# GADSS AND ELT(DT)s

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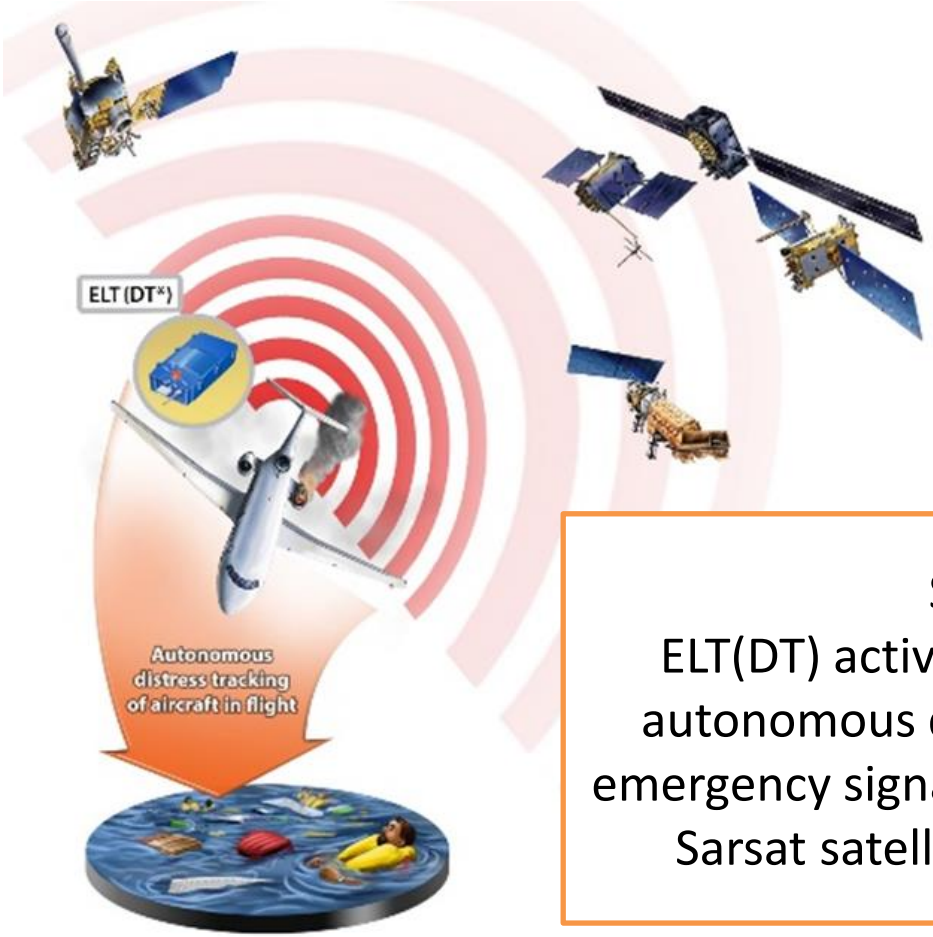
# ELT(DT) for Distress Tracking




Scenario #1:
ELT(DT) activates independently upon autonomous detection in-flight aircraft emergency signaling the distress to Cospas-Sarsat satellites (MEOSAR* system).

# ELT(DT) Design

- ICAO: ADT is performance based and non-technology specific

Airbus, Boeing, Bombardier, and Embraer (OEMs) have selected the ELT(DT) to satisfy:

- ICAO Annex 6 - GADSS recommendations
- European operational requirements (see ED-237).

# ELT(DT) Design

- Linked to aircraft avionics for autonomous activation
- Start transmitting after 5 sec max after activation (ELT = ~ 50 sec)
- Higher transmission rate than regular ELT:
  - Every 5 sec between T= 0 to T=2 min
  - Every 10 sec between T = 2 min to T = 5 min
  - Every 28.5 sec after T = 5 min
- Powered by aircraft; if disconnected, battery for > 370 minutes,
- Cancellation function (when activation criteria are no longer valid)
- Coded with ICAO 24-bit address and Operator 3LD
- Provide GNSS position and altitude
- Do not provide 121.5 MHz in flight
- Not supposed to survive a crash

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# ELT(DT) Design

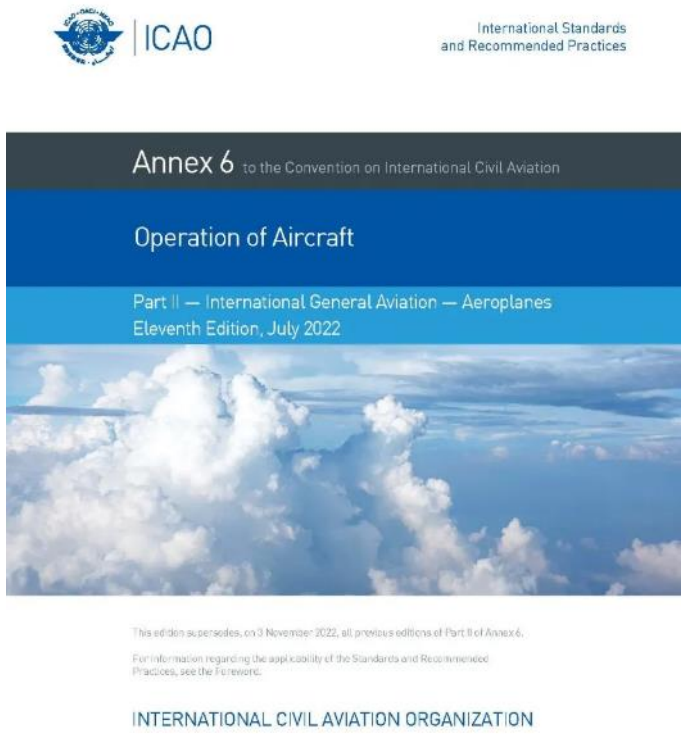
- ELT(DT) designed to withstand a crash impact
  - ELT(DT) before a crash
  - Transmission mode after “crash” detection
    - Every 5 sec between T = Crash and T = 30 min
    - Every 120 sec after T= 30 min
  - Total operating time (in-flight +after crash) >24h
  - Keep same HEX ID
- ELT(DT) combined with automatic ELT
  - ELT(DT) before a crash (>370 min)
  - ELT(Auto)* after a crash (>24h)
    - * 3LD once every 2 bursts for 5 minutes
    - * Cancellation message capability
    - * Keep same ELT(DT) Hex ID

# ELT(DT) Readiness

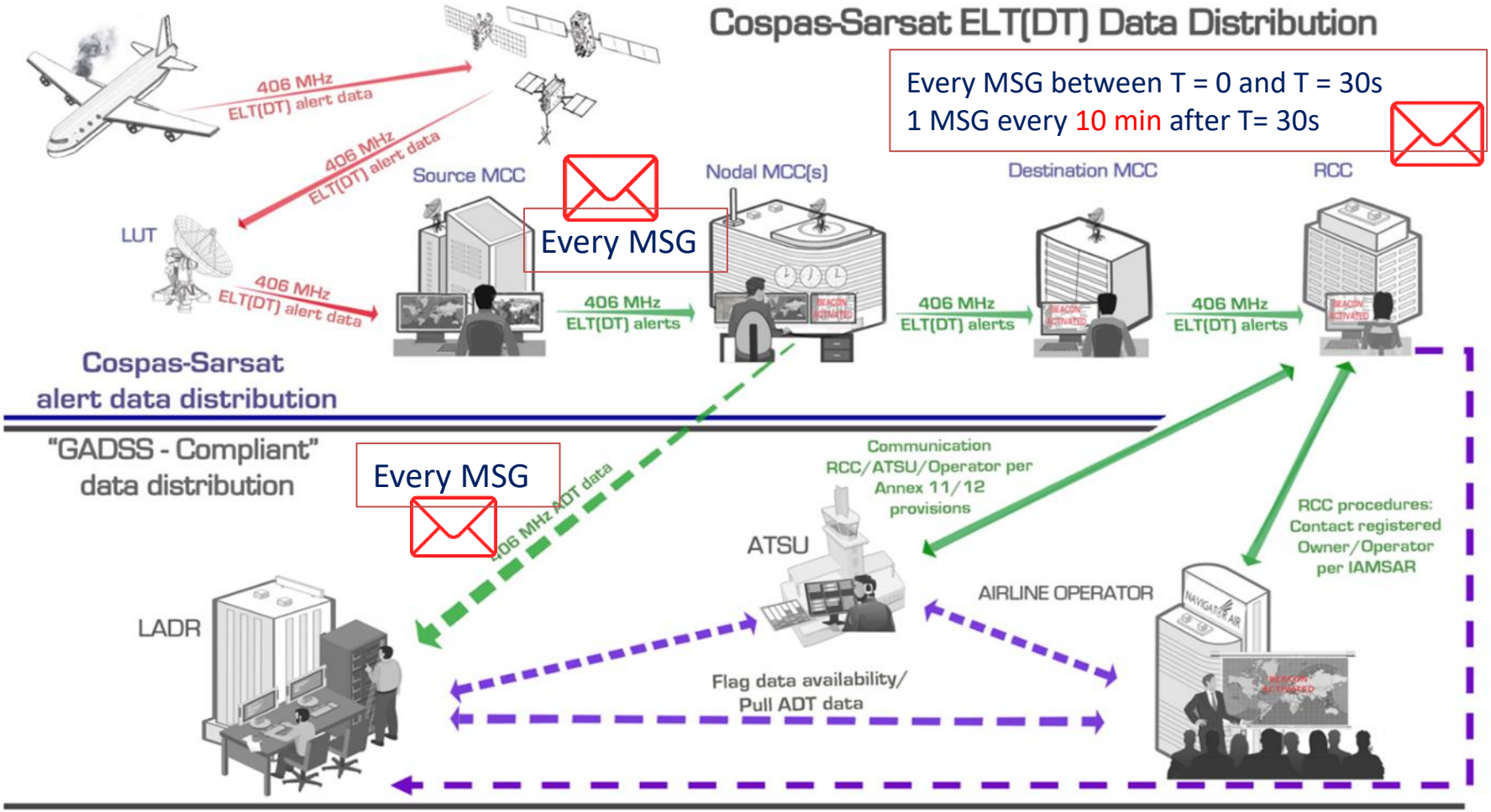
- Required ADT equipage date postponed to 1 Jan 2025
  - applicable to all aircraft over 27,000 kg first issued with a Certificate of Airworthiness from **1 January 2024**.
  - Several major airframers indicated ELT(DT) onboard as early as **March 2023**

=> FGB ELT(DT) was declared at FOC by C/S on 1 Jan. 2023

=> SGB ELT(DT) was 1 Jan 2024



# ELT(DT) Data Distribution



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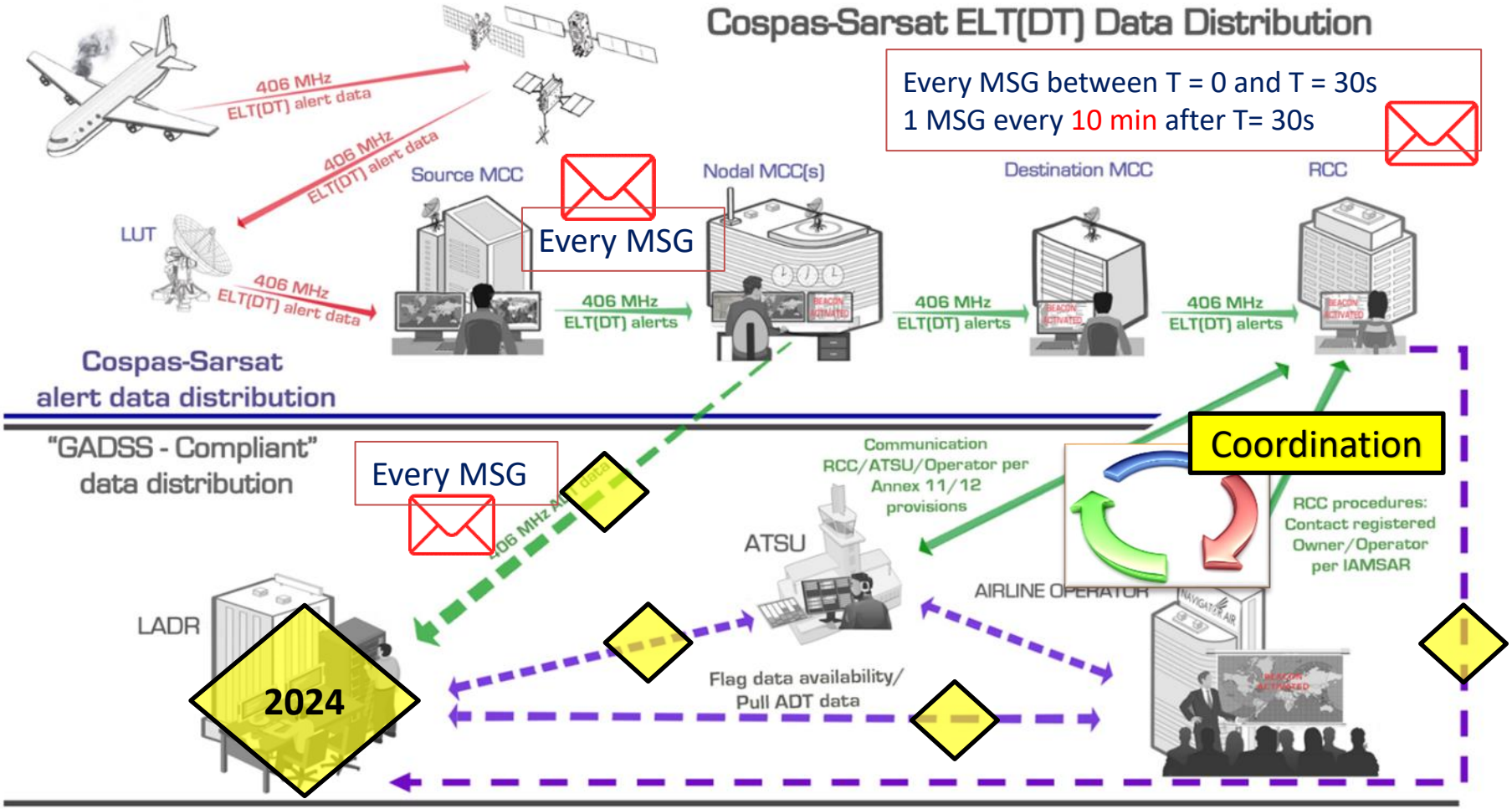


# Guidance to ATS and RCC

1. SIT 185 message also reports the detection of a signal from ELT(DT); Paragraph 1 will contain "**DISTRESS TRACKING**", and Paragraph 3 will clearly identify the source of the message as an "**ELT DISTRESS TRACKING**"

2. Study the basic event information provided in the ELT (DT) SIT 185:
   - Paragraph 3 provides "**flag" State of the aircraft** decoded from the **ICAO 24-bit address,** and the **aircraft operator 3LD** from the rotating field.
   - Paragraph 4 provides the **aircraft position (GNSS)**.

[~~*3. **Login to ICAO's LADR** to access all available information for this distress event, including the aircraft's **last known position** (LKP). [LADR not ready]*~~

3. contact the appropriate **ATSU(s)** (and possibly the airline operator) per ICAO Annexes 11 and 12 to determine more information about the possible distress event, *contact information for both ATS unit and operator should be available within the new Ops Control Directory **[**when ready]* and/or listed in the RCC documentation and plans.

# Guidance to ATS and RCC

4. If necessary, request that the sending MCC **send more** of the data stored at the MCC level for the beacon event, to allow tracking of the flight using all (or more) of the information transmitted by the ELT(DT).

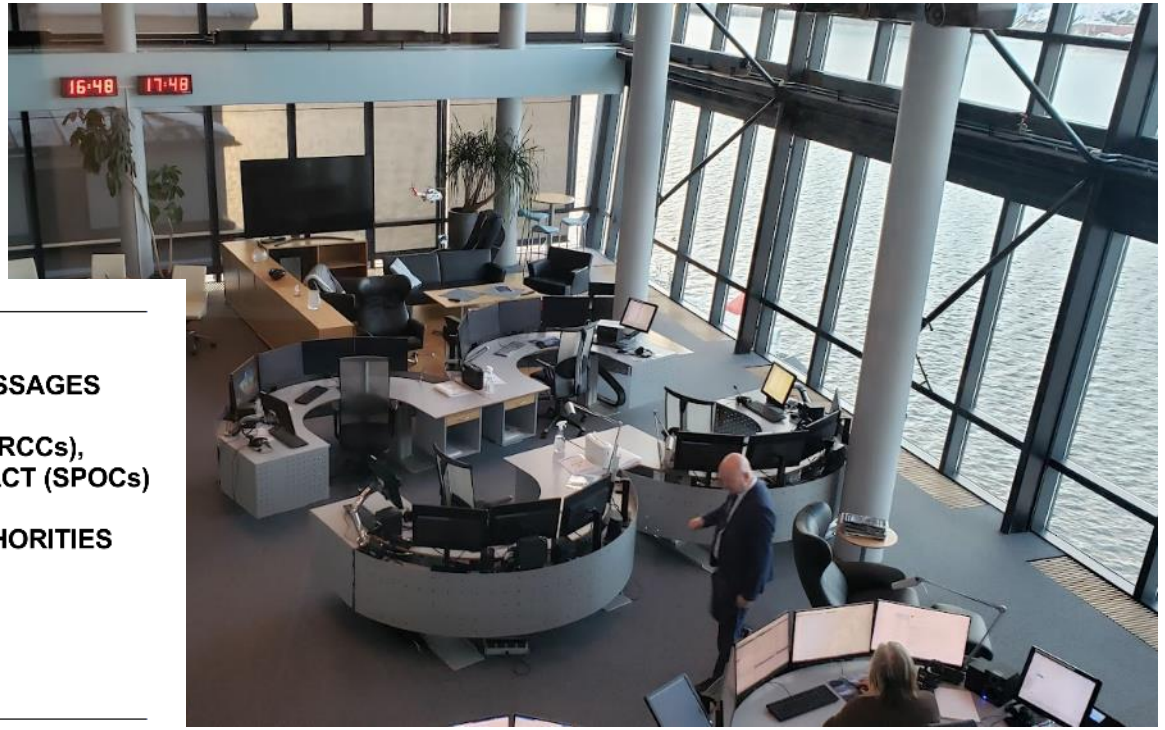
~~*6. Monitor the LKP available in the LADR to assist in determining whether the aircraft is a **fixed or moving target**, in coordination with the appropriate ATSU and neighboring RCCs, as appropriate.*~~ *[LADR not ready]*

5. **Contact your supporting MCC** for any necessary clarifications about the content or the distribution of a SIT 185 message.

6. **Prepare for a SAR operation**, while monitoring incoming alerts for a possible cancellation message (SIT 185 **cancellation message**, Paragraph 1 will contain "**DISTRESS TRACKING COSPAS-SARSAT USER CANCELLATION ALERT**").

7. Launch SAR activities per national procedures (and IAMSAR manual guidance)…

# Cospas-Sarsat RCC Handbook



**HANDBOOK ON DISTRESS ALERT MESSAGES**
**FOR**
**RESCUE COORDINATION CENTRES (RCCs),**
**SEARCH AND RESCUE POINTS OF CONTACT (SPOCs)**
**AND**
**IMO SHIP SECURITY COMPETENT AUTHORITIES**

C/S G.007
Issue 3
March 2022

Further guidance for RCCs are available in the Cospas-Sarsat RCC Handbook available on the Cospas-Sarsat/Pro website <here>

# TIME FOR QUESTIONS