

The BDS-3 SAR with RLS+EWS Services

14th Meeting of the International Committee on
Global Navigation Satellite Systems

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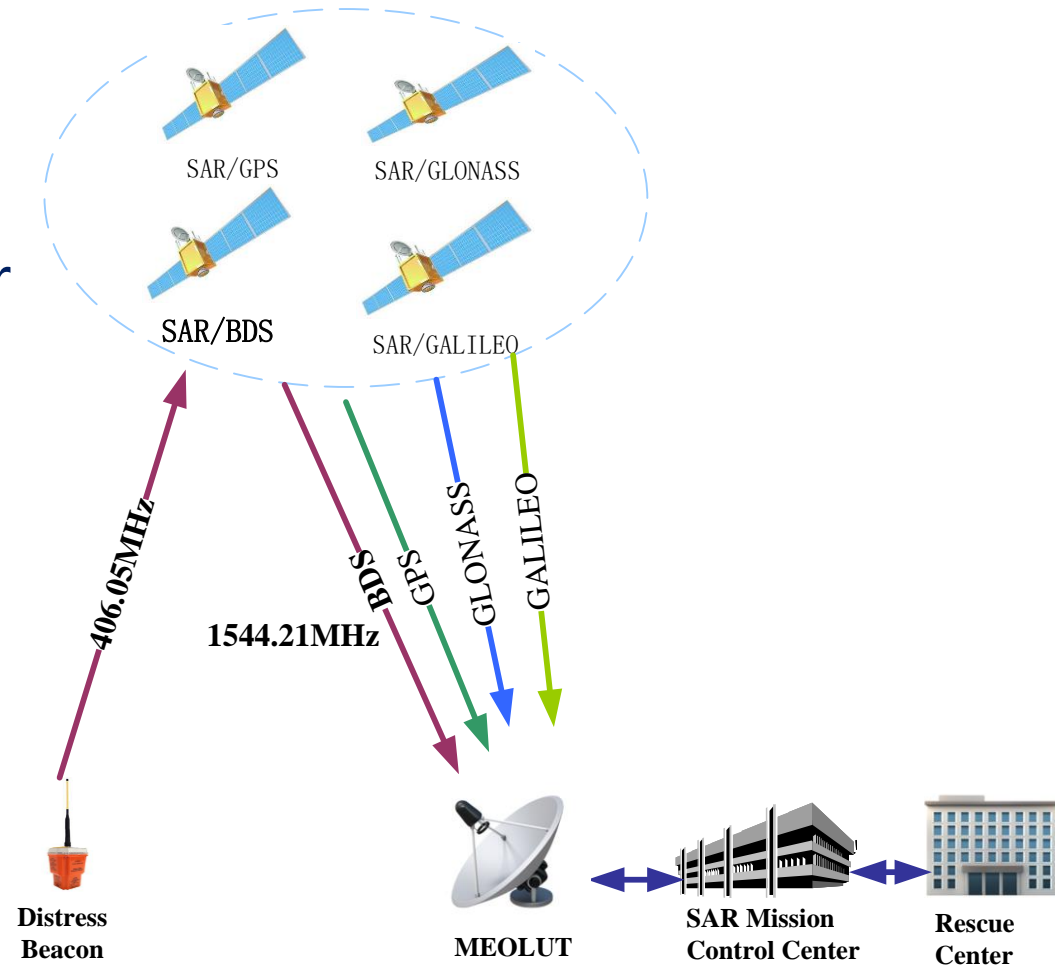
01 SAR/BDS service

02 RLS and EWS

03 Progress of International standards

1. SAR/BDS service

- Meets international SAR standards
- Works together with other SAR payloads
- 6 MEO satellites
- Global coverage
- Full services in 2020



6 MEOSAR in 3 planes

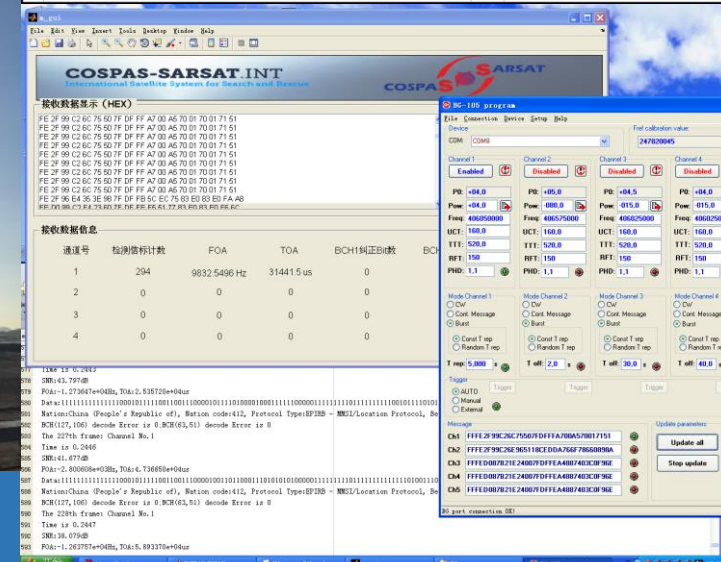
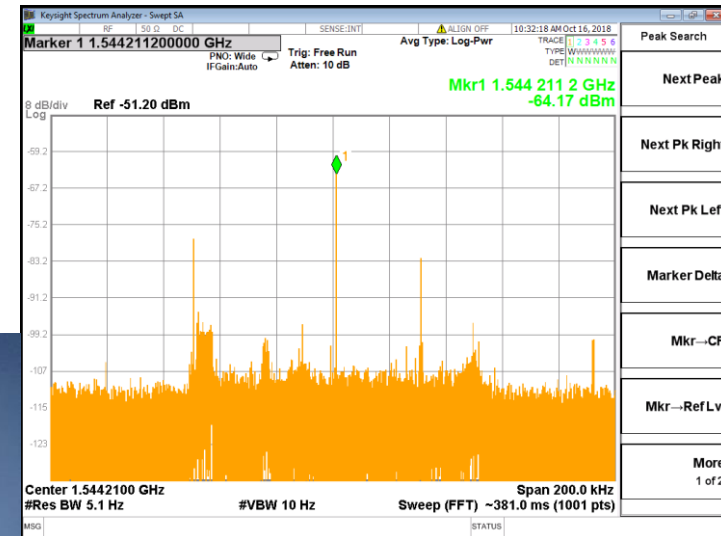
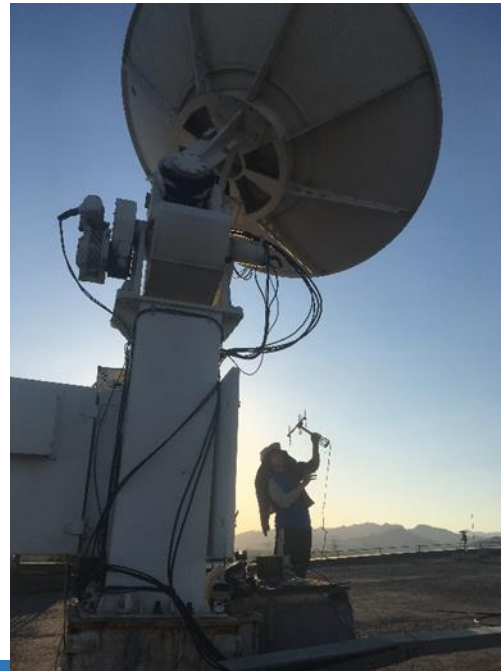
Satellite	Plane and slot	Launch Date
BD-3-M13, BD-3-M14 (43622, 43623)	B1, B3	2018/09/19
BD-3-M21, BD-3-M22	<i>A6, A8</i>	<i>2019</i>
BD-3-M23, BD-3-M24	<i>C3, C5</i>	<i>2019</i>

- ❑ Provides COSPAS-SARSAT SAR service
- ❑ RX 1544.21MHz, RHCP
- ❑ 55° inclination
- ❑ 1.8 mean motion

M13,M14 SAR/BDS IOT

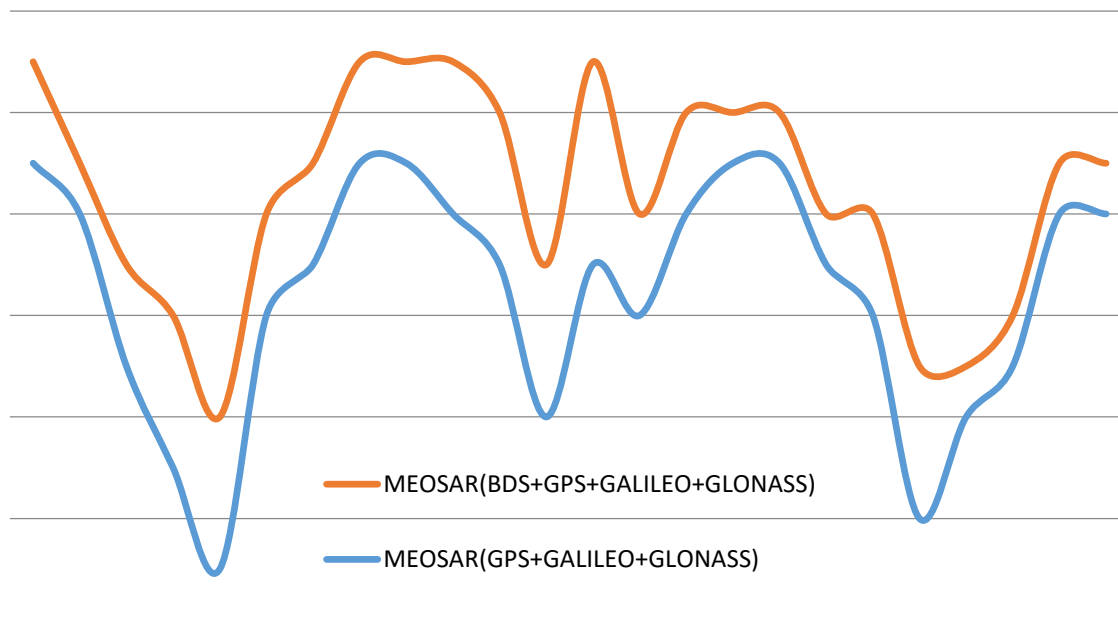
The preliminary in orbit test results meet the requirements of international standards (Cospas-Sarsat Standard C/S T.017).

- SARR Gain
- SARR G/T
- Amplitude Transfer Function in ALC mode
- Frequency Response
- Linearity/Third Order Intermodulation
- SARR EIRP
- Spurious Output Level
- Beacon Signal Processing

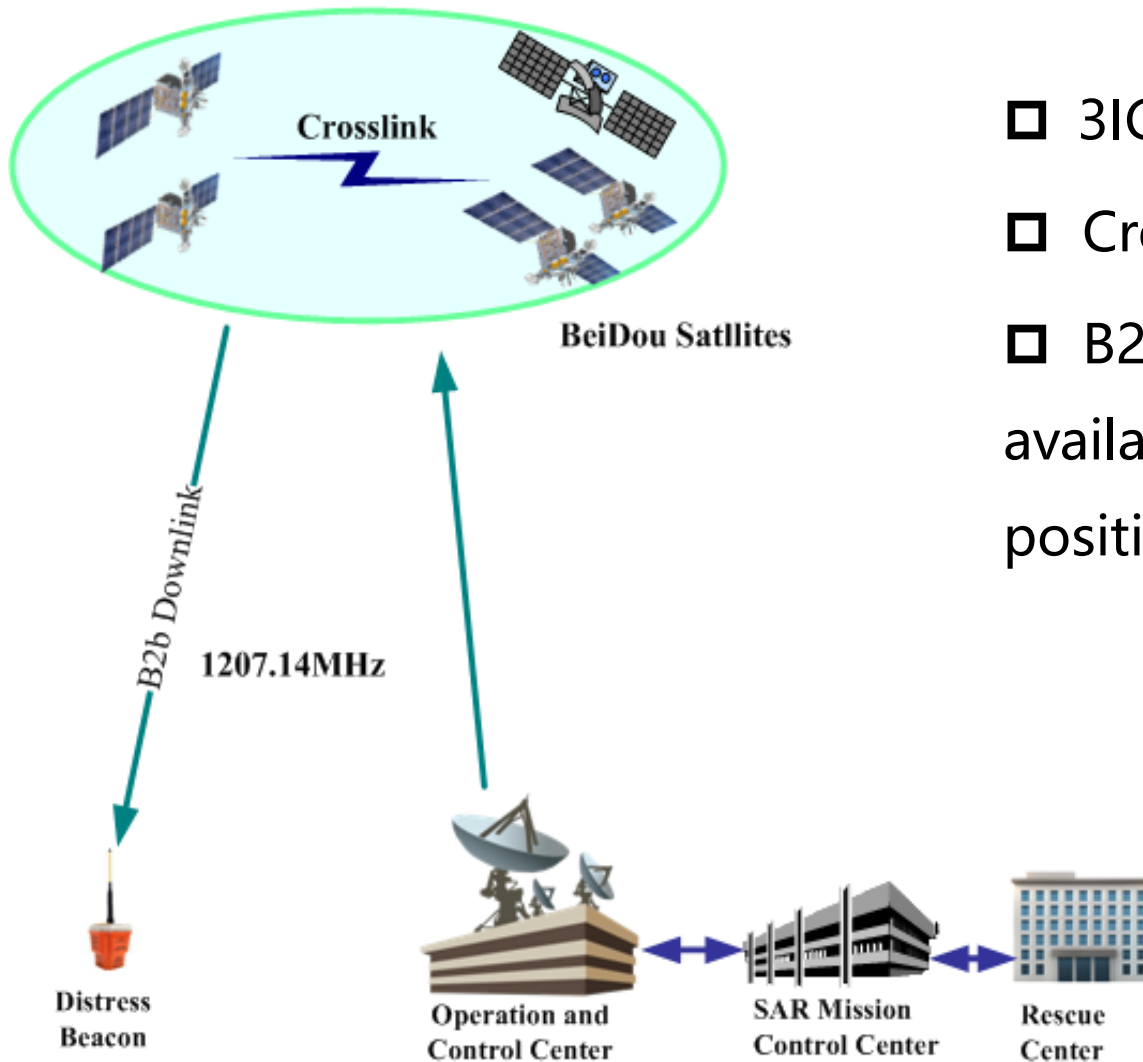


Improve SAR performance

- ❑ MEOSAR satellites increased from 65 to more than 70
- ❑ Visible satellites increased from 25 to 28
- ❑ Service reliability improved



2. RLS and EWS



- ❑ 3IGSO + 24MEO
- ❑ Crosslink
- ❑ B2b(1207.14 MHz) signal available for RLS, EWS and positioning.

Service Features

❑ Exclusive frame

Exclusive message type: 9

Different msg-subtype for RLM1, RLM2 and EWS

High priority to achieve instant response

❑ Expected Performance

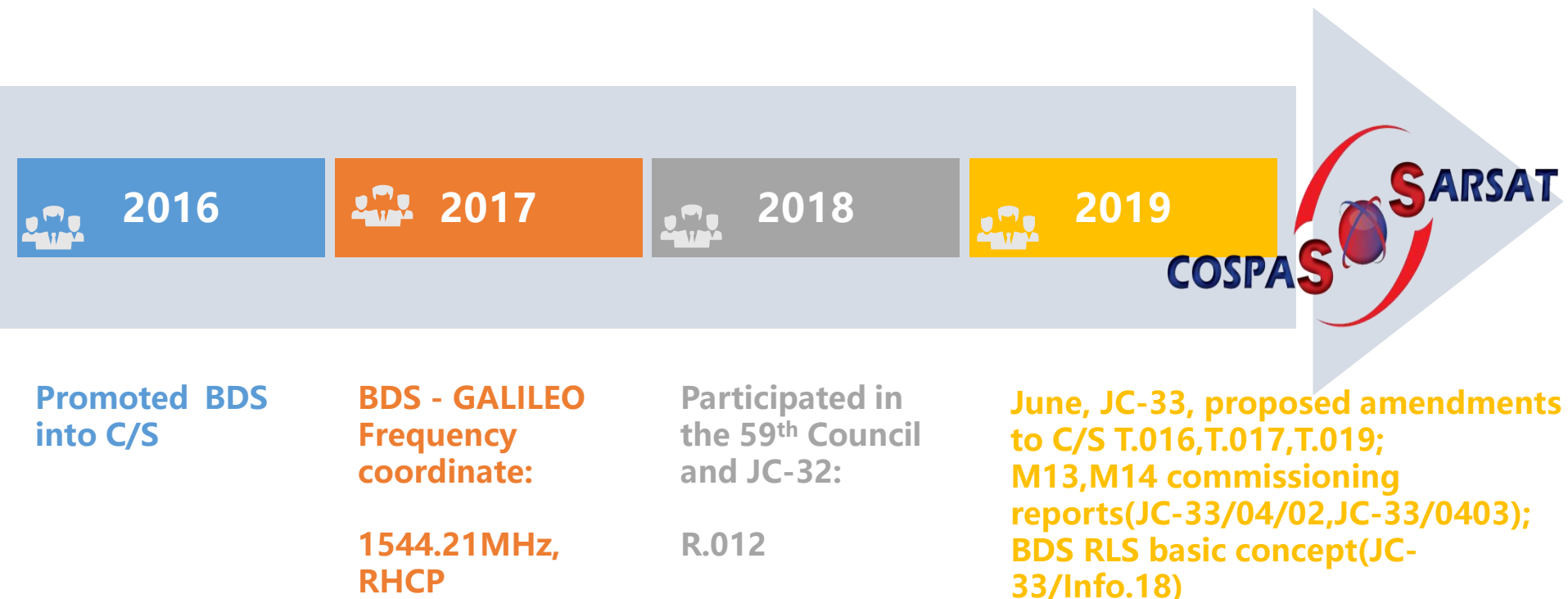
- Global capacity: 6000 message / hour
- Maximum delay: < 2 min

Service Advantage

- ❑ Reduce false alarm rate
- ❑ Improve mission efficiency and success rate
- ❑ Enhance psychological comfort
- ❑ Early disaster precast for damage control
- ❑ Auxiliary positioning precise in 10 meters

3. Progress of International standards

- SAR/BDS has been written into COSPAS-SARSAT 406 MHz MEOSAR IMPLEMENTATION PLAN(C/S R.012).
- 2018 October, C/S JC-32 ,Submit *DEVELOPMENT PLAN FOR SAR/BDS (JC-32-Inf-54) and CHARATERISTICS OF THE SAR/BDS PAYLOADS (JC-32-Inf-55)*.
- 2019 June, c/s JC-33, submit *PROPOSED BDS AMENDMENTS TO DOCUMENT C/S T.016, T.017, T.019 (JC-33/04/04,JC-33/04/05 and JC-33/05/05)*.



Summary

GNSS systems and other related should work together to provide better service to users around the world.

—Promote SAR/BDS Return Link Service and EWS to become international standards.

	Coverage	False rate	Positioning accuracy	Efficiency	Successful rate
SAR	Global	High	Low	Low	Low
SAR +Return Link +EWS	Global	Low	High	High	High

THANK YOU!

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