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Webinar on Government Innovation & Disaster Risk Reduction: Frontier Technologies for Resilience

QZSS for Early Warning Message Platform

Koji Suzuki

Executive Director, Asian Disaster Reduction Center

Co-Chair, Sentinel Asia Steering Committee

Member of National Committee for Space Strategy (QZSS)

Visiting Professor, Research Center for Urban Safety & Security, Kobe University,



Asian Disaster Reduction Center (ADRC)

- ✓ Regional Center for DRR in Asia and the Pacific
- ✓ UNIDNDR, 1987
- ✓ Yokohama Strategy, 1994
- ✓ Established in 1998
- ✓ Turkey joined as 31st member country





Positioning Satellites

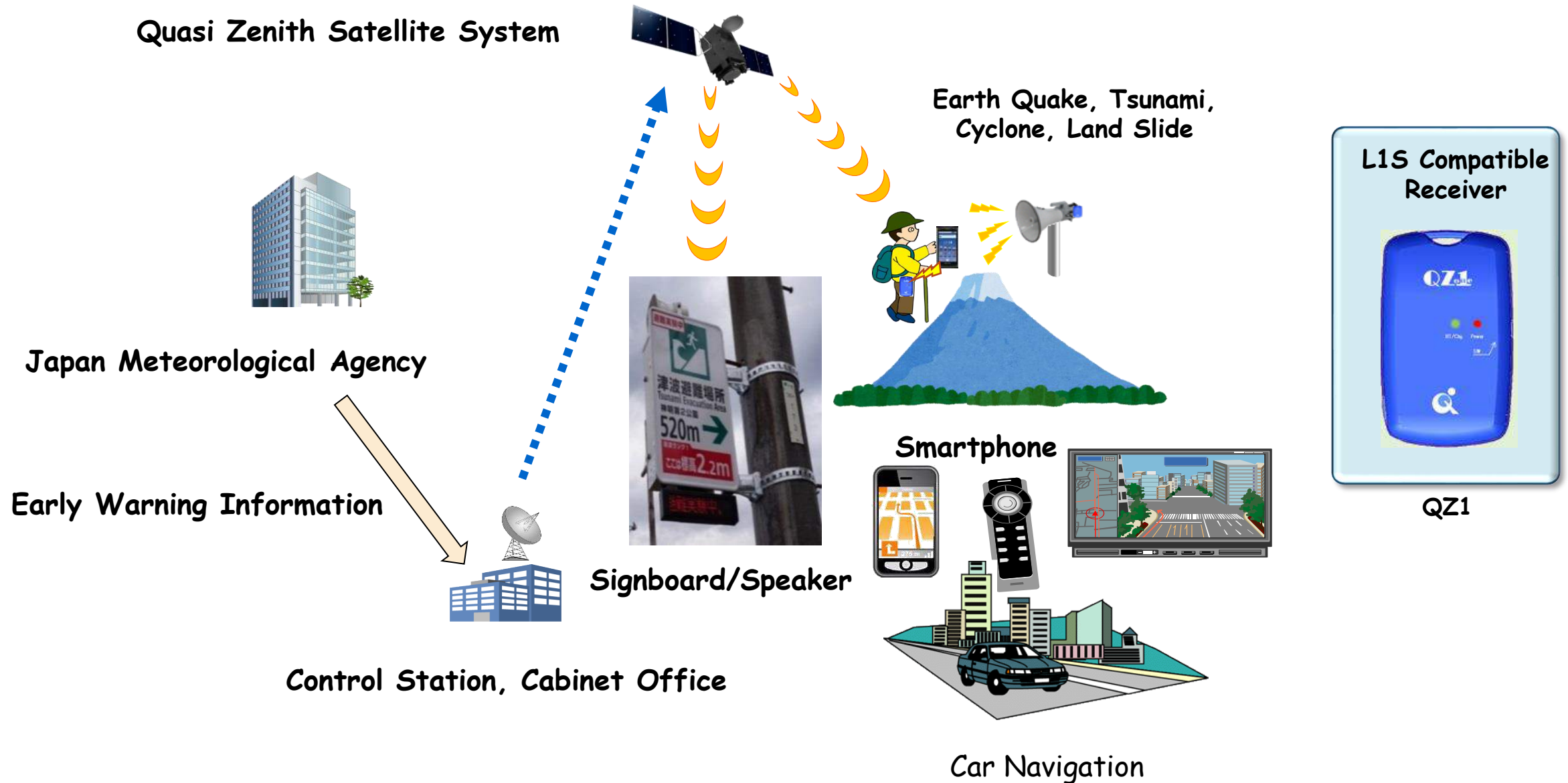


QZSS

GALILEO

- ✓ USA : GPS (Global Positioning System) 【 ~10m】
- ✓ Russia : GLONASS (year2011~, 24units) 【50~70m】
- ✓ Europe : Galileo (year2016~, 30units) 【~1m】
- ✓ China : BeiDou (year2000~, 3units, year2020~ 32unite) 【~10m】
- ✓ India : IRNSS (year2016~, 7units) by ISRO 【~5m】
- ✓ Japan : QZSS (year2018~, 4units / year2023, 8units) 【~cm】

QZSS for Early Warning Message Platform



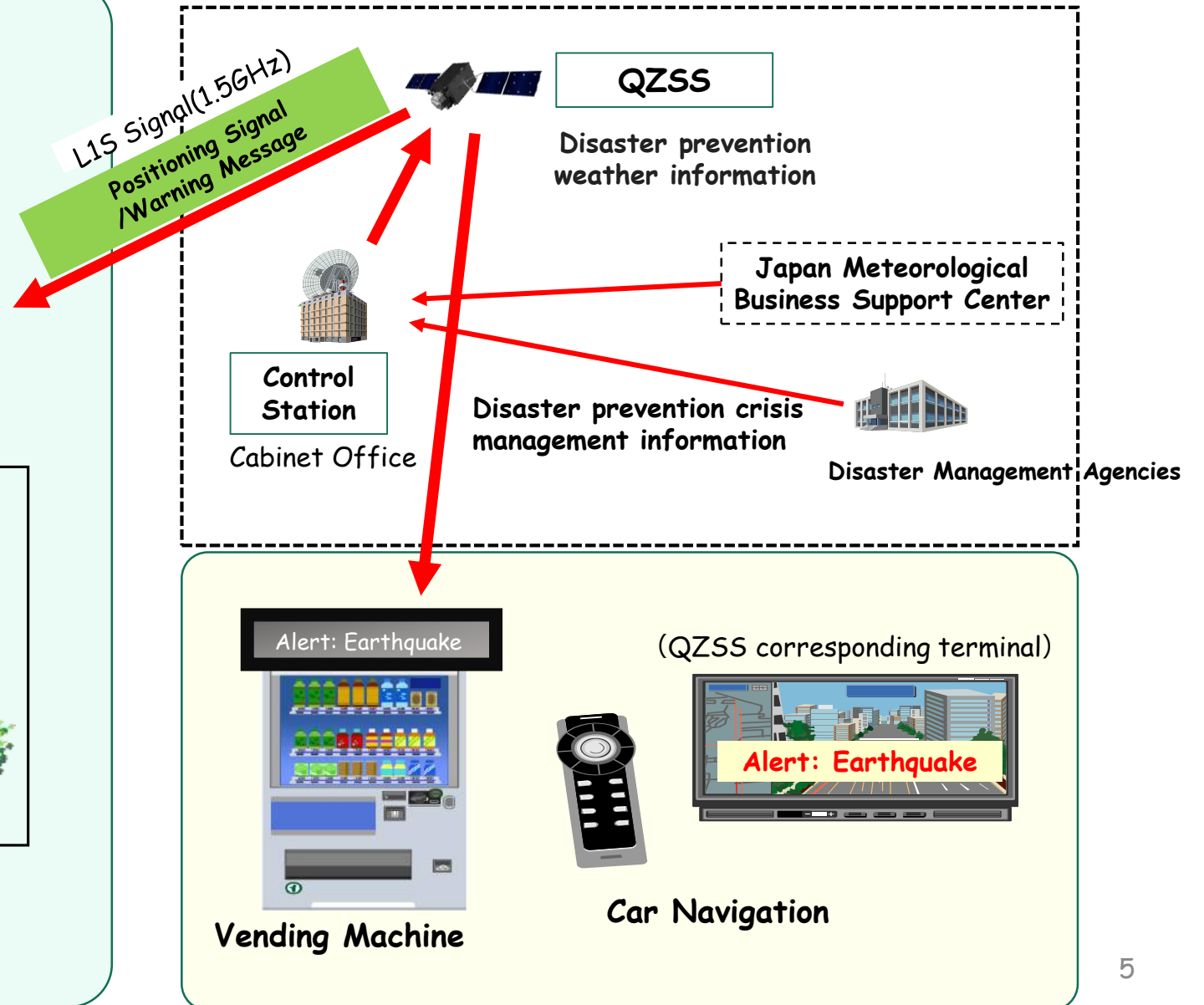
Applications



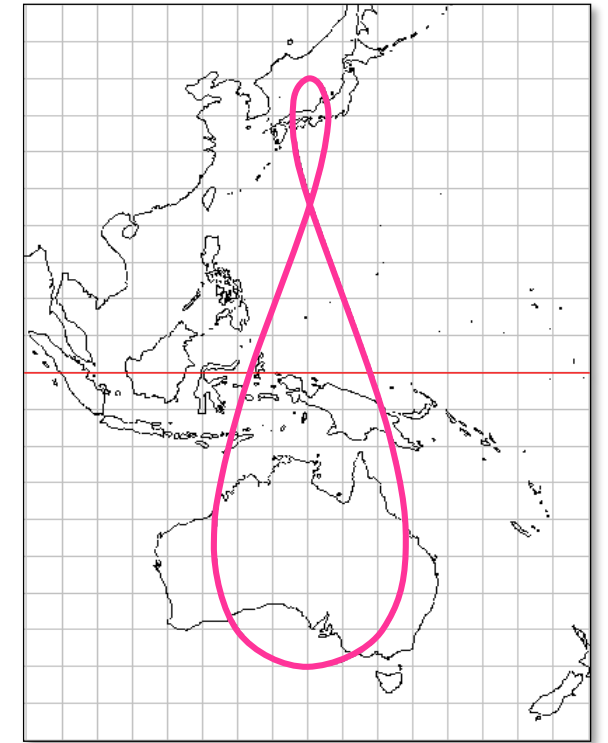
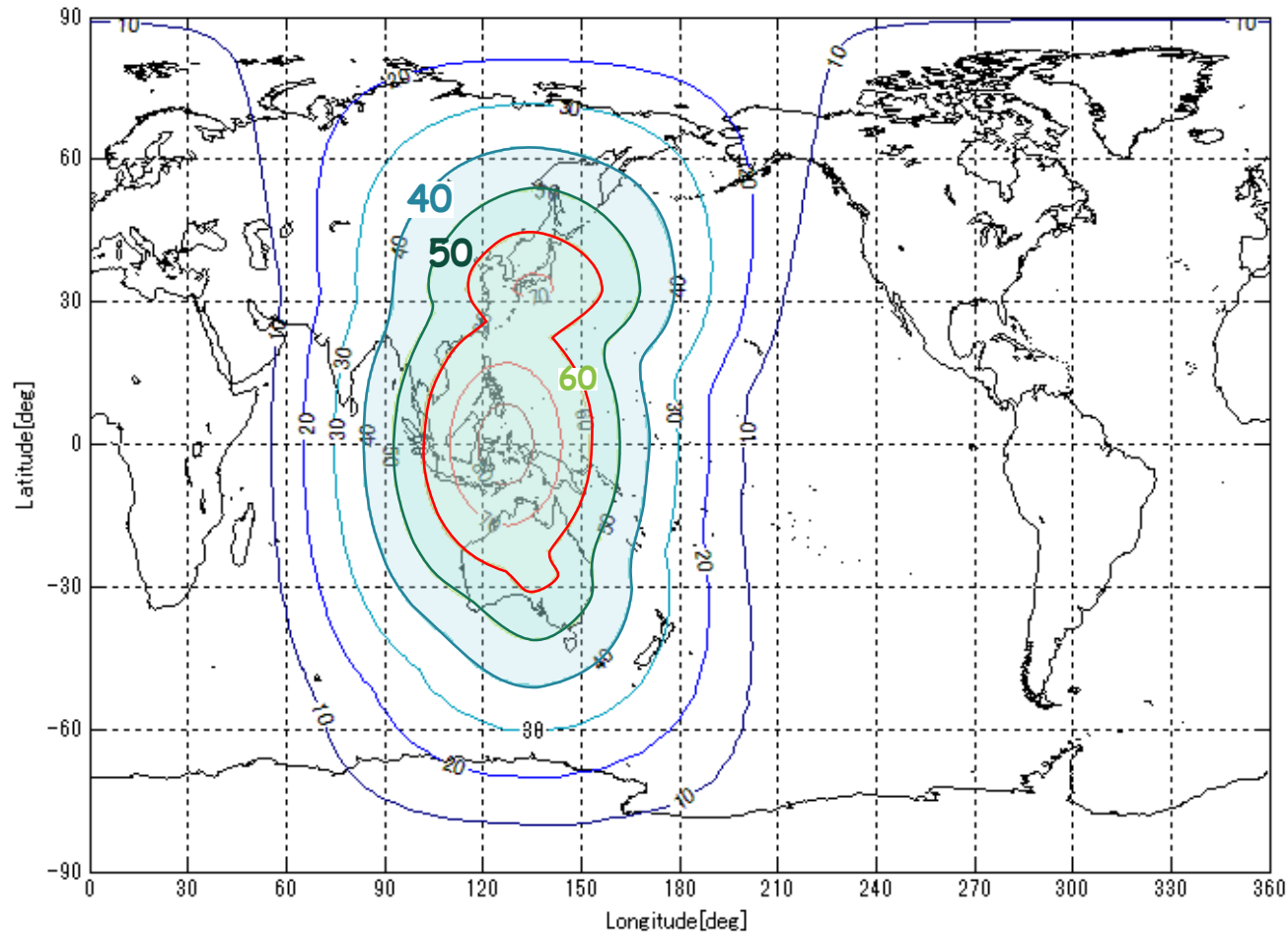
Coastal Area
(Earthquake, Tsunami)



Mountain, River
(Eruption · Flood)



QZSS signal is available with each elevation angle



QZSS orbit;
one geostationary
and
tree figure-eight

Emergency Warning Services (EWS)

- Proposed common Emergency Warning Services - collaboration among Japan (QZSS), EU (GALILEO) and India (NavIC) systems
- Focus on messaging structure, disaster area representation, etc.
- Warning message structure is nearly done - different natural and man-made disasters
- Disaster area representation being discussed for efficient implementation
- Warning message will provide **disaster type, country ID, affected region as a generic ellipse, severity of the disaster, expected duration of the disaster and evacuation advice** (stay where safe, evacuate in 'D' direction, etc.)



Global Multi-Hazard Alert System by WMO



51st WMO/UNESCAP Typhoon Committee Session in Guangzhou, China on 26th February

Summary: EWMP by QZSS

- redundant early warning message platform.
- works when and where information & telecommunication system is not available or not working
- receive early warning message with an affordable receiver in local languages
- looking for the feasibility study partners