



SARSAT Beacon Manufacturers Workshop

May 1, 2014

MEOSAR D&E Update

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MEOSAR D&E

- MEOSAR Demonstration and Evaluation Plan
 - Current version - C/S R.018 - Issue 2 - Rev. 1, October 2013
 - Three phases defined in recognition of maturing space segment (hybrid system of satellites with S-band and L-band downlinks)
 - Phase 1 – Technical tests only
 - measure system performance with incomplete space segment
 - refine processes and procedures needed to successfully execute testing
 - Phase 2 – Operational and Technical tests
 - Space segment sufficient to demonstrate system performance as good or better than existing LEOSAR/GEOSAR system
 - Phase 3 – Operation and Technical tests
 - Verify system performance with L-band satellites only



Participants

- Currently - Brazil, Canada, France, Russia, Turkey, UK and USA
- Beacon Simulators - Hawaii and Maryland, USA and Toulouse, France
- Possible future participants
 - EC/ESA - three MEOLUTs (Makarios, Svalbard and Maspalomas),
 - MEOSAR Ready MCCs
 - Norway, Spain, Italy, Peru, Japan and Brazil
 - UAE, Algeria, Argentina, Australia and New Zealand, announced plans to possibly join in the future.



Phase 1 Test Status

- Phase 1 tests performed

Test Period	Test	Definition
February 2013	T-3 Run 1	Valid/Complete Message Acquisition
February - March 2013	T-1 Run 1	Processing Threshold and System Margin
April 2013	T-4 Run 1	Independent 2D Location Capability
April 2013	T-3 modified	Valid/Complete Message Acquisition with reduced transmission rate
May 2013	T-6 Run 1	MEOSAR System Capacity
June – August 2013	T-4 Run 2	Independent 2D Location Capability
July – August 2013	T-1 Run 2	Processing Threshold and System Margin
November 2013	T-5	Independent 2D Location Capability for Operational Beacons
December 2013- March 2014	T-6 Run 2	MEOSAR System Capacity
-	T-2	Impact of Interference (conducted during the above tests, with limited capability; improved capability is expected in the near future).

- Technical test T-7 (Networked MEOLUT Advantage) not run because the network configuration was not currently available



Phase 1 Report

- The Master Test Coordinator will consolidate the reports of the Test Coordinators in a draft Phase I report for review at JC-28;
- JC-28 will review the detailed content and expectations of the Phase I report;
- The interpretation and conclusions of the Phase I report should be discussed and finalized at the EWG-1/2014 Meeting

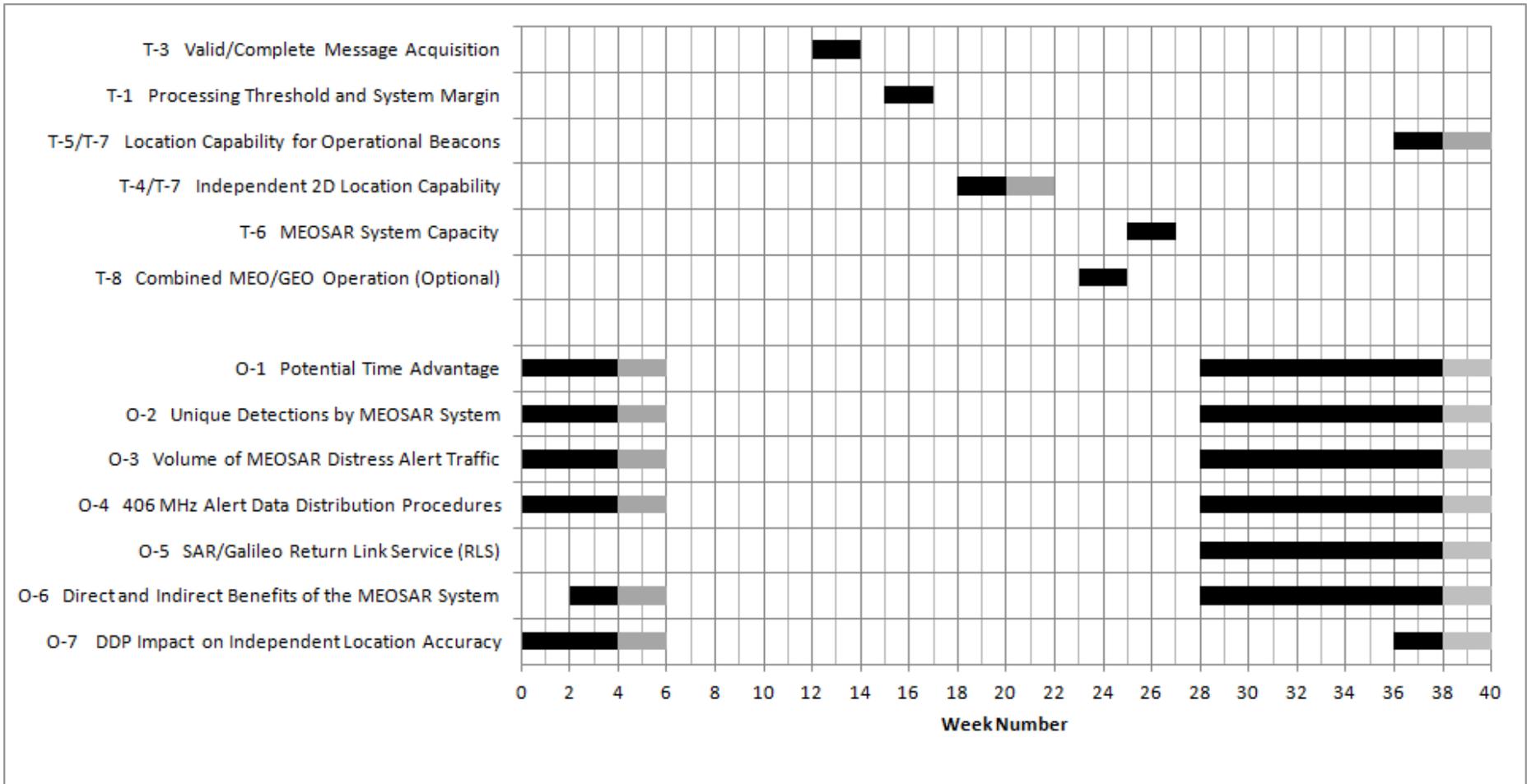


Phase 2

- The planning of Phase II tests had been amended by the D&E test participants at TG-2/2014, including:
 - no technical tests at the beginning of Phase II,
 - two periods of operational tests (instead of one),
 - one period of technical tests in between the two periods of operational tests;
- Phase II testing began on 7 April 2014, with a six week period of operational tests
- Phase II schedule, including start of technical tests, to be further reviewed at JC-28



Phase 2 Schedule



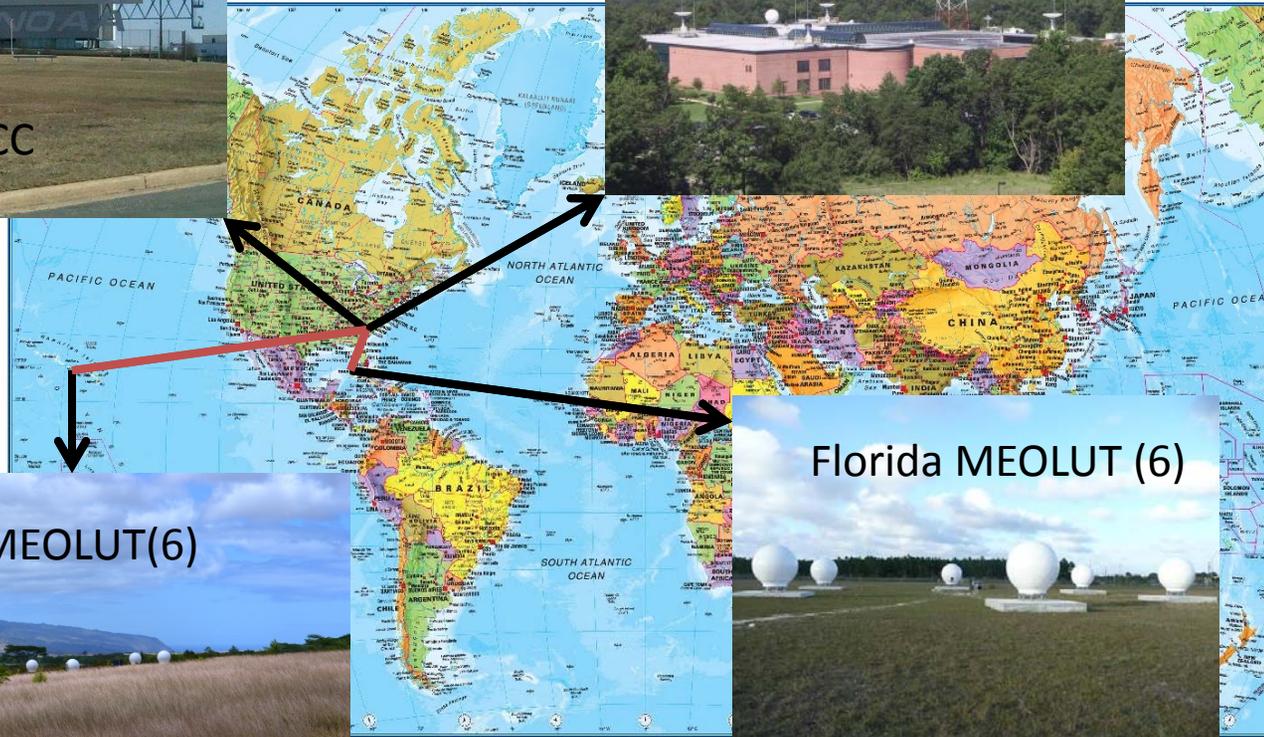


Phase 3

- The exit and entrance criteria for Phase 3 is still being discussed
- Currently defined in document C/S R.018 to be a minimum of 14 L-band satellites



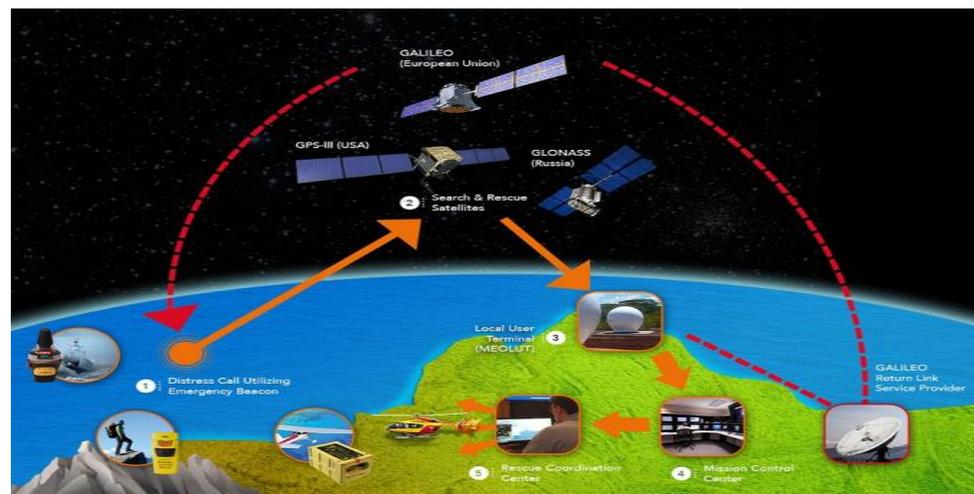
Current US MEOSAR Ground Segment





MEOSAR Space Segment

- Currently, there are;
 - 13 GPS satellites in orbit that have the S-band MEOSAR capability
 - 2 Galileo satellites that have the L-band MEOSAR capability
 - 1 Glonass satellite that has the L-band MEOSAR capability (note: timely precision orbit vectors not available for use in location determination)





Launch Schedule

- The launch of the next GPS satellite with a SAR S-band capability is scheduled for mid-May 2014
- SAR/Galileo launch schedule until the end of 2014

Satellites	C/S ID	Launch Date/Period	Orbital Position
GSAT-0101/ 0102 (IOV PFM / IOV FM-2)	N/A	21 October 2011	B5 / B6
GSAT-0103/ 0104 (IOV FM3 / IOV FM4)	419 / 420	12 October 2012	C4 / C5
GSAT-0201/ 0202 (FOC FM1 / FOC FM2)	418 / 414	5 June 2014	C2 / C7
GSAT-0203/ 0204 (FOC FM3 / FOC FM4)	426 / 422	4 October 2014	B3 / B8
GSAT-0205/ 0206 (FOC FM5 / FOC FM6)	425 / 421	22 December 2014	C1 / C6



MEOSAR data exchange/transfer

- MEOSAR Data Connectivity between USMCC and:
 - Japan
 - Brazil
 - Canada (Planned)
 - France (In Work)
 - Peru
 - Spain
 - Brazil
 - Australia (Planned)



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