



December 14, 2020

## **Declaration of Japan COSPAS–SARSAT Mission Control Center (JAMCC) Full Operational Capability(FOC) for MEOSAR Functions**

Japan Coast Guard honors to announce its completion of developing COSPAS–SARSAT MEOSAR System capability and formal commencement of its Full Operational Capability on 8<sup>th</sup> of December, 2020. It is anticipated that the MEOSAR FOC would enhance regional SAR capabilities.

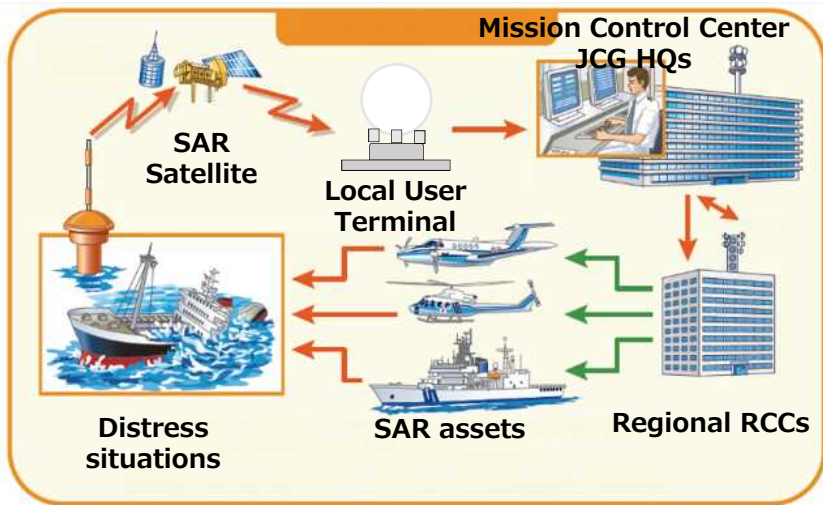
In 1993, Japan Coast Guard (JCG) participated in the Cospas–Sarsat Programme Agreement as a ground segment provider to support the global satellite–based maritime and aeronautical Search and Rescue (SAR) system.

The Cospas–Sarsat Programme had comprised of LEOSAR (Low–earth orbiting) and GEOSAR (Geostationary orbiting) systems since its system inauguration late in 1980' s. In 2009, The International Maritime Organization (IMO) started to consider GMDSS Modernization Plan and as the result, IMO MSC98 in 2017 approved to integrate being developed complementally MEOSAR (Medium–earth orbiting) system into the GMDSS.

Accordingly, Japan Coast Guard deployed the New MEOSAR system ground segment consisting of 6 channel MEOLUTs at Futtsu in Chiba and MCC server at JCG HQs in Tokyo, and the USMCC (JAMCC' s host/backup MCC) had conducted performance verification campaign as part of its formal commissioning procedure since then.

On 8<sup>th</sup> of December 2020, USMCC granted the declaration of FOC for JAMCC, and it formally launched its full operations on the same date. The MEOSAR system is designed to improve beacon location accuracy and shorten distress detection timeframe, compared with existing LEOSAR and GEOSAR systems. It is anticipated that the Cospas–Sarsat Council formally integrate LGM–JAMCC into its Programme shortly.

**Structure**



The Cospas-Sarsat System is comprised of :

- 406 MHz distress radio beacons (ELT,EPIRB,PLB) which transmit signals during distress situations
- Instruments on board satellites which detect the signals transmitted by distress radio beacons,
- Local User Terminals (LUTs), which receive and process the satellite downlink signal to generate distress alerts, and
- Mission Control Centers (MCCs) which receive alerts produced by LUTs and forward them to Search and Rescue Points of Contacts (SPOCs).

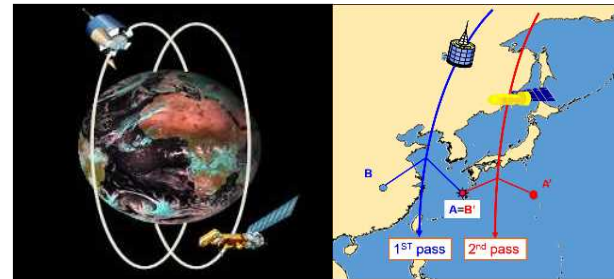
※the Cospas-Sarsat data distribution system is implemented in the network of MCCs

**Local User Terminal**



MEOLUT (Futtsu in Chiba: 6 Channels)

**LEOSAR and MEOSAR**



**LEOSAR**  
- Wait Time (minutes to hours dependent on location and terrain)

**MEOSAR**  
+ Global coverage with real-time and location data – single burst detection and location(expected)

	LEOSAR (Low altitude Earth Orbit Satellite)	MEOSAR (Medium altitude Earth Orbit Satellite)
Altitude	800~1,000 Km	19,000-23,000 Km
Number (SAR payload on)	4 satellites are in operation (Metop satellite)	Over 40 satellites (GNSS satellite: over 70 satellites in future)
Beacon Location	Doppler Location	Time difference and Frequency differences
Wait Time : Satellite Pass	Average 1 hour	Real time detection