

## Executing more Eco-Friendly Procedures with THALES

Friday 15 October 2021

### Audience Questions asked during the webinar

**Q:** What kind of performance model do you use to derive CO2 from radar & ADS-B tracks?

**Answer:**

We use two types of performance models:

- Models we designed by ourselves, relying on Machine learning performed on QAR data
- Models provided by TU Delft ([GitHub - TUDelft-CNS-ATM/openap: Open Aircraft Performance Model and Python Toolkit](#)) that we adjust with regards to the operational data we have.

**Q:** Is this wheels-up to wheels-down, or also including ground operations?

**Answer:**

- Wheels-up to wheels-down.

**Q:** The footprint calculation seems pretty accurate, but will it calculate a real manoeuvre of the aircraft if, a holding procedure/ vector occurs? Or is SID/ STAR already calculated?

**Answer:**

- We apply our computation core on the real trajectories that have been flown. Thus, if for instance a holding procedure occurred, it is taken into account in the results.
- That's what makes then comparisons between flights tricky. On a given city pair, two flights might not have faced the exact same procedure. We are actively working on it to provide fair comparisons.

**Q:** About the green flag slots identification, are you involved in SESAR PJ07 sol 38. are you familiar with the concept of cold spots?

**Answer:**

- Yes, Thales is involved on the PJ07 sol 38.
- Coldspot concept consists in publishing low traffic airspaces (via NM).

- Green Flag is different since consists in publishing and sharing green intentions between stakeholders. Traffic is one criterion to consider but not only.
- Green Flag is a process & tools enabling to execute more eco-friendly operations. Thus, Green Flag relies on Green Performance Indicators to go beyond usual security/capacity/traffic/weather existing criteria.
- In addition, Green Flag approach applies in all operational phases from Strategic to Tactic.
- Cold spots could be a data input to the Green Flag to support the decision aid for the Green Flag time slot setting during the strategical phase.

**Q:** All Airlines benefits from CDO/CCO. But how will we motivate Airlines to avoid contrails and reduce the total climate impact of a flight if it means longer/more expensive trajectories? Today many airlines plan longer routes if the total operational cost can be lowered (airspace dodging)?

**Answer:**

- That is right. Incentives have to be found. Nevertheless, despite what many people believe, avoiding contrails might not be such a costly operational change. Indeed, an internal study we performed has shown that a subset of flight could avoid contrails at no or very marginal additional costs. Depending on the flights, lateral or vertical changes might be more suitable, having different implications on the operating cost. It has also shown that significant climate impact reduction of a fleet can be performed by modifying only a low percentage of flights: acting on less than 10% of one's fleet could reduce by more than 40% the total global warming impact.

**Q:** Is it really wise to use and promote the labels "eco-friendly" and "green"? At least from a Swedish perspective (flight shame etc), these labels on aviation will increase the risk of us being accused of green washing by the public, by politicians and NGOs. Is it not better and more honest to label our efforts "reduced environmental impact", "reduced emissions", "reduce flight footprints" etc?

**Answer:** We share your point of view. Such language elements shall be used carefully. This is why "eco-responsibility" might be more adapted in a sense that one is aware of its real footprint and seeks for reducing its emissions when it is possible.

Notice that EASA is currently working on an environmental label program that aims at "providing reliable, comparable, and verifiable information". The label would reward stakeholders making demonstrated efforts to go towards 2050's targets. It would not grant any airline with a "green label".

That is also why we focus our efforts on acting now, at the operations level, to show that the ecosystem can engage its transition now, while hardly working on potential, deeper technological innovations.

THALES thanks CANSO and all the attendees and is pleased to share its green initiatives on 'How to execute more eco-friendly operations'.

We will be enjoyed to welcome new ANSP comers focusing on green stakes  
- share our experience and start a joined process!

Do to so, please contact us: [david.antonello@fr.thalesgroup.com](mailto:david.antonello@fr.thalesgroup.com)