Information and Communication Technologies (ICTs) for early warning systems

International Telecommunication Union (ITU)

Our mission: Connect the world

Specialized United Nations (UN) Agency for Telecommunications & Information and Communication Technologies (ICTs)

3 Sectors

- Standardization
- Radiocommunication
- Development

193
Member States

900
Companies, universities, and international and regional organizations.

Rich network of experts in the global ICT ecosystem

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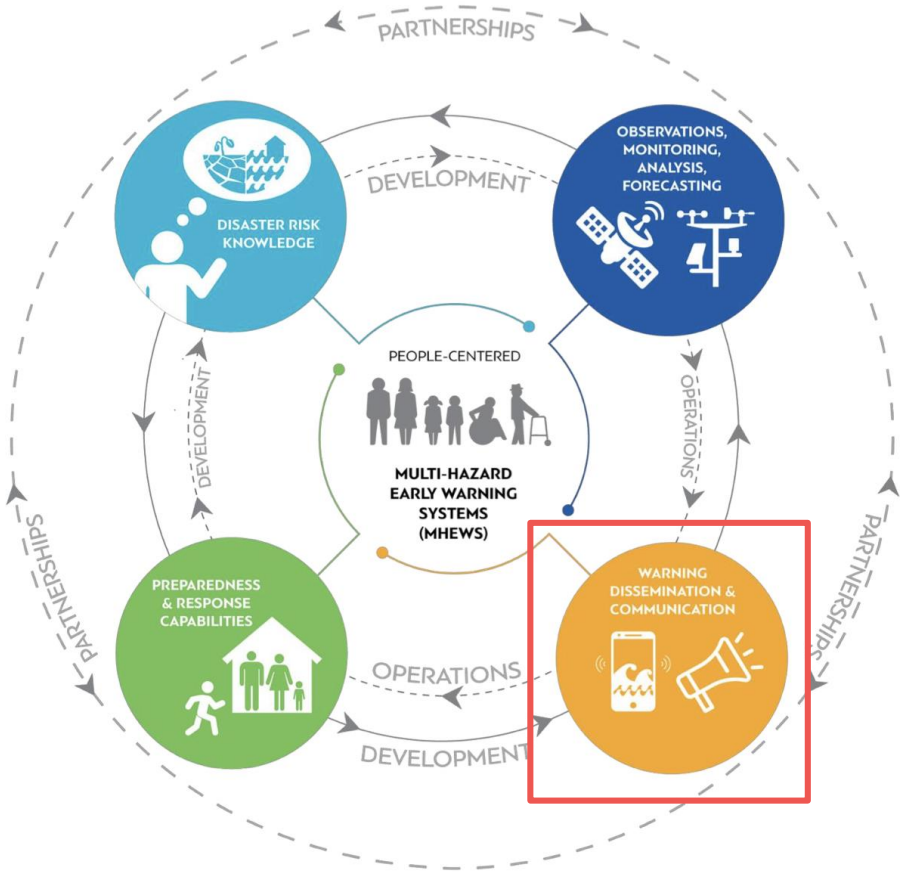
UN Initiative on Early Warnings for All (EW4A)

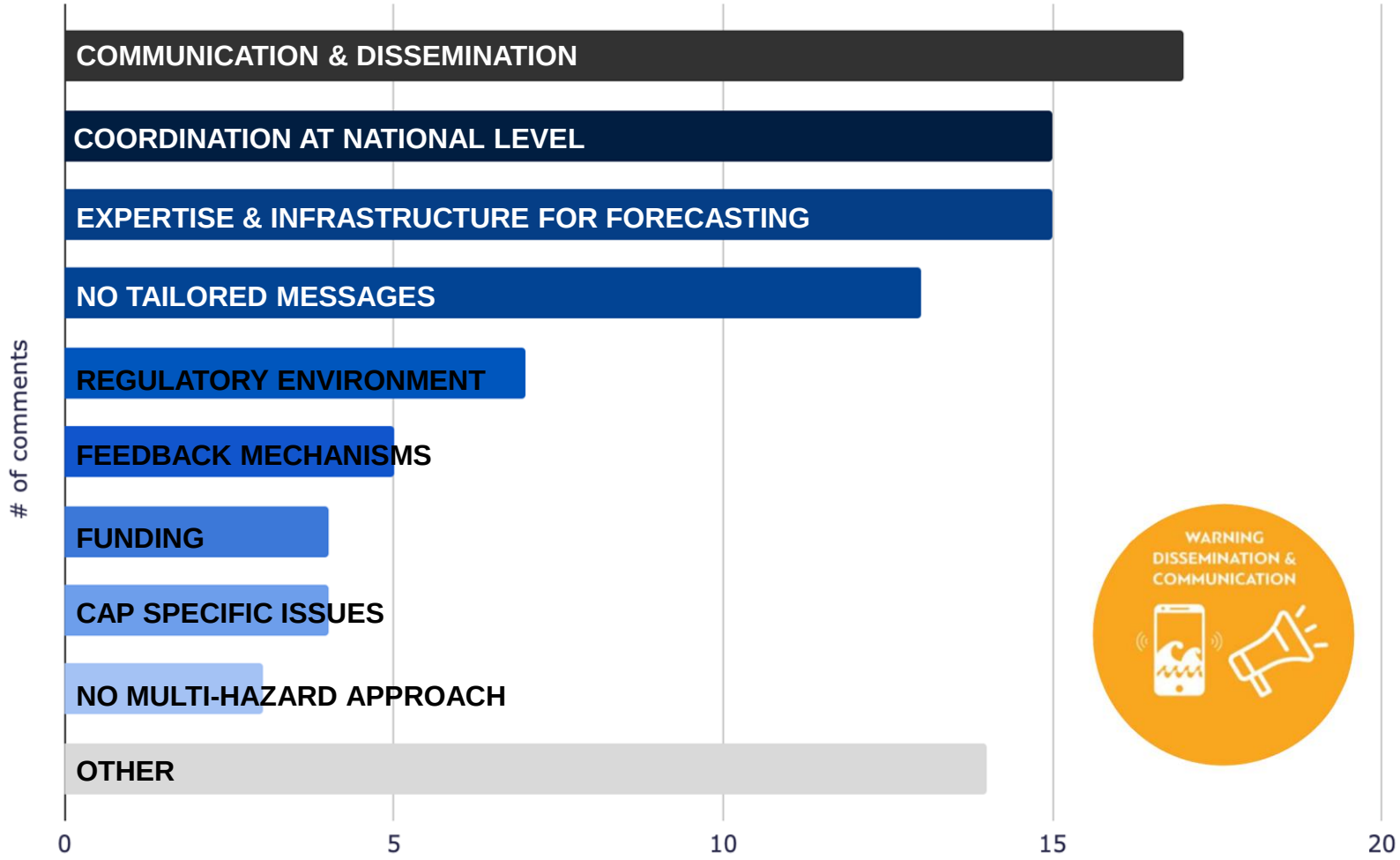
In March 2022, the UN set a new target to **ensure that by 2027, everyone on Earth is protected by an early warning systems**



Multi-Hazard Early Warning System(MHEWS) Value Cycle – 4 pillars (Source: WMO)

Warning Dissemination & Communication

-- **is the biggest challenge for EWS,** according to research conducted in 13 countries in Africa & the Caribbean



Source: IFRC

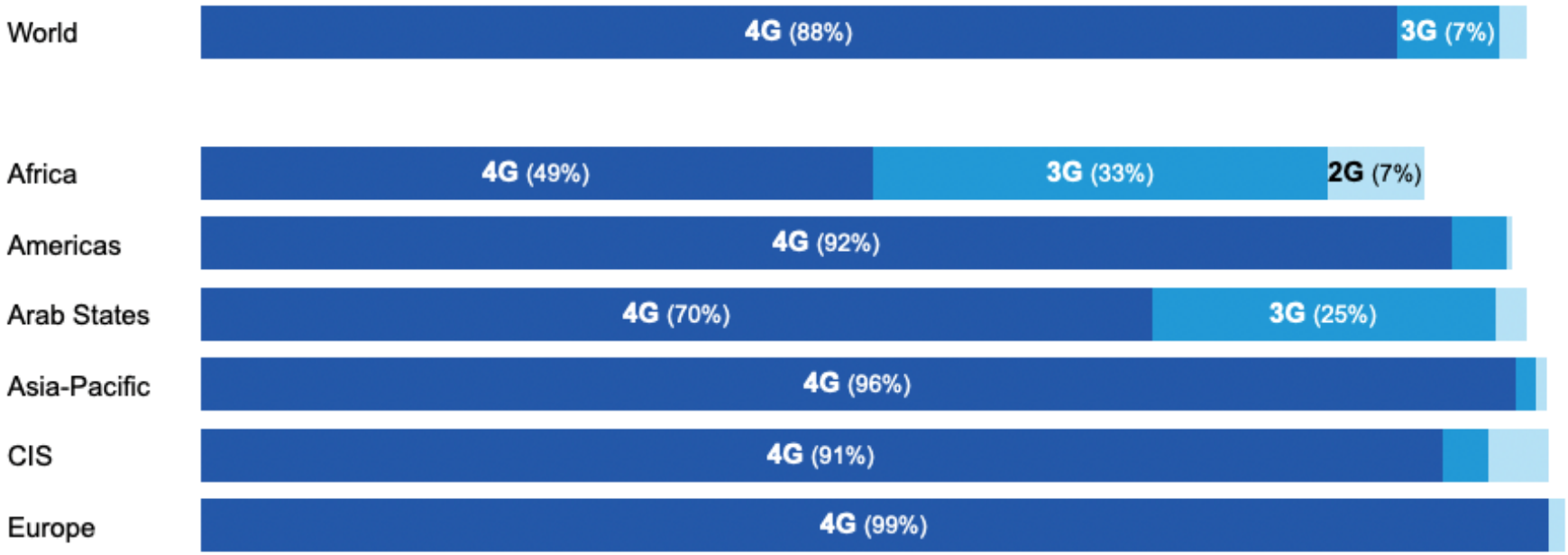
Multi-channel Approach for Warning Dissemination and Communication

- In warning dissemination and communication, a **multi-channel approach** increases the effectiveness of an alert and helps address the diversity of communities at risk.
- Digital transformation brings huge opportunities to strengthen this pillar and allows us to reach more people through information and communication technologies (ICTs) -- such as sending alerts to the phone.

95% of the world population is covered by a mobile network

...a great opportunity to use mobile networks for early warning systems!

Population coverage by type of mobile network, 2021

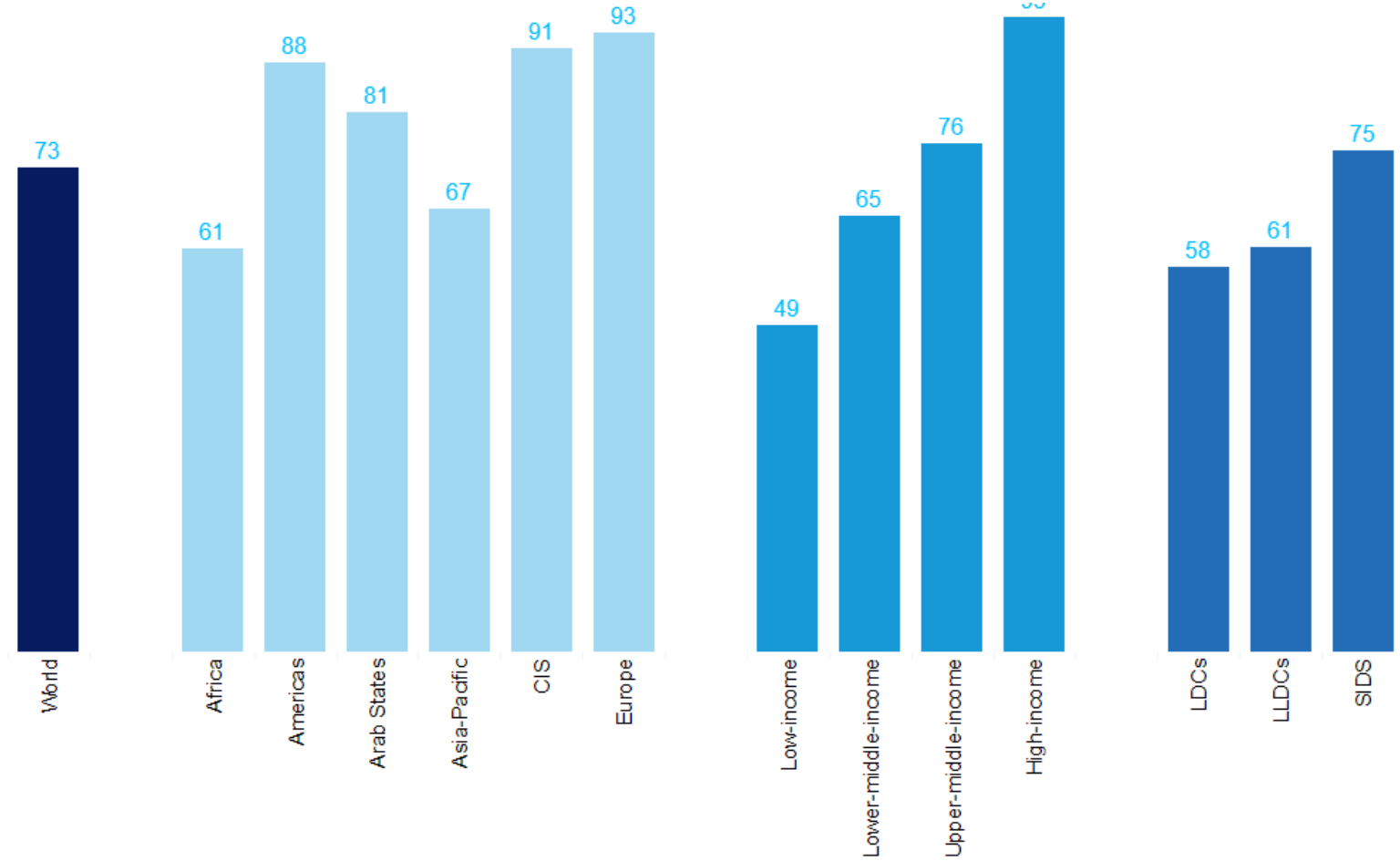


Source: ITU, *Facts and Figures 2021*

Three-quarters of the world's population own a mobile phone

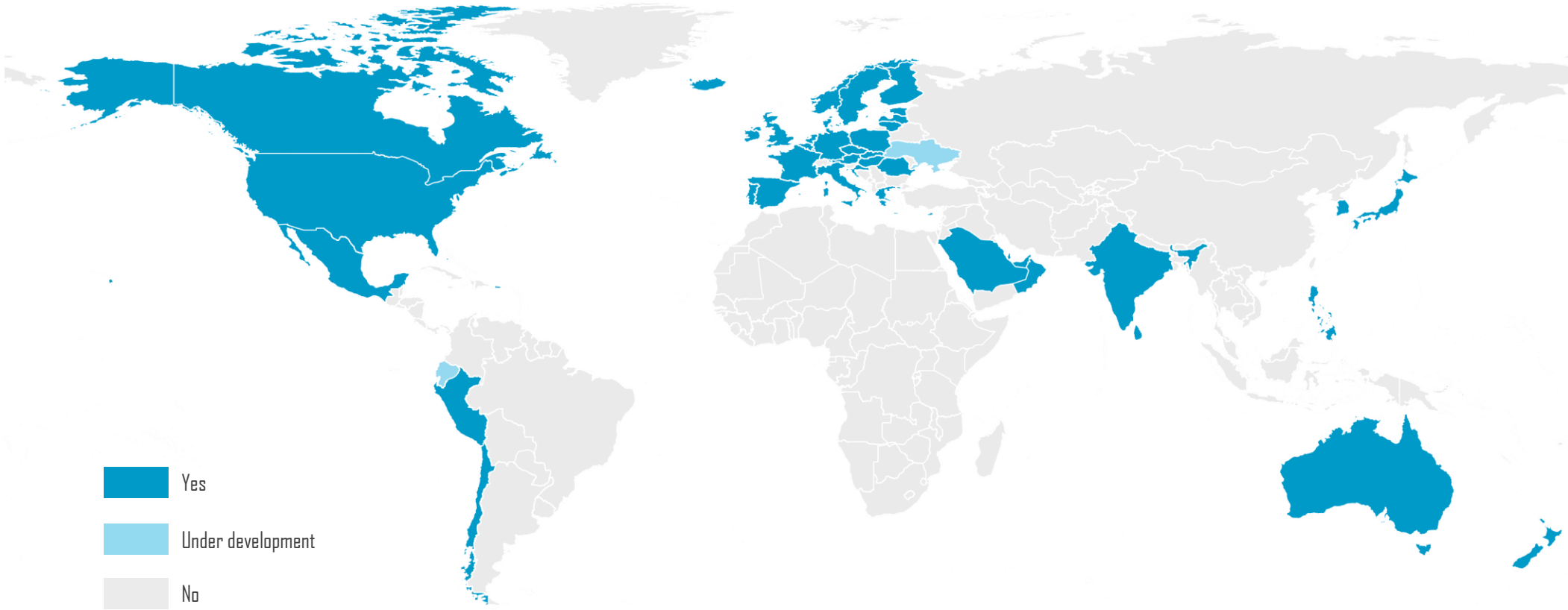
...making mobile network an effective channel to reach people!

Percentage of individuals owning a mobile phone, 2022



Source: ITU, *Facts and Figures 2022*

Countries with a mobile EWS using cell broadcast and location-based SMS*



** work in progress, based on ITU research*

How and why alerting via mobile-cellular networks works?

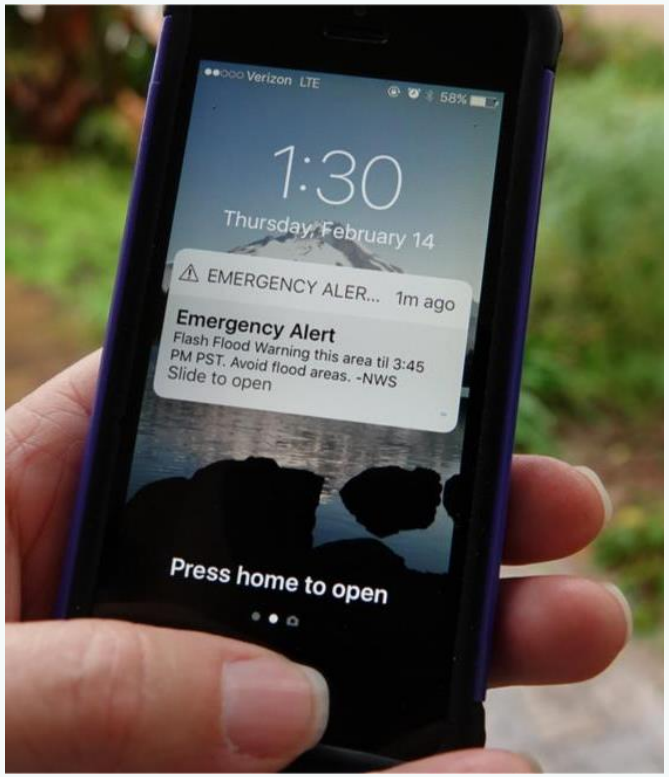


Photo credit: Dimone Hogan/Shutterstock

Cell-Broadcast (CB) & Location-based SMS (LB-SMS)

- **Wide reach:**
  - Send geo-located messages to users within risk areas, including roamers
  - Opt-in challenges limited(as opposed to mobile-apps)
  - Compatible on most (CB) /all devices (LB-SMS)
- No risk of congestion (CB)
- No subscription needed (CB)
- Supports multi-language alerts (CB & LB-SMS)
- A "blind technology" that does not allow 2-way communication (CB)
- 2-way communication to provide information such as the number of users in risk areas (LB-SMS)

Next steps for digital transformation & EWS for saving lives

- Promote a regulatory approach adopted by EU
- Work with MNOs/GSMA
- Discuss technologies and standards for implementation (including CAP)
- Identify experts and share best practices for awareness raising
- Bring on board partners and identify financing opportunities
- Provide technical support to countries in the bidding process

Photo credit: USAID

Thank you!

Contact

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