



POI-0012-IS — ATC Planned Trajectories improvement with new ADS-C reports, eFPL and surveillance information

The ATC Planned Trajectories will be improved thanks to the usage of Aircraft Data (new ADS-C reports and Surveillance parameters from Mode-S & ADS-B) and eFPL data. This data provides useful hints to the ATC system about high-level Airspace User navigation strategy/preferences on how to close the degrees of freedom. In particular: which are the FMS preferred manoeuvres (among all the possible ones) to follow the FMS known route and restrictions. Then, the ATC system will take into account those high-level preferences to make better assumptions on the preferred manoeuvres to follow the ground current view of the route and restrictions (which, in most cases, will include some discrepancies when compared to the FMS ones). In addition, the ATC system will have a more precise view on aircraft current conditions, improving the accuracy of its calculations.

The following data will be considered:

- ¿ Current gross mass of the A/C, to improve predictions of A/C performances.
- ¿ A/C preferred speeds per flight phase, as well as A/C predicted speeds in cruise points to improve ETO calculation and predictions of aircraft performance-limited vertical maneuvers.
- ¿ Predicted TopOfClimb and TopOfDescent points, allowing a better identification of the aircraft perceived climb/cruise/descent phases scope, and so, allowing a better selection of the scheduled speed to be used
- ¿ Current A/C speed, to deduce selected speeds and/or de-facto preferred speeds for all flights (even if not ATN B2 equipped).

Additionally, the ATC Planned Trajectories will be improved thanks to a default better modelling of common aircraft preferences during the descent phase, concerning:

- ¿ Catch-up manoeuvres from current position to the optimal descent profile
- ¿ Geometric manoeuvres in-between consecutive descending restrictions

Rationale The ATC system should take benefit from the aircraft information already available (mainly ADS-C and/or improved surveillance data) for computing any trajectory. This can be done by implementing navigation strategies/preferences that can be either:

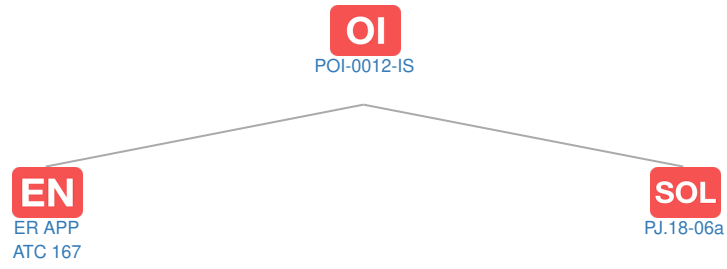
- ¿ Implemented by default (common preferences applied by almost all flights)
- ¿ Directly received from the aircraft
- ¿ Deduced from FMS predictions, aircraft actual behavior.

As the differences between FMS and FDP are variations of a similar path, it is reasonable to apply these navigation strategies/preferences on ground predicted trajectories even if there are some (limited) discrepancies between the FMS and the ATC flight plan.

Forecast V3 end date	31-12-2019	
Benefits start date (IOC)	31-12-2026	
Full benefits date (FOC)	31-12-2030	
Current Maturity Level	V2	Solution Data Quality Index -
Current Maturity Phase	-	
Scope	-	
Release	-	
PCP Status	-	

Context

Related Elements



EN Enablers

Code	Dates																										
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
POI-0012-IS																											
ER APP ATC 167																											

OI Dependent OI Steps: No associated data

SOL SESAR Solutions

Code	Title	Program	Related Elements
PJ.18-06a	Air Traffic Control (ATC) Planned Trajectory Performance Improvement	SESAR 2020 Wave 1	PJ OI DS EOC

PCP PCP Elements: No associated data

OBJ Implementation Objectives: No associated data

ICAO ICAO Block Modules: No associated data