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Satellite Report for Disaster and Crisis Management Using Early Warning Systems for the Asia-Pacific Region

Purpose: Information

Submitted by: Japan



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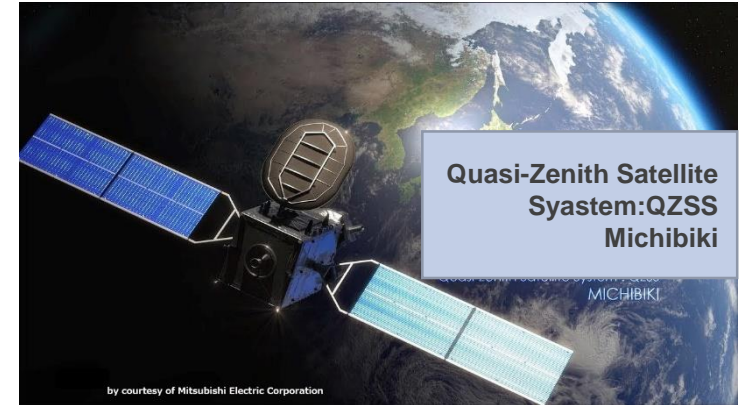
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**Satellite Report for Disaster and Crisis Management
(DC Report) using EWS for the Asia-Pacific region**

**Koji Suzuki / National Committee for Space Strategy
(QZSS)/Cabinet Office of Japan**

Presented by Gerry Potutan, ADRC for the EPWG-18

The Japanese GNSS constellation QZSS (Quasi-Zenith Satellite System), as known as “Michibiki”, run and operated by the Japanese Government, has been performing well since officially going live with the 4-satellite constellation in November 2018.



The Japanese Government has tested a disaster early warning system that uses one of its Quasi-Zenith's satellites to transmit information from institutions monitoring weather conditions. The system aims to contribute to better disaster prevention in the Asia-Pacific region. The disaster warning system is expected to be effective in supporting evacuation and managing relief activities in remote areas such as mountainous regions.

Various experiments have already been conducted in Japan to test reciprocal data transmission. The system has not only been used to send warnings but also to connect computers at evacuation shelters and disaster response centers in a simulation.

What is DC Report

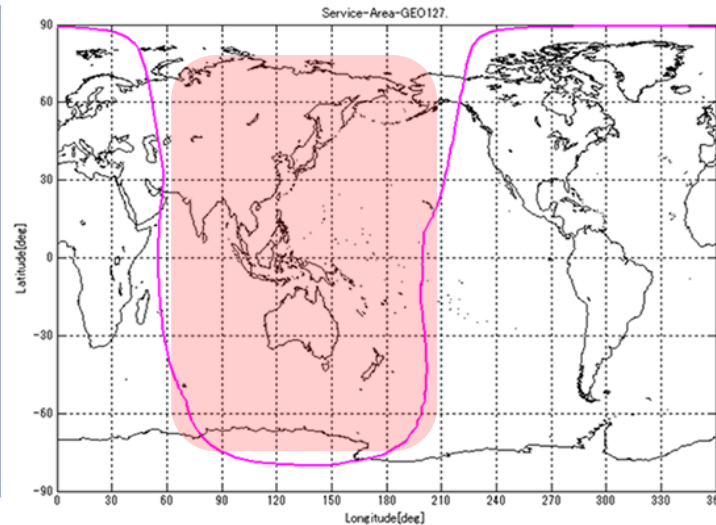
What is DC report?

Satellite Report for Disaster and Crisis Management (DC Report) is a service that to publish crisis management information from organizations for disaster prevention. The information is transmitted via Michibiki satellite .

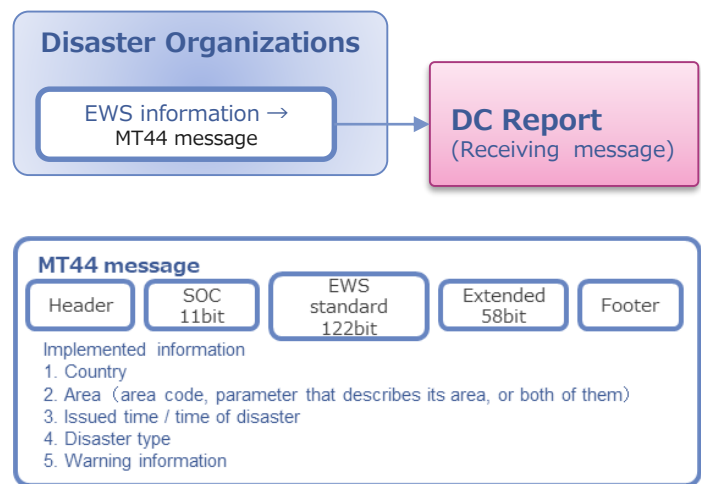
DC Report is generated by Receiving MT44 messages from Disaster organizations.
MT44: Incident information type (optional format)



Orbit of Michibiki



Area where DC report is receivable

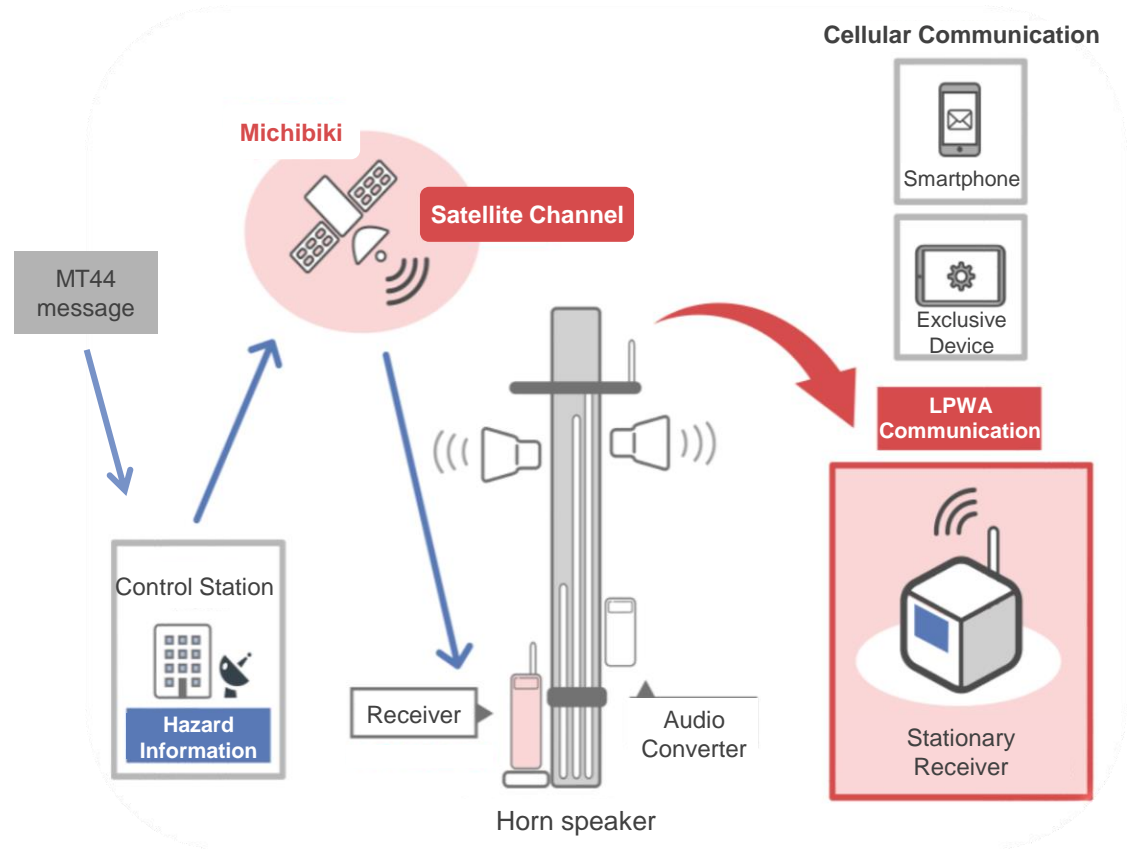


The way Michibiki transmits information in Japan

How it works in Japan

The information received from the satellites is expected to be shared via audio and/or displays over Low Power Wide Area (LPWA).

This enables organizations to promptly convey disaster-related information to people even in regions with limited, or no, telecommunication network available and when telecommunications are unavailable due to damaged ground infrastructure.



Early Warning System in Japan

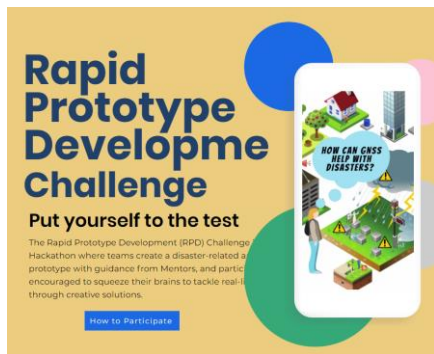
Promotion Activities in Asia-Pacific region

To promote the use of DC-Report via QZSS as a disaster information transmission system suited to local environments, where this service is expected to be effective in the Asia-Pacific region.

Research and verification on overseas development of DC report

Research period: **FY2022 - FY2024** (4 years)

Overview: Develop EWS message management software and prototype receivers that will be adapted to the local environments, used by overseas agencies. By conducting verification at few Asia-Pacific countries to clarify the optimal equipment configuration for each country.



Activities:

In 2022, as a part of a promotion of QZSS, Japan will support the Rapid Prototype Development (RPD) Challenge which is a part of the activity of Multi-GNSS Asia (MGA).

Countries which Cabinet Office is inviting to join the study project

East Asia: Taiwan,

ASEAN: Cambodia, Indonesia, Malaysia, Philippines, Thailand

SAARC: Bangladesh, Nepal

Pacific: Australia, Fiji

<Way forward>

Concept note of the Project will be shared with them next week.

Validation study will be done by 2023 March

Demonstration will be done by 2024 March

ODA will be prepared for installment



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