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Aircraft tracking - In Flight Disappearance: never again?

1-Day conference organized by
Midi-Pyrenees chapters of 3AF and SEE through their CISEC partnership,
together with CNES CCT PDS and ENAC

Toulouse, 15th October 2015

Conference objective and context

This conference aims at clarifying needs, constraints and solutions for improving the aircraft localization means from the view point of major stakeholders: airlines, air traffic controllers, aircraft manufacturers, providers of communication facilities.

Whereas the means of geolocation made great strides through GPS, recent disappearances in flight of civil aircraft, such as flight AF 447 and more recently flight MH 370, have surprised general public. Indeed, this wondering is justified if one takes, in other fields, only two examples: the terrestrial or maritime conveyers can constantly locate their vehicles respectively on roads or on maritime routes, the parents can even follow, thanks to the capability of smart phones, the way taken by their children going to school on their own.

In order to determine the origin of these disappearances in flight, it is necessary to quickly access the last data of the flight to determine whether it results from technical failures or human errors, or even a deliberate action (voluntary transponder cut-off evoked for flight MH 370). For this purpose, sophisticated and expensive means were activated in order to find across wide areas the wreckage and then the crash recorders in the depth of the oceans (the research duration for the AF 447 was 23 months...). Taking into account the speed of a plane, the uncertainty of localization is obviously much larger starting from the moment when any radio contact is lost or any radar echo disappears.

Moreover, the insufficient autonomy of the batteries (recommendation of the BEA to increase from 30 to 90 days) equipping the recorders which supply the beacons, on several occasions, was highlighted for the sea localization using sophisticated acoustic means.

Aircraft engine manufacturers can monitor, by periodic connection through satellite data link, the status of their engines in flight and thus optimize maintenance - it seems that has allowed collection of the very limited information available on flight MH370 after exit of the cover zone of the primary radars and the transponder cut-off for the secondary radars. In addition, certain airlines equip their planes so that any passenger can use his own mobile phone or connect to Internet and read his e-mail by satellite systems. Consequently, why not generalize the transmission of position reports, by means of this nature? It seems that there are however strong reservations emanating from other airlines considering expenses to engage, asserting that such accidents, fortunately, are extremely uncommon.

In a worldwide context where terrorist threats expand, and in particular against air transport, these arguments are not easily acceptable, a maximum safety must be ensured to counter such evolution.

It is then justified to wonder what are the existing means of localization: Radio, Radar, Satellite communications (Inmarsat, Iridium,...) and in the light of the recent events, what functions are poorly provided or not at all? What relevant information to transmit in real time or at what rate and through what way? What are consequently the new equipment to install on plane or to modify, with what technical and economic consequences?

International working groups to the ICAO and the IATA were set up, which made proposals right now.

This day comprises talks by experts of the aeronautical world (airframe manufacturers, airline companies, suppliers of systems and equipment), of the space business (Satcom systems) and ATC authorities, on the current and future means of localization -with short and medium term- so that such deficiencies in the management of air traffic do not continue.



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Preliminary program

9.15 – 9.30 ENAC welcome

9.30 – 11.00 Current status and aircraft tracking needs from Air Traffic Control, Airlines, and Accident investigation
Henk Hof, Eurocontrol
Marc Antoine Blondeau, Air Caraïbes Atlantique
Philippe Plantin de Hugues, Bureau Enquête Analyse

Coffee Break

11.20 – 12.30 Overview of possible aircraft tracking solutions – Session 1
Claude Pichavant, Airbus
Mathieu Dabin- Thales Alenia Space – Use of COSPAS- SARSAT

Lunch

14.00 – 15.15 Aircraft tracking: debate about major needs, opportunities, constraints
Panel discussion with former speakers, Cyril Digon (Corsair), Inmarsat (TBC), ESA (TBC)

15.15 – 15.30 Conclusion

Conference location and registration

The conference takes place at ENAC, Amphi Bellonte 7 Avenue Edouard Belin, 31055 Toulouse Cedex 04, France
Access map: see www.enac.fr/

The conference access is free of charge but registration is mandatory (including for speakers and organizers) on <http://cct.cnes.fr/content/cct-pds-global-flight-tracking>

It will be possible to have lunch on site (ticket to be bought at the welcome desk).

Organization and program committee

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