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RUSSIAN SPACE SYSTEMS

The Perspectives of Development of National MEOSAR COSPAS-SARSAT System in Russian Federation
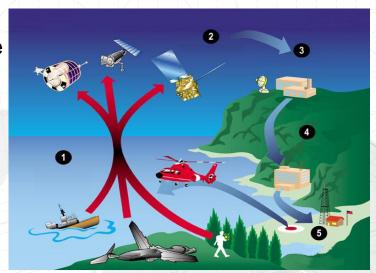
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- COSPAS-SARSAT (C-S) program uses dedicated Search and Rescue (SAR) payload installed on satellites to 406 MHz emergency signals relay on the ground stations
- C-S system consists of three segments:
  - User segment – emergency signals transmitters (emergency beacons)
    - Marine: EPIRB - Emergency Position Indicating Radio Beacon
    - Aviation: ELT - Emergency Locating Transmitter
    - Personnel: PLB – personnel Locating Beacon
  - Space segment
    - LEOSAR: provides emergency beacon coordinates detection based on Doppler method processing; do not provide global coverage in real time
    - GEOSAR: provides immediate emergency signal transmission to GEOLUT (considering the coverage zone of satellite) without coordinates detection
    - MEOSAR*
  - Ground segment – Local user terminals (LUTs)

* MEOSAR system is not yet operational. Early Operation Capability - DEC 2016

- Russian space segment of COSPAS-SARSAT MEOSAR system
  - The first two GLONASS satellites with SAR payloads (GLONASS-K 11FTM и 12FTM) were launched in 2009 and 2014 respectively. The first salvation (crew of Canadian helicopter) using C-S MEOSAR infrastructure had been occurred with the aid of GLONASS-K 11FTM payload. The both GLONASS-K satellites are on IOV phase now
  - C-S SAR repeater payload is provided by Russian Government (SC "Roscosmos") according to C-S system specifications including interoperability with GALILEO and GPS SAR payloads and ground infrastructure
  - The second generation C-S SAR repeater (which provides RLS capabilities) is under construction now. It is planned to be launched not earlier then the end of 2018 onboard GLONASS-K2 satellite
  - All future and perspective GLONASS satellites are planned to be equipped with C-S SAR payload
- Russian Federation (Morsvyazsputnik) is planning to use MEOSAR data for operational purposes not earlier then mid 2017