

# United States Coast Guard



*Saving lives since 1790*



- ▶ CDR Mark Turner
- ▶ Coast Guard Office of Search and Rescue, Coast Guard Headquarters

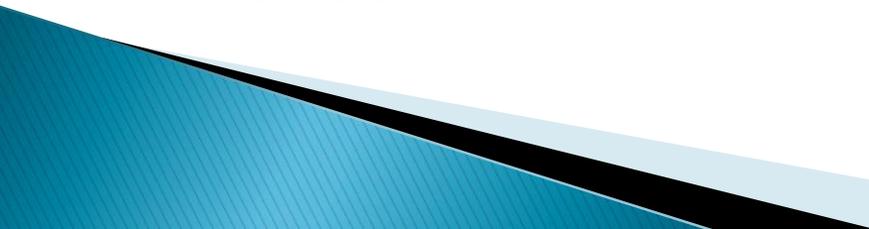
# Second Generation 406 MHz Distress Beacons

# Background of the Cospas-Sarsat Beacon

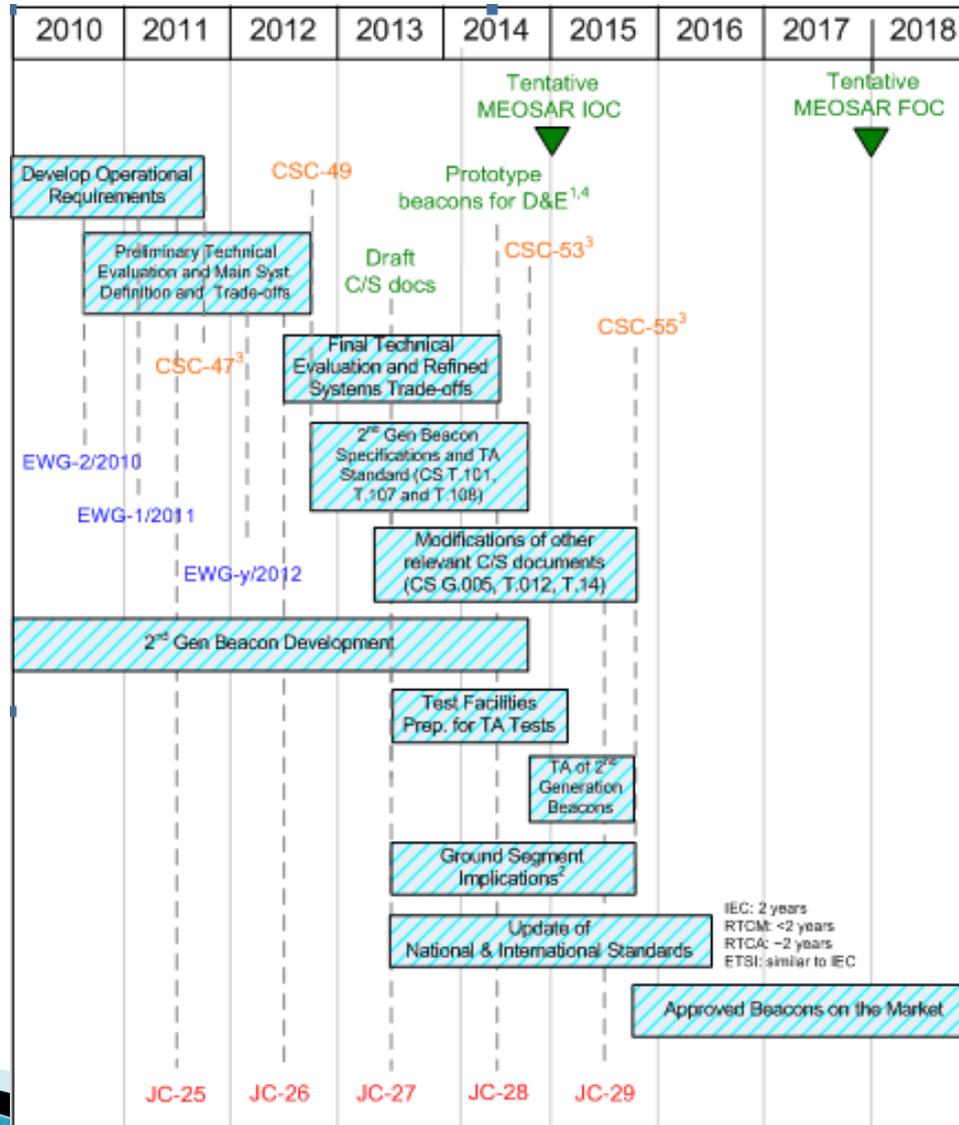
- ▶ Original designed to take advantage of 121.5 MHz ELT already installed in aircraft.
- ▶ Capabilities limited by system already in place.
- ▶ 1982 first rescue due to 121.5 MHz beacon activation
- ▶ 1984 first rescue due to 406 MHz beacon activation
- ▶ In 2000 decision is made by Cospas Sarsat to monitor only 406 MHz beacon beginning 01 February 2009.

# Second Generation Distress Beacon

## The Future

- ▶ Developed to utilize full potential of MEOSAR system.
  - ▶ Operation requirements will drive the system requirements.
  - ▶ National Administrations may still add requirements.
  - ▶ Minimum Operational Requirements applies to all beacons.
  - ▶ Objectives requirements may not apply to all beacons.
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# When will we get to the future?



# Minimum Operational Requirements examples

- ▶ First Burst Transmission Timeliness
  - ▶ Increased Performance in First Thirty Seconds of Distress Alert Transmission
  - ▶ Verification of Beacon Registration
  - ▶ Homing and on-Scene Locating
  - ▶ Independent Location Accuracy
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# Objective Operational requirements examples

- ▶ Encoded Location Data
  - ▶ Message Content
  - ▶ Return Link Capability
  - ▶ Automatic ELT Activation on Indication of Emergency
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# Aviation incident that is being reviewed to see if Cospas-Sarsat can help can help

- ▶ Air France Flight 447

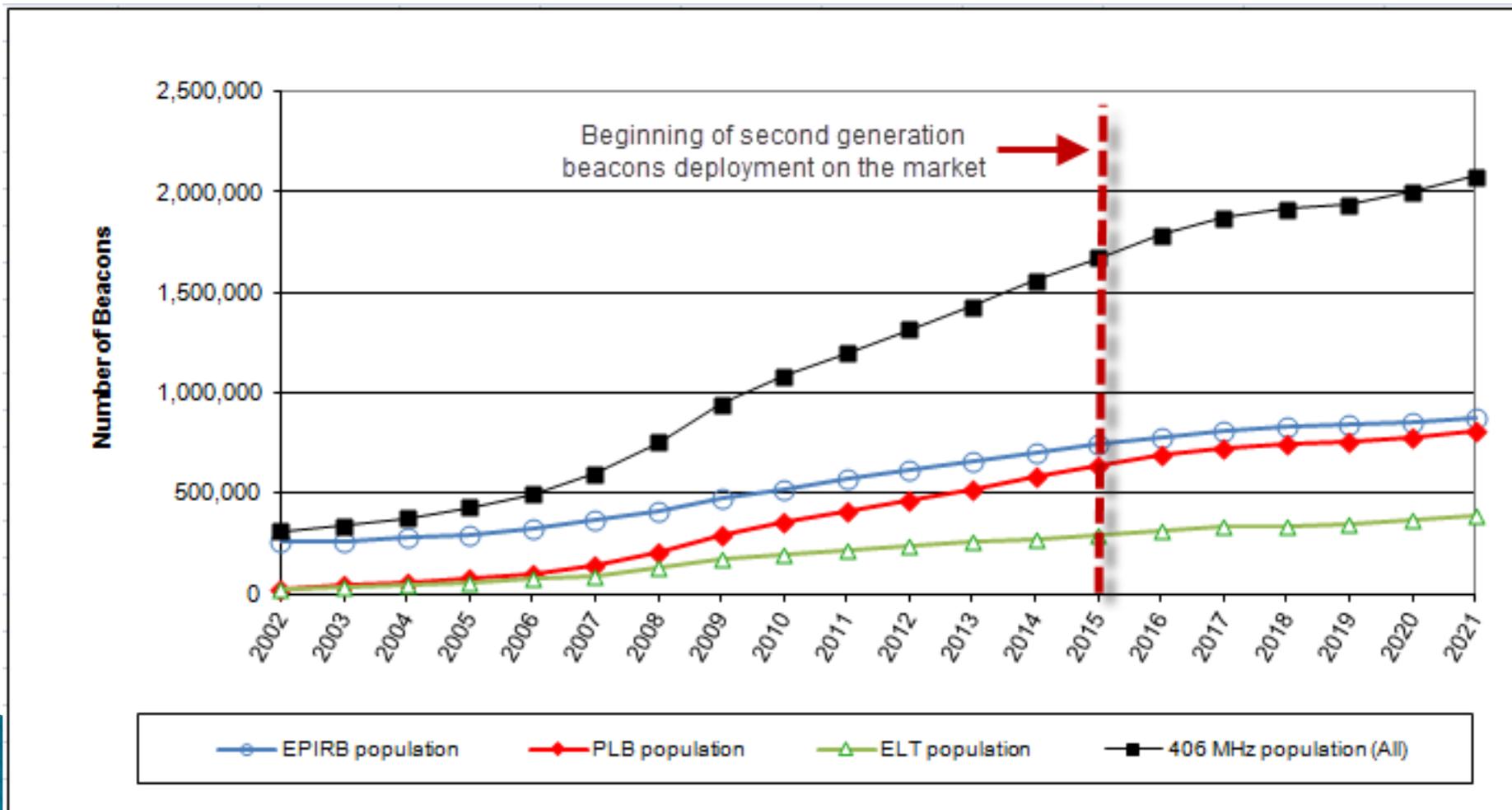


# In-Flight Triggered Transmission

## Can we do it? And at what cost?

- ▶ As developed by BEA working group
    - ELT activation on indication of emergency.
    - First burst transmission timeliness.
    - Burst repetition rates.
    - Antenna characteristics
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# Distress Beacon Population Now and in the future



# COSPAS-SARSAT System Overview

