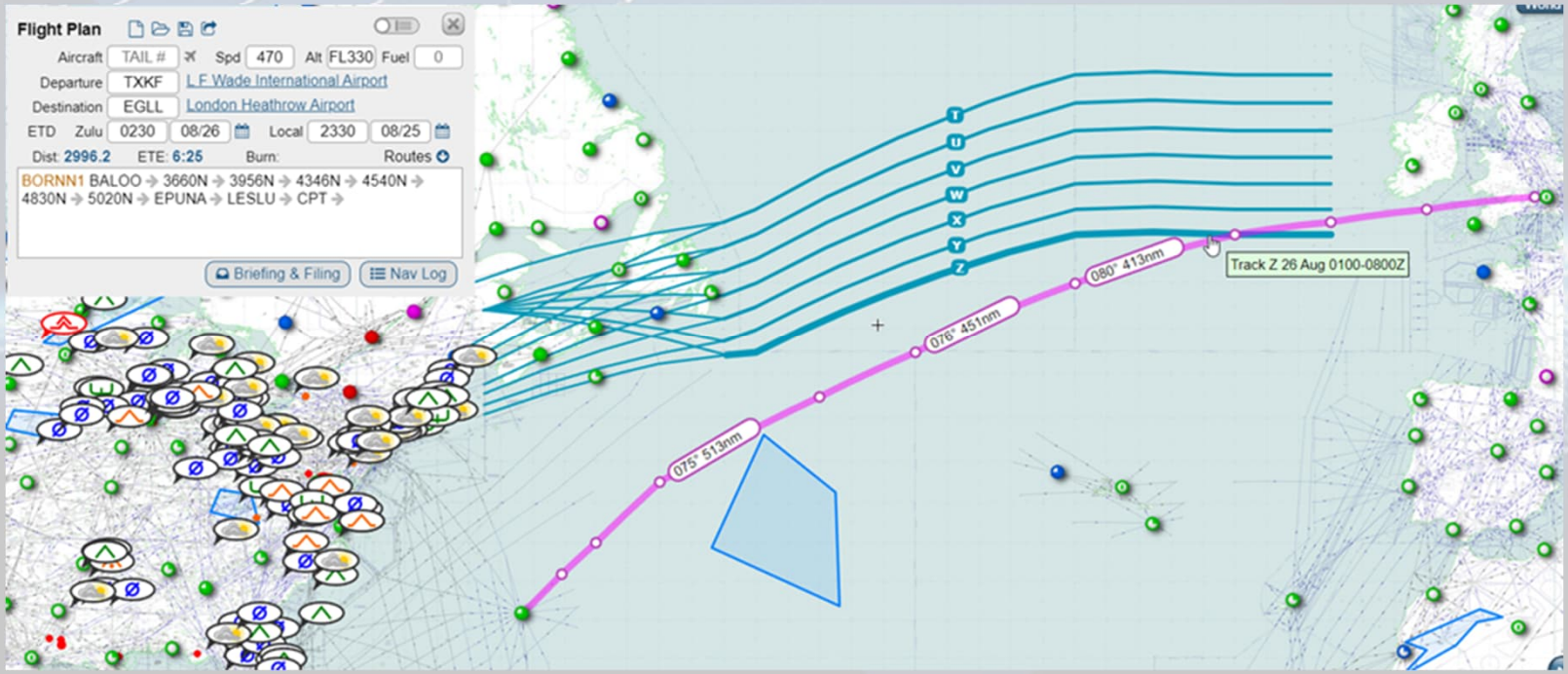
ADT/LADR ELT(DT) exercises

- NAT DISTREX exercise debriefing
- Live SAREX ADT

Introduction

✈ SCENARIO :

At 0230Z, a Boeing 777-200 aircraft departed from L.F. Wade International Airport (TXKF), Bermuda en route to London Heathrow Airport (EGLL) with 212 souls on board (197 passengers, 15 crew). The aircraft filed the following flight plan with an estimated en route time of 6+30 hours and 7+45 hours of fuel



NAT DISTREX

✈ OBJECTIVE :

This exercise was performed to test operation of the LADR in receipt and distribution of ADT notification. The primary outcomes are:

- Test the notification process between LADR, Rescue Coordination Centers (RCCs), ANSPs, Operators*, and other stakeholders.
- Evaluate notification process and actions taken by each stakeholder in accordance with existing procedures.
- Identify any gaps in current processes and provide recommendations/mitigations to address.

✈ PARTICIPANTS

FAA, ICAO, C/S secretariat, RCCs and Cosatguards, FMCC…

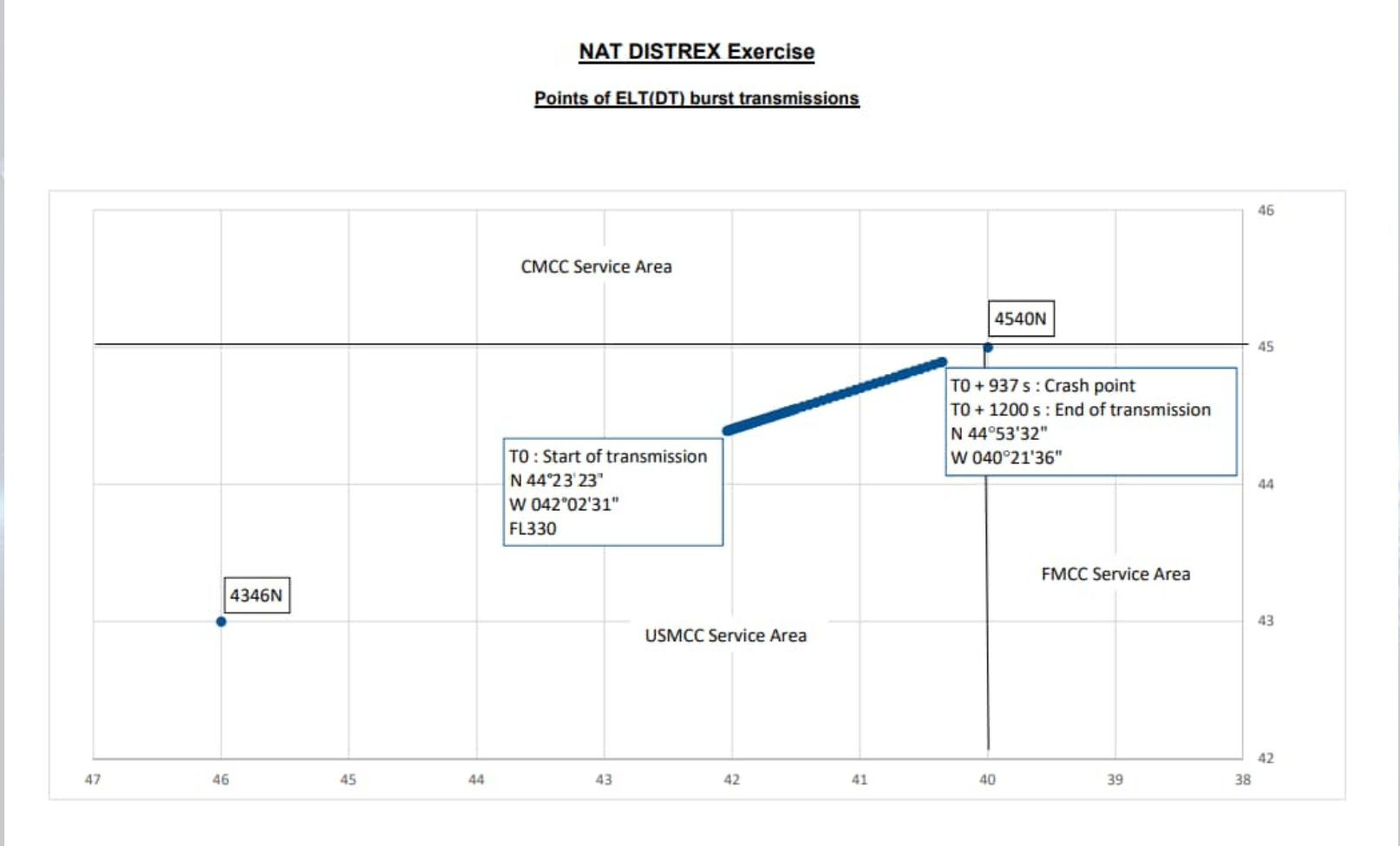
✈ Date and Time

The exercise took place on 24 September 2024 at 13:30 UTC.

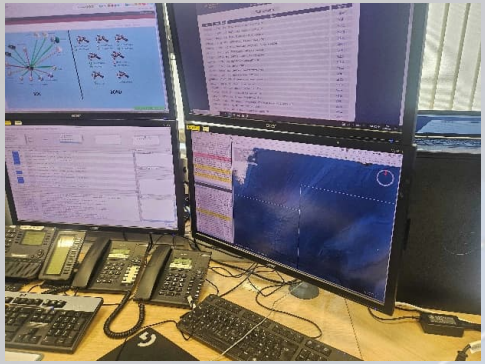
✈ FMCC PARTICIPATION

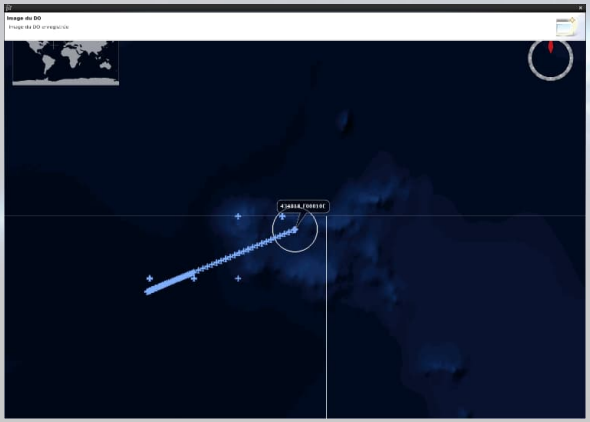
- Emissions from CNES beacon simulator in Toulouse
- Data reception, analysis and processing to irequired C/S MCCs and SPOCs
- LADR contributor : Link between Cospas sarsat System and the LADR
- Live exchanges and exercise course by Visio conference

French beacon simulator emissions

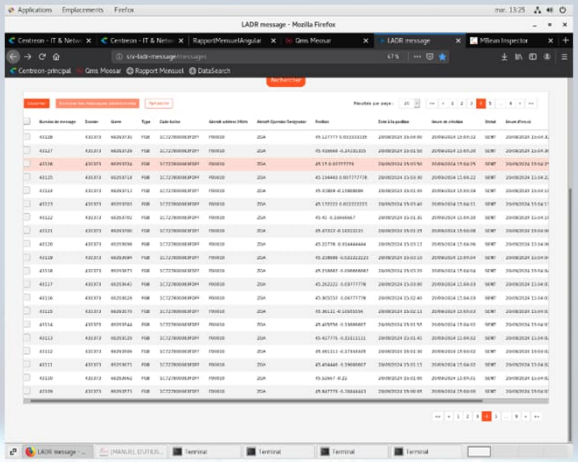


FMCC Operator UI

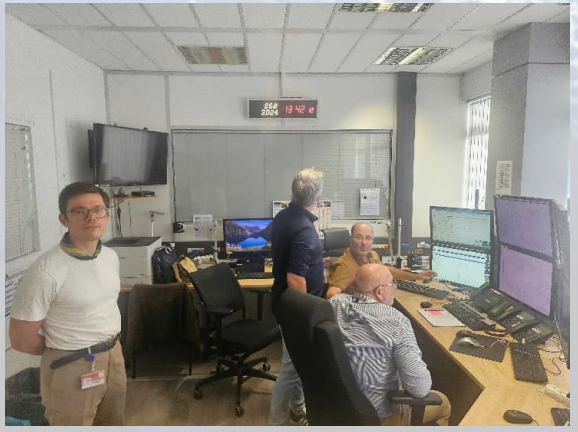




FMCC messages monitoring to the LADR



FMCC room during the exercise



Introduction

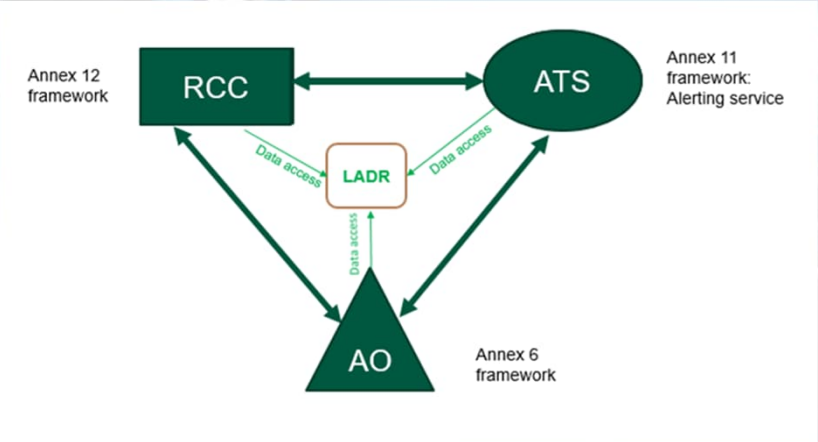
OBJECTIVE :

The objective of the exercise is to present the Autonomous Distress Tracking part of GADSS, using the resources available to the various stakeholders in the event of an in flight distress situation, up to a potential crash.

The exercise therefore has an educational purpose and presents a possible reaction to a SAR event involving the triggering of a Cospas-Sarsat ELT(DT) distress beacon as a GADSS ADT solution.

The 3 parties involved in such an event are :

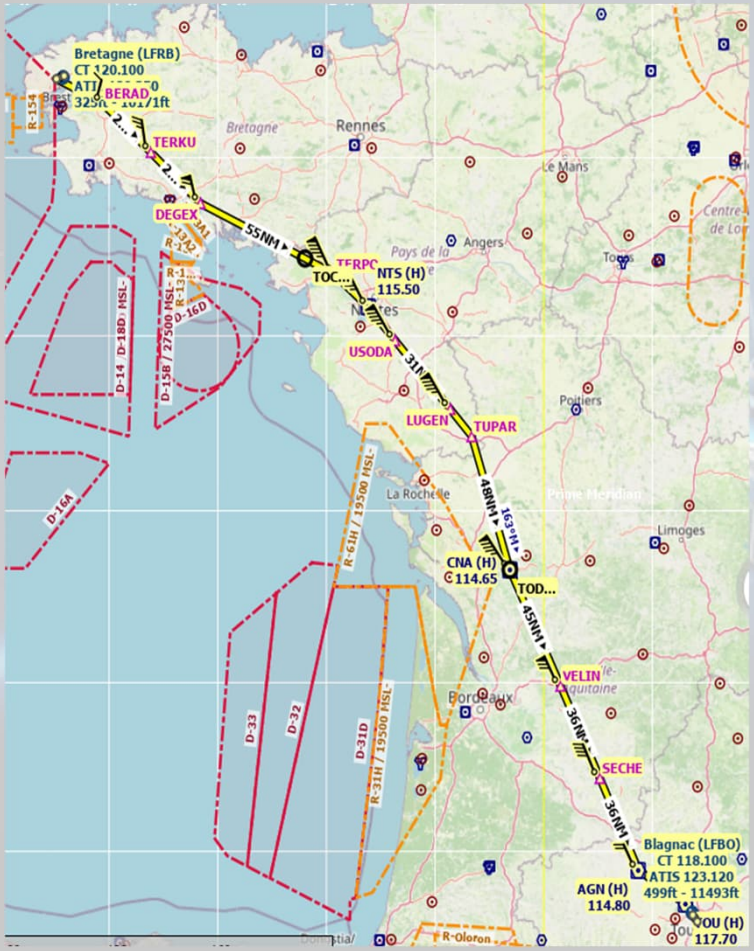
- Aircraft Operator
- The ATSU
- The RCC with aeronautical expertise



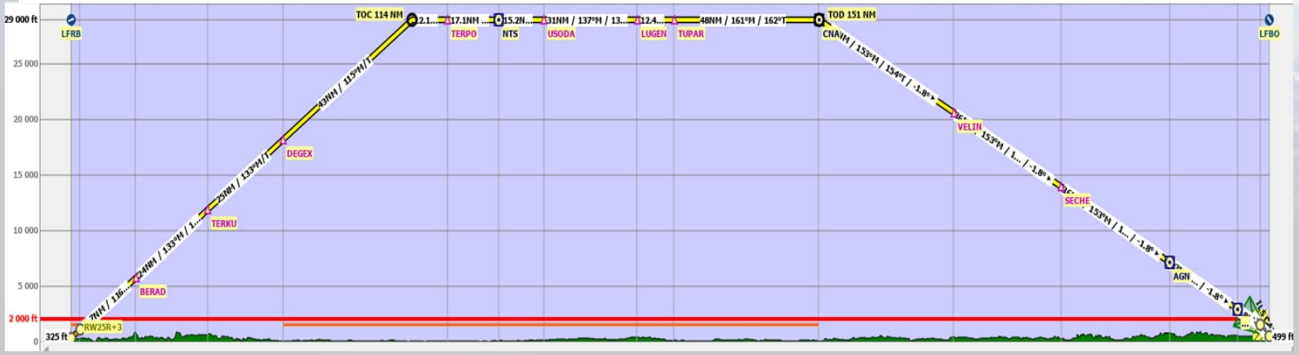
All the elements used are fictive and simulated.
Nevertheless, in order to make the exercise representative, we will use an ELT(DT) distress beacon simulator, which will transmit on 406 MHz. This signal will be specially processed by the FMCC so that it can be distributed under the same conditions as a real event.
The recipients will be fictitious, however,

Fictive Flight

Cruise TAS : 450kts



	Ident	Nom	Voie Aérienne ou Procédure	Route °M	Distance NM	Restant NM	Durée Segment hh:mm	ETA hh:mm	Vent °M kts	Vent de Face/Arrière kts	Altitude ft	Latitude	Longitude	Remarques
	LFRB	Bretagne			0,0	402		0:00			325	48° 26' 50,01" N	4° 25' 18,00" W	
	RW25R		Aller à la piste d'atterrissage	0	0,0	402	0:00	0:00			325	48° 27' 6,61" N	4° 24' 48,32" W	
	RW25R+3		Segment de départ	252	3,0	399	0:01	0:01	22 / 11	▲ 7	1 079	48° 26' 8,49" N	4° 29' 5,14" W	
	BERAD			116	18,7	380	0:03	0:04	17 / 13	▲ 2	5 773	48° 18' 7,00" N	4° 3' 42,00" W	
	TERKU			133	24	356	0:04	0:08	351 / 26	▲ 20	11 844	48° 1' 48,00" N	3° 37' 0,00" W	
	DEGEX		UN490 / H	133	25	330	0:04	0:12	345 / 61	▲ 51	18 190	47° 44' 38,00" N	3° 9' 24,00" W	
	TERPO		UN490 / H	115	55	275	0:08	0:21	333 / 90	▲ 71	29 000	47° 20' 56,00" N	1° 55' 44,00" W	
	NTS	Nantes Atlantique	UM616 / H	130	17,1	258	0:02	0:22	330 / 90	▲ 85	29 000	47° 9' 39,10" N	1° 36' 46,70" W	
	USODA		UM616 / H	137	15,2	243	0:02	0:24	327 / 90	▲ 88	29 000	46° 58' 18,99" N	1° 21' 54,00" W	
	LUGEN		UM616 / H	137	31	212	0:03	0:28	327 / 88	▲ 87	29 000	46° 35' 0,00" N	0° 51' 40,00" W	
	TUPAR		UM616 / H	137	12,4	199	0:01	0:29	328 / 88	▲ 87	29 000	46° 25' 44,99" N	0° 39' 46,00" W	
	CNA	Cognac Chateaubernard	UM184 / H	161	48	151	0:05	0:34	324 / 86	▲ 82	29 000	45° 39' 34,41" N	0° 18' 41,90" W	
	VELIN		UN863 / H	153	45	106	0:07	0:42	332 / 74	▲ 74	20 581	44° 58' 48,00" N	0° 9' 20,00" E	
	SECHE			153	36	70	0:06	0:48	334 / 44	▲ 44	13 900	44° 26' 19,00" N	0° 30' 55,00" E	
	AGN	Agen		153	36	33	0:07	0:54	332 / 23	▲ 23	7 123	43° 53' 16,90" N	0° 52' 22,30" E	
	TOU	Toulouse Blagnac		122	23	10,6	0:04	0:59	319 / 17	▲ 16	2 912	43° 40' 50,99" N	1° 18' 35,30" E	
	RW32L+3		Début de la phase finale	142	7,6	3,0	0:01	1:00	312 / 13	▲ 13	1 500	43° 34' 44,48" N	1° 24' 49,09" E	
	RW32L		Dernier segment	321	3,0	0,0	0:01	1:01	301 / 9	▼ 9	499	43° 37' 8,27" N	1° 22' 19,62" E	
	LFBO	Blagnac					0:00	1:01			499	43° 38' 5,99" N	1° 22' 4,00" E	



Aircraft and Aircraft Operator

✈ Simulated Aircraft

Aircraft Type : L2J – UPPER MEDIUM

Narrow Body commercial aircraft

POB : 124

ICAO 24 bits : 001110 001 10010 01000 01100

ICAO hexadécimal : F00010

Registration: F-ISIM

✈ Simulated Aircraft Operator

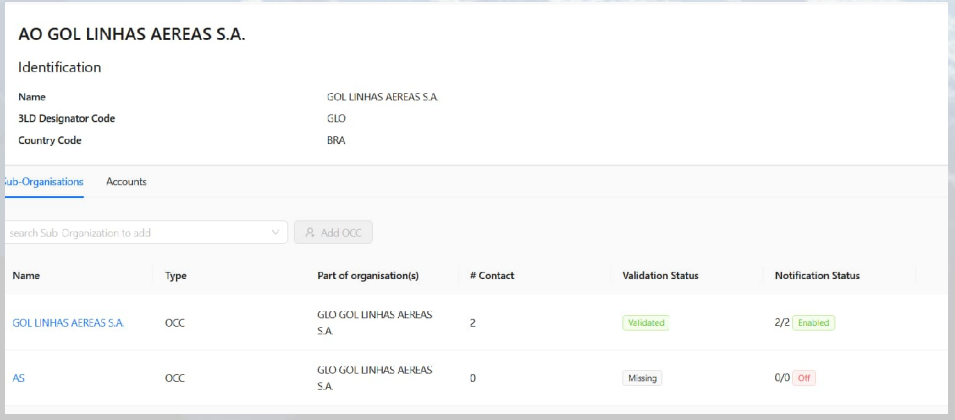
Name : GOL INHAS AERES SAS

3LD : GLO

Point of contact : (Mail + 24/7 POC) GLO OCC

LADR PRE-OPS USER INTERFACE 1 ACCESS

User type : Aircraft operator with 3LD: GLO



Air trafic service Unit

✈ Simulated ATSU

Name : FIR SIMATSU

Boundaries of FIR “Brest” LFBR +“Bordeaux” LFBB

Point of contact : (Mail + 24/7 POC) ACC 24/7

LADR PRE-OPS USER INTERFACE 1 ACCESS

User type : ATSU

FIR SIMATSU FIR

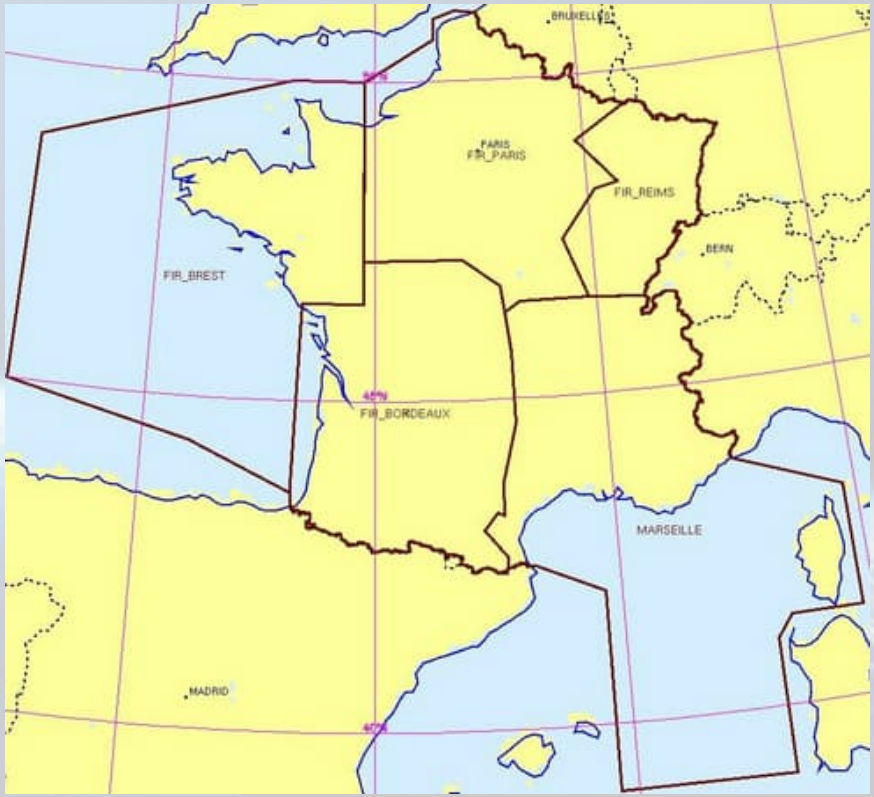
Identification

Name	SIMATSU FIR
Location Indicator	LFBB
LADR FIR Location Indicators	LFBB, LFRR
Country Code	FRA

ub-Organisations Accounts

search Sub-Organization to add Add ACC

Name	Type	Part of organisation(s)	# Contact	Validation Status	Notification Status
SIMATSU FIR	ACC	LFBB SIMATSU FIR	1	Validated	1/1 Enabled
Test 1	ACC	LFBB SIMATSU FIR	1	Validated	1/1 Enabled



Air trafic service Unit

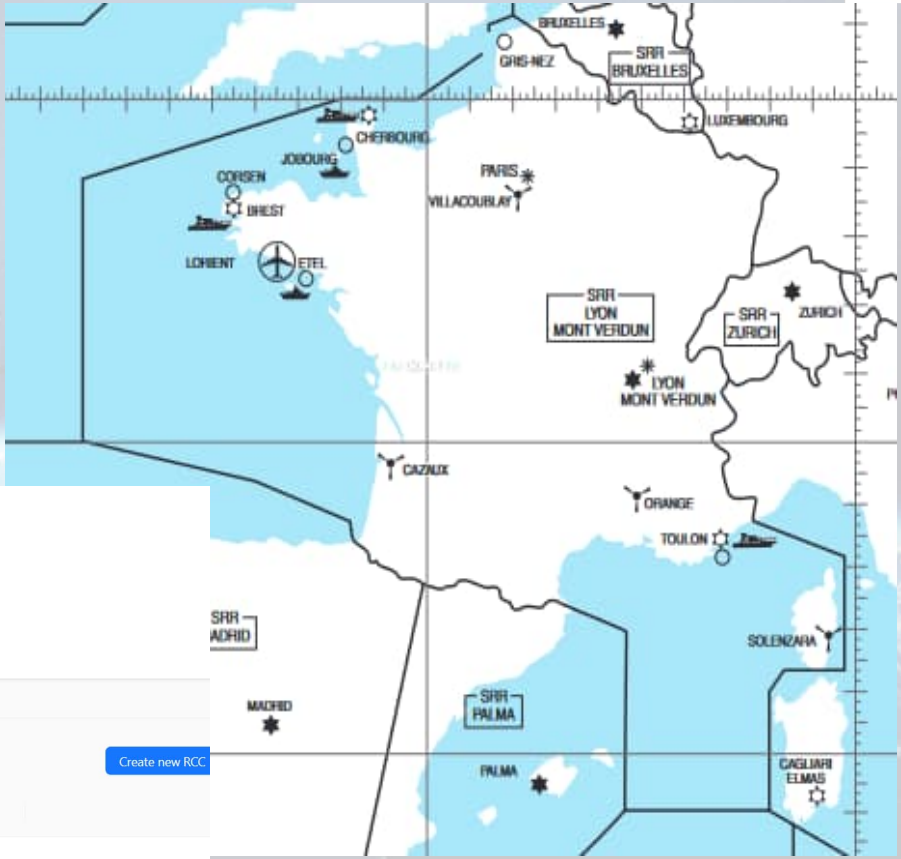
✈ Simulated ARCC

Name : ARCC SIMRCC

Boundaries of SRR Lyon Mont-Verdun
Point of contact : (Mail + 24/7 POC) RCC SMC

LADR PRE-OPS USER INTERFACE 1 ACCESS

User type : RCC



SRR ARCC SIMRCC

Identification

Name	ARCC SIMRCC
LADR FIR Location Indicators	LFRR, LFBB
Country Code	FRA

Sub-Organisations | Accounts

search Sub-Organization to add | Add RCC | Create new RCC

Name	Type	Part of organisation(s)	# Contact	Validation Status	Notification Status
SIMRCC	RCC	LFRR,LFBB ARCC SIMRCC	2	Validated	2/2 Enabled
Test	RCC	LFRR,LFBB ARCC SIMRCC	1	Validated	1/1 Enabled

DISTRESS SCENARIOS

✈ 1st Event : Distress to cancellation

1. **Triggering of ADT Device** at Top of descent/CNA (see above CNA/TOD)
   Exact time : 06h30 UTC
   Reason for activation of the ADT: Stall then loss of control
   ELT(DT) type of activation : Automatic by external means (Avionics)

2. **Loss of altitude From FL290 to FL 140** for approximatively 4 minutes.

3. **Recovery at FL140**
   The aircraft is back in its normal flight envelope

Duration of the event approx. 5 min

ELT(DT) : Cancellation of the distress

15 min of normal flight

DISTRESS SCENARIOS

✈ 2nd Event : Distress to crash

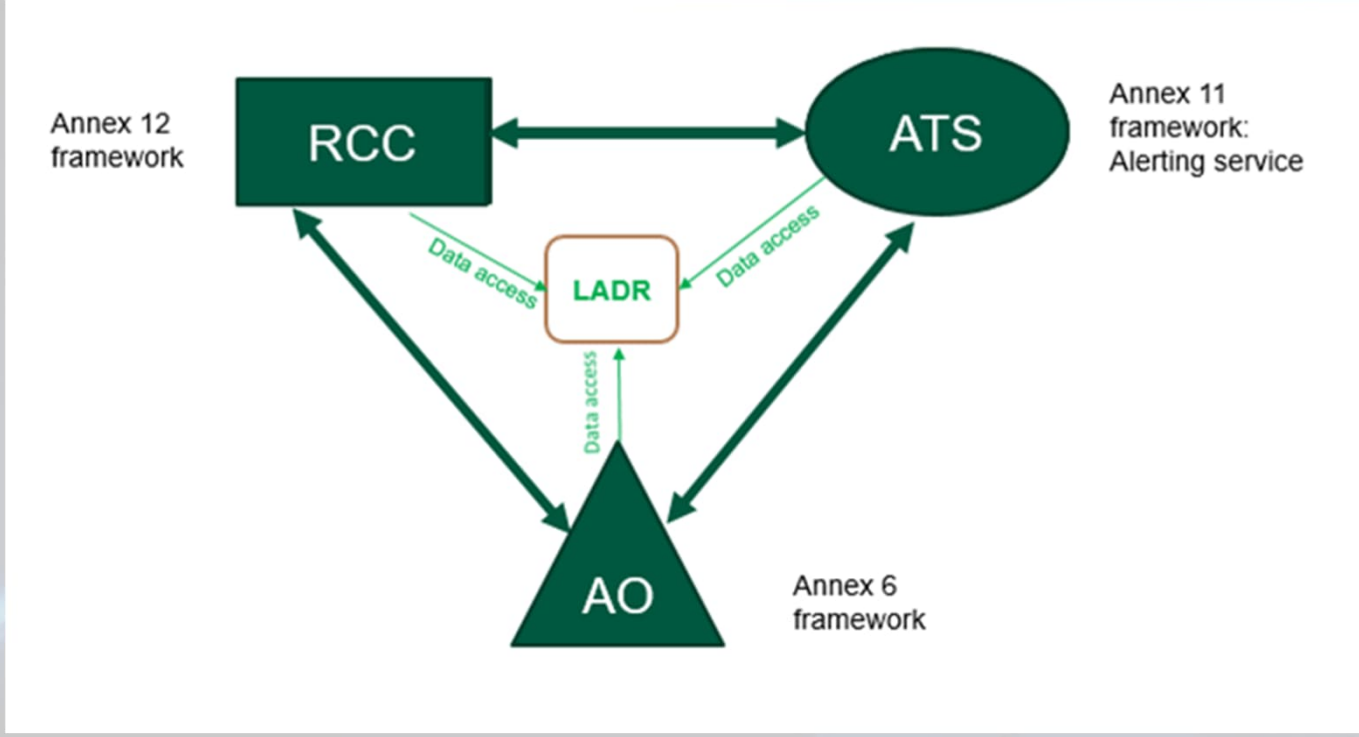
1. **Starting from FL140/SECHE** (see map)
   Activation of the ADT : 06h50 UTC
   ELT(DT) means of activation : Automatic by external means (Avionics).

2. **Passing FL070**
   ELT(DT) means of activation : Manual

3. **Crash**
   ELT(DT) means of activation : Automatic by the beacon

Duration of the event approx. 5 min

DEBRIEFING



✈ **Questions and Answers.**

END

THANK YOU FOR YOUR ATTENTION