



**EIGHTEENTH MEETING ON THE IMPROVEMENT OF AIR TRAFFIC SERVICES
OVER THE SOUTH ATLANTIC (SAT18)**

(Dakar, Senegal, 17 to 19 July, 2013)

Agenda Item 2: *Air traffic management (ATM)*

SATISFIED

(Presented by SPAIN)

SUMMARY

This information paper contains an introduction and current status of the SATISFIED (SAT Improved uSe of Flight corridor for Emissions reDuction) project proposal

1. INTRODUCTION

A flexible route network framework will allow airlines to make full use of the information on influencing prevailing upper wind conditions and updated payload, to thus reduce fuel burn and CO₂.

The objective of the SATISFIED (SAT Improved uSe of Flight corridor for Emissions reduction) project is to demonstrate that further improvement in en-route aircraft performance is possible through the execution of flexible optimized oceanic route trials inside the EUR-SAM corridor. Particularly, flight demonstrations validating the solutions for CO₂ emissions reduction will be performed in the oceanic domain over the South Atlantic region, covering the following Oceanic centres: CANARIAS, SAL, DAKAR and ATLANTICO.

The transoceanic flights are performed by Air Europa and Iberia aircrafts connecting Europe to South America.

2. BACKGROUND

Past projects as Iflex and the continuing AIRE Framework have shown significant savings in fuel consumption and emissions when flexible routes are allowed in OCEANIC control areas (as in the NAT region), without increasing the workload of the operators (ANSPs and Crew).

Currently in the EUR-SAM corridor a very limited number of random routes are available to improve the routes for very long haul flights (i.e. Santiago de Chile). However, fixed airways are used which do not allow the optimization of the flight profile as prompted by modern flight plan software and aircraft.

In this line, during the last meetings (see conclusion of the SAT17/12), Spain introduced the AIRE strategic partnership to reduce emissions in the EUR/SAM Corridor in order to improve energy efficiency through the development and the implementation of environmental friendly procedures: the Satisfied Project.

3. RELEVANT FEATURES OF SATISFIED PROJECT

3.1 SCOPE

The maximum period defined for the performance of the flight trials is between March 2013 and April 2014. The aim is to guarantee at least a minimum of 50 flight demonstrations.

The operation described by this technical notice only affects the Iberia and AirEuropa flights considered as SATISFIED.

3.2 PREMISE TO THE SATISFIED PROCEDURE

Any SATISFIED flight will comply with the following:

- The flight plan must be uniquely identified as a SATISFIED test flight. For example by adding to field 18 the following: “**SATISFIED STANDARD**”.
- One flight per day will be conducted as shown in the table below:

ORIGEN	Destination	DAY	Period	Airline	Aircraft	Max. nº Flights
MAD (LEMD)	EZE (SAEZ) GIG (SBGL) GRU (SBGR)	Tuesday Wednesday	Daytime	IBERIA	A340-300/600	1 X day
	SSA (SBSV)	Tuesday Thursday	Daytime	Air Europa	A330-300	1 X day

Table 1 Candidate flights

- Aircraft will be FANS1/A equipped and certified, as well as the crew certified in the use of CPDLC/ADS-C.
- Exceptionally these flights will have to **Log-On to CANARIAS 1 (one) hour before the entrance to the FIR identifying themselves as “SATISFIED” flight**, in order to have direct communication in case of a setback in the process.
- The demonstration flights by AirEuropa will take place between March 2013 and April 2014.
- The demonstration flights by Iberia will take place between the 7th of May 2013 and April 2014.
- *Any flight planned through route UA-302 will be excluded from the trials.*
- The procedure is unique and independent of airline and/or destination.

In case any of the participants involved directly in the SATIFIED procedure, needs to modify and /or cancel temporarily the procedure, this will be communicated directly to the project coordinator (Ineco) as well as to the responsible in Iberia, Air Europa and Aena (Head of Operations ACC CANARIAS).

3.3 INTERNAL COORDINATION

The SATIFIED working group has elaborated a technical note in order to describe:

- the different tasks together with their responsables;
- the coordination processes among the different participants;
- A preliminary list of risks and mitigating solutions which have been identified for the performance of the SATIFIED flight trials.

This technical note has been already agreed by involved stakeholders -ANSPs and Airlines- and it allows the deployment of safety and optimized operation in EUR-SAM Corridor.

4. FIRST SUCCESSFUL SATIFIED FLIGHT

The 8th May of 2013 the first successful SATIFIED flight was performed by Iberia (IBE6845 LEMD-SAEZ). The next figures show the original/initial flight plan and the optimized one.

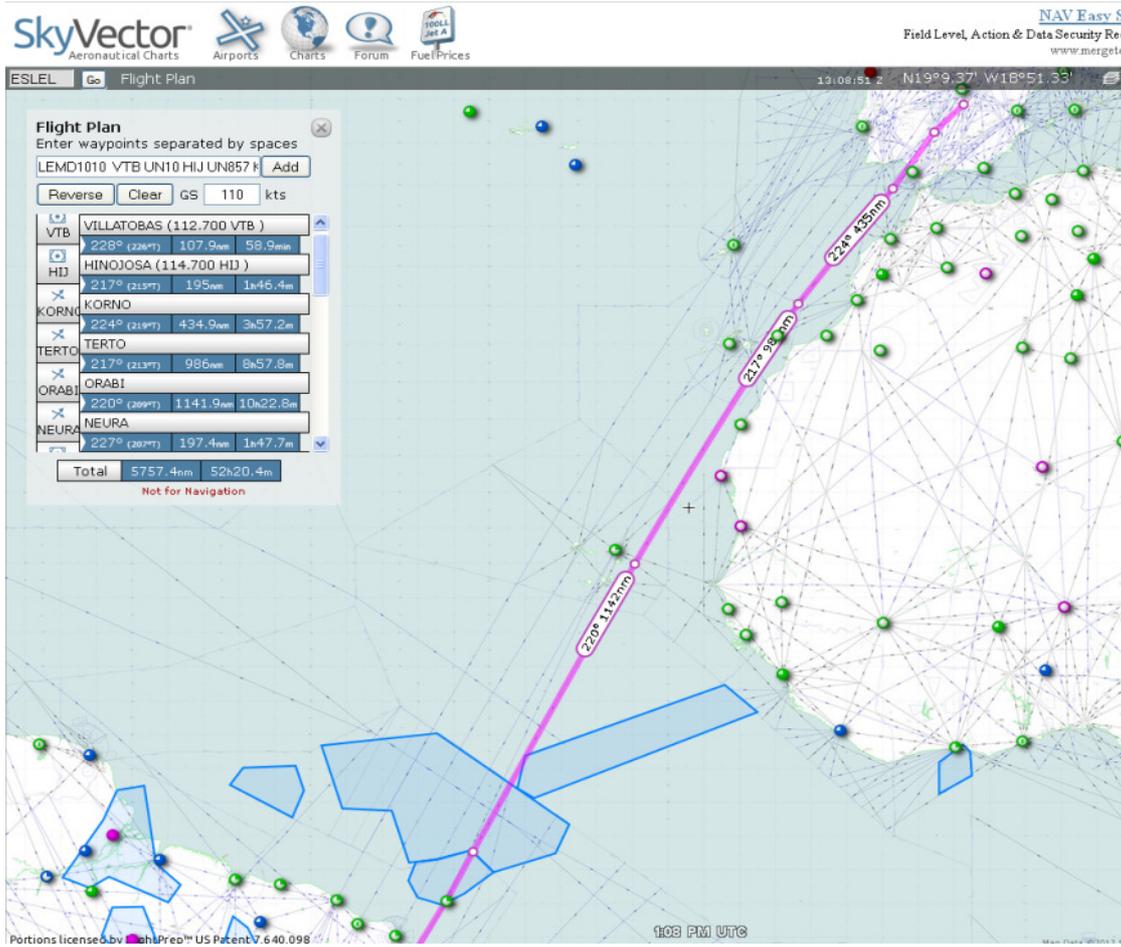


Figure 1 Initial FP IFPS

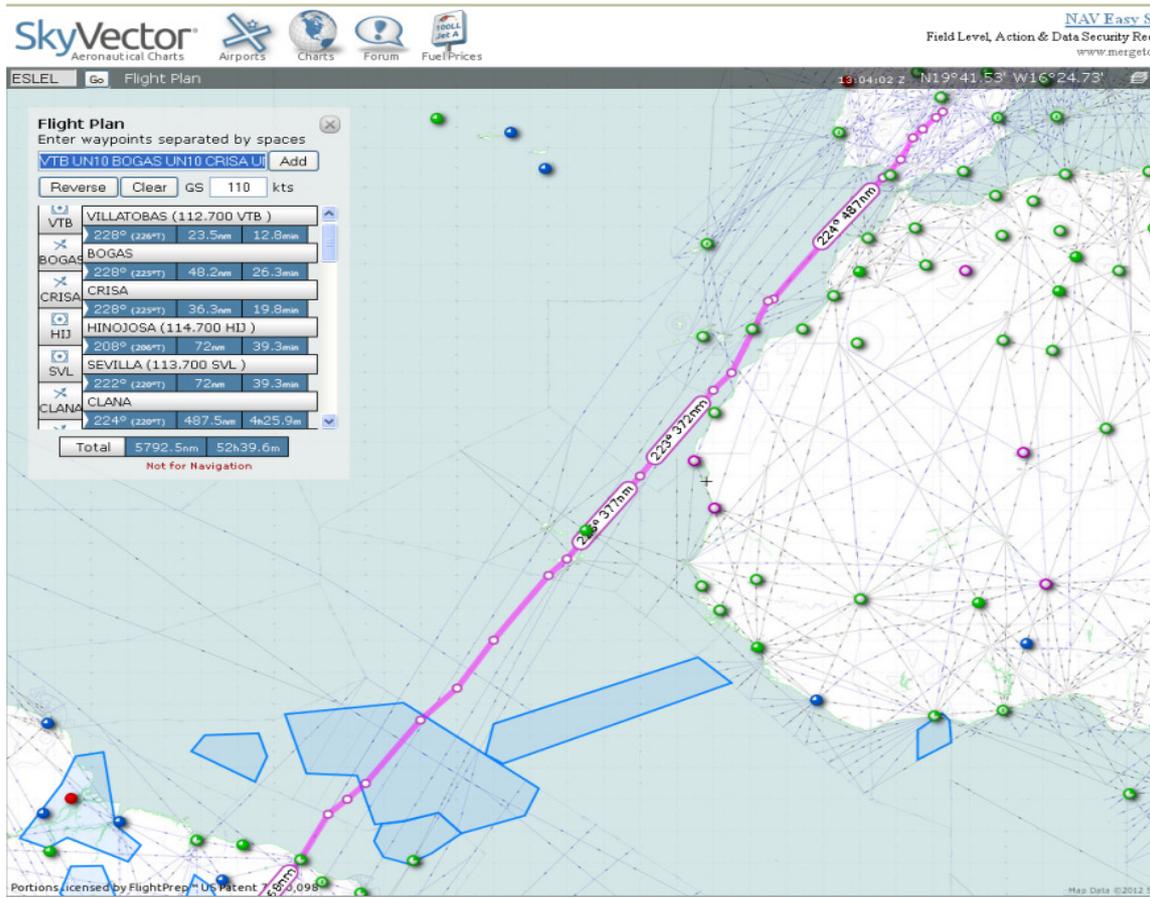


Figure 2 SATISFIED FP (optimised)

The fuel consumption extracted from the FDR (Flight Data Recorder –) is not available at the moment of writing this report, otherwise it will be presented in due time when a valid statistical analysis can be made with more flights made available.

5. ACTIONS BY THE MEETING

The SAT18 Meeting is invited to:

- a) Take note of the information provided in this information paper.
- b) To disseminate the achieve steps and next ones.

6. ACKNOWLEDGMENTS

This project would not be possible without the support of the ANSPs – CANARIAS, SAL, DAKAR, ATLANTICO – and the airlines – Iberia and AirEuropa – involved. To the many people who are collaborating and are participating we are grateful.
