A supervised statistical learning setting (regression model) will be defined since the scalar outcome characteristics (time-dependent data, large correlations between flight parameters, large scale data)

Principales activités
The postdoc will define the mathematical problem from the technical challenges and the flight data characteristics (time-dependent data, large correlations between flight parameters, large scale data) in a general setting.

A supervised statistical learning setting (regression model) will be defined since the scalar outcome characteristics (time-dependent data, large correlations between flight parameters, large scale data)
The postdoc will identify relevant state-of-the-art machine learning algorithms. It includes, but not limited to, tree-based ensemble algorithms and Gradient Boosting algorithms, model aggregation, Bayesian and kernel methods. Safety Line will bring an expertise to the flight data and flight mechanics that will support the statistical modelling.

A particular focus will be on the development of an optimization procedure which makes use of the aircraft performance model defined. A reinforcement learning setting with continuous states and actions will be investigated in order to take into account nonparametric performance models. The optimization tools will be adapted to all flight phases (climb, cruise, descent) and a first proof of concept will be implemented.

**Compétences**

- PhD degree in statistics, machine learning, or related area.
- Working fluency in English. French is also helpful but not required, as international research in the area is typically published and presented in English.
- Ability to take leadership roles on research projects, and also to engage in cooperative teamwork.
- Ability to write research papers and diffuse results in international conferences.
- Good Python programming skills for running experiments with developed algorithms.

**Avantages sociaux**

- Subsidised catering service
- Partially-reimbursed public transport
- Social security
- Paid leave

**Rémunération**

Gross salary 2653 € per month.