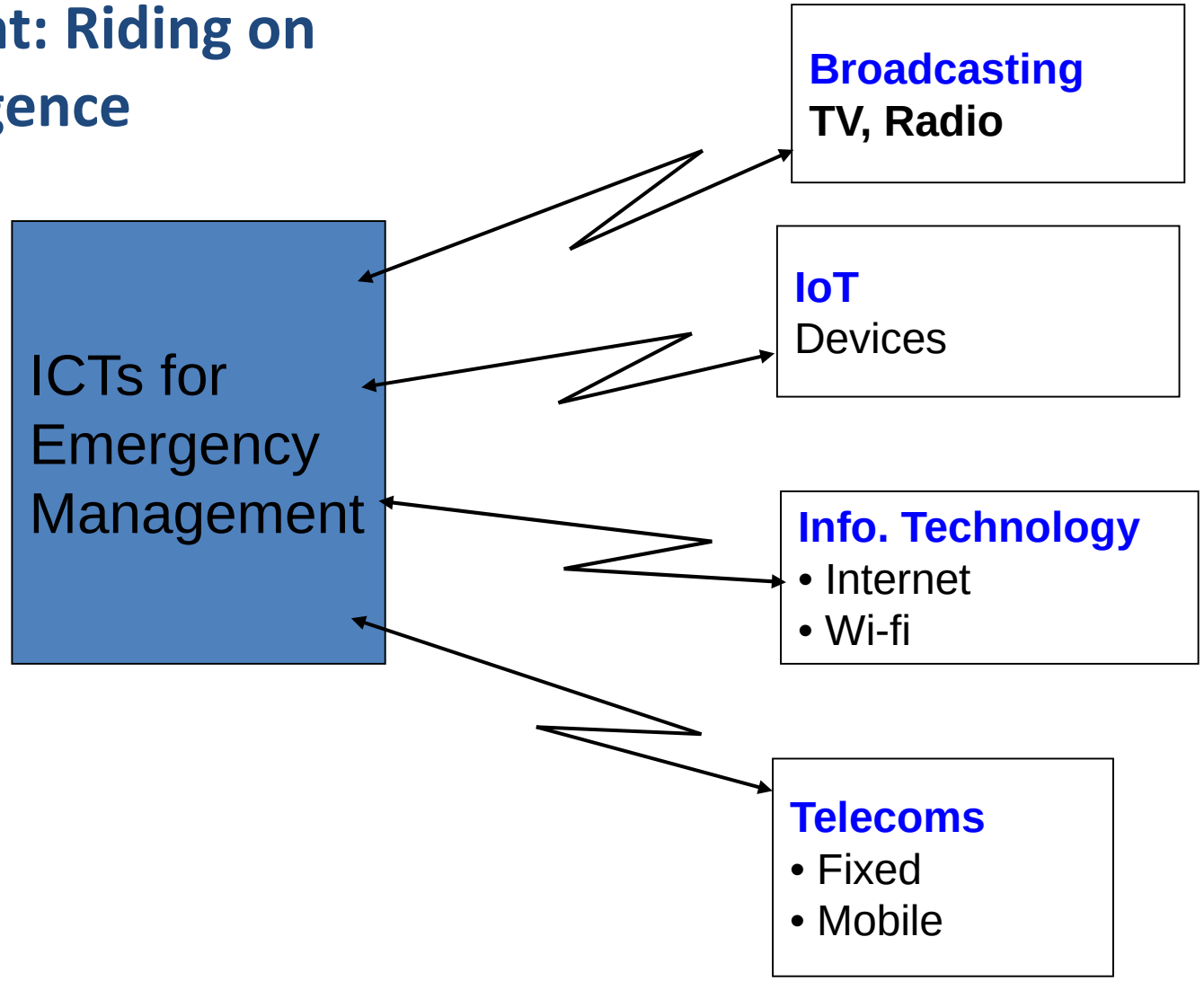
Sunday, September 30, 2018, 4:13 PM - Advocates are calling for the federal government to examine the reliability of Canada's cellphone services during emergencies after tornadoes swept through the Ottawa area last week leaving thousands with little or no cellphone service.

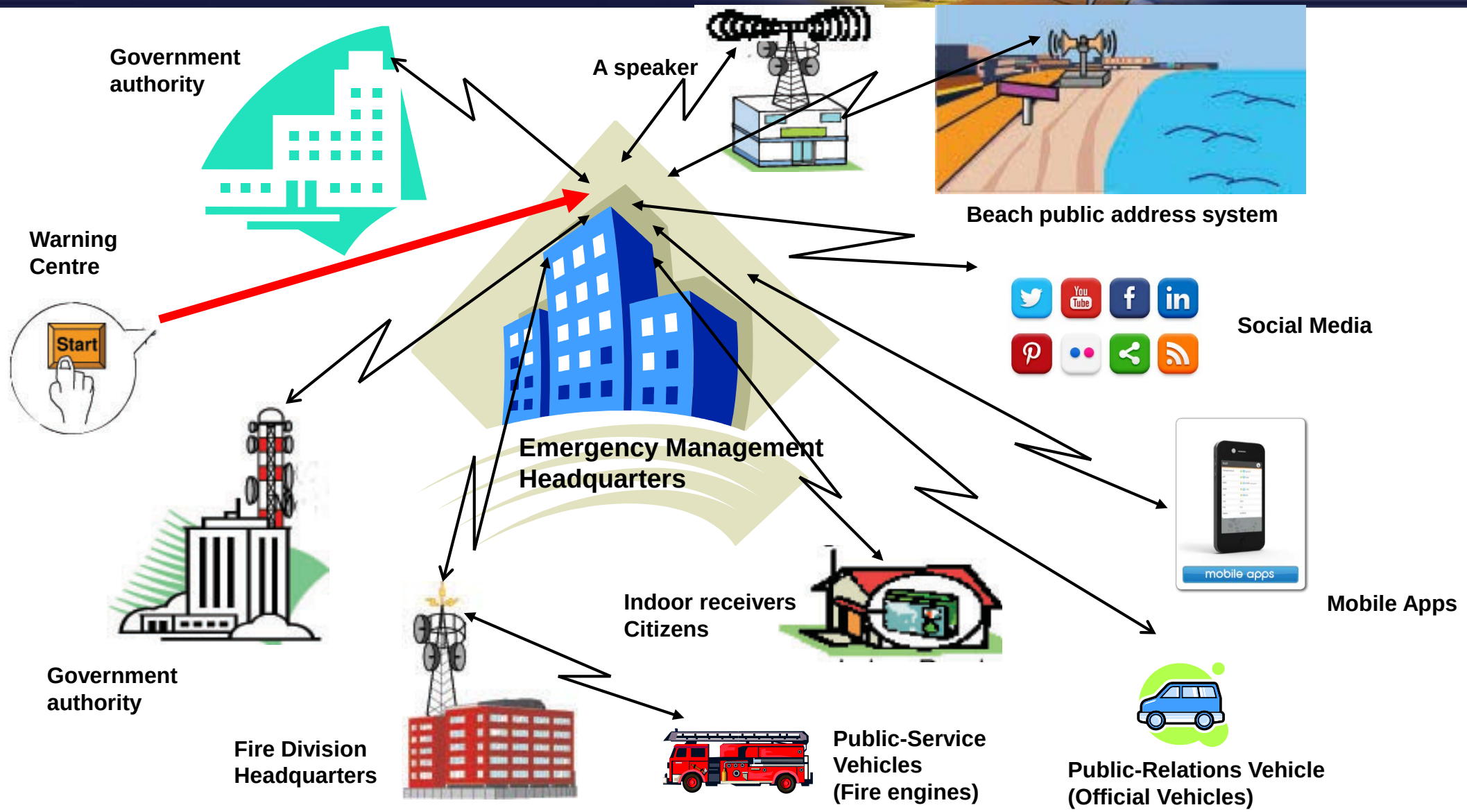
John Lawford, executive director of the Public Interest Advocacy Centre, said Canada's communications systems are more vulnerable than they were in the past, as consumers and phone companies move away from traditional landlines which have their own, independent, power supply

ICT: Relevant at every stage of disaster management



ICT Deployment: Riding on Convergence




Government authority
A speaker
Beach public address system
Warning Centre
Start
Social Media
Emergency Management Headquarters
mobile apps
Mobile Apps
Indoor receivers Citizens
Government authority
Fire Division Headquarters
Public-Service Vehicles (Fire engines)
Public-Relations Vehicle (Official Vehicles)

Source: ITU

In summary…

- ICTs are a key component of all four phases of Emergency Management.
- ICTs are pervasive in today's word. Our planning must include ICT as a key component (even if we don't have it!)
- ICT is multi-dimensional and complex. Emergency Management professionals need to understand and need the required support to use them properly in their individual context.
- ICTs are more challenging for remote and/or rural communities. This does not mean it is not possible to find solutions.

Important factors to consider

- Start with a HRV Analysis. We know this!
- Hazards:
  - What hazards are there and how can they affect our ICT
  - What other components may affect our ICT (Power, HR availability, physical distribution of assets…)
- Risk
  - Typical risk assessment: Threat (hazard) and consequence
  - Probability and Impact to ICTs
  - Are there mitigation actions or plans in place for these risks? How do they affect ICT?
  - How far are we from mitigating these risks?
  - Risk response
  - Risk appetite
- Vulnerability
  - Focus on ICT at all levels

Typical findings for ICT

- Redundancy/Resilience
- Ability to run for limited time/extended time
- Dependency on third parties
- Physical location of assets
- Human resources needed
- Support from higher levels of government/emergency services
- Interoperability

Review

- **Identify Communication Requirements and Equipment**
  - Location
    - Urban or Rural
    - Internal or External
    - Fixed or Mobile
  - Type
    - Two-way (2 people or conference call)
    - One-way
- **Don't forget** alternate facility locations and mobile, in-transit capabilities for leadership

Communications and Essential Functions

- **ICT systems should be able to:**
  - Operate:
    - At an alternate facility within x hours, and for up to y days
    - At a capability commensurate with essential functions, data, and systems
    - In situations with and without warning
  - Communicate with:
    - EM Planning Team, leadership & management, essential personnel, & other employees
    - Clients, stakeholders, vendors, & emergency personnel

Communications and Essential Functions

- **For each essential function, consider which ICT Technologies are used:**

  - Voice lines
  - Fax lines
  - Data lines
  - Cellular phones
  - Email
  - VOIP (Voice-Over-Internet-Protocol)
  - Internet access
  - Instant Messenger Services
  - Radio Communication Systems
  - Pagers
  - Satellite Phones
  - Smart phones

Communications and Essential Functions

- **Identify key information for every communication service provided, including:**
  - Current provider
  - Services provided
  - Special/emergency services provided or available

Communications and Essential Functions

- **Identify alternative modes of communication:**
  - List alternate providers for communications systems
  - List alternate modes of communications

- **Alternative modes of communications include**:
  - Cell phones
  - Government Emergency Telecommunications Service
  - Independent radio operators

Communications and Essential Functions

- Preventative controls attempt to avoid occurrence of unwanted disruptions

- Examples:
  - **UPS** to provide short-term backup power to system components
  - **Air conditioning systems** with excess capacity : continue functioning despite failure of certain components
  - **Fire and smoke detectors** and **fire suppression systems**
  - **Water sensors** in ceiling and floor for computer & telecom rooms
  - **Gas or diesel powered generators** for long-term backup power
  - **Emergency master shutdown switch**
  - **Technical security controls**

Communications and Essential Functions: Other Considerations

- Signed agreements with other agencies/organizations that share facility
- Sufficient quantity of interoperable and available communications capabilities to meet responsibilities during emergency
- Communications capabilities that support leadership while they are in transit
- Identify programs & acquisition vehicles
- Annually review continuity communications

Available Resources

- At the Provincial and Federal level:
  - Expertise (EMBC, Public Safety Canada)
  - Strategic planning (Funding available from entities like DnD, ISED, Public Safety)
- Non-for-profit Agencies
  - Red Cross, eComm
- Suppliers
  - Most ICT suppliers have SMEs or practices focused on Emergency Management
  - Assessments and gap documentation
- More specific resources
  - Connecting BC Funding for Broadband infrastructure
  - Other Federal funding for connectivity
  - Public Safety Broadband Network (PSBN) Initiative
  - Alert Ready

Q and A Time