START

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START Project
a Stable and resilient ATM by integrating Robust airline operations into the network

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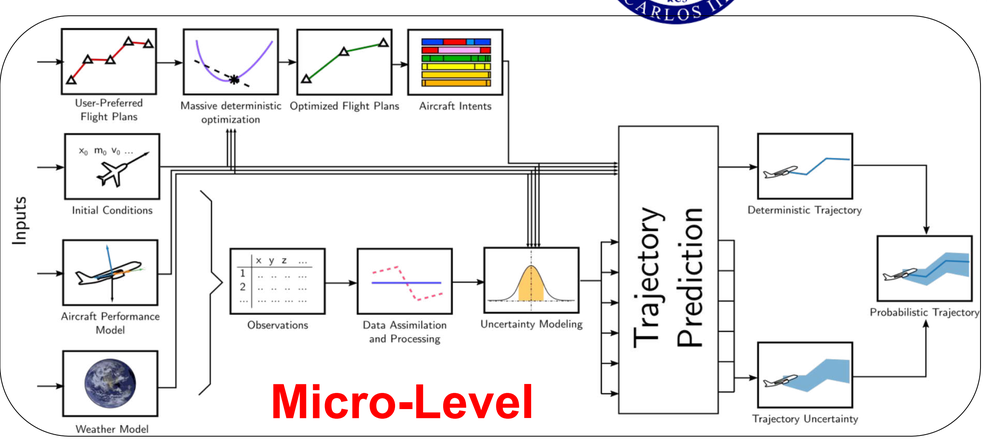

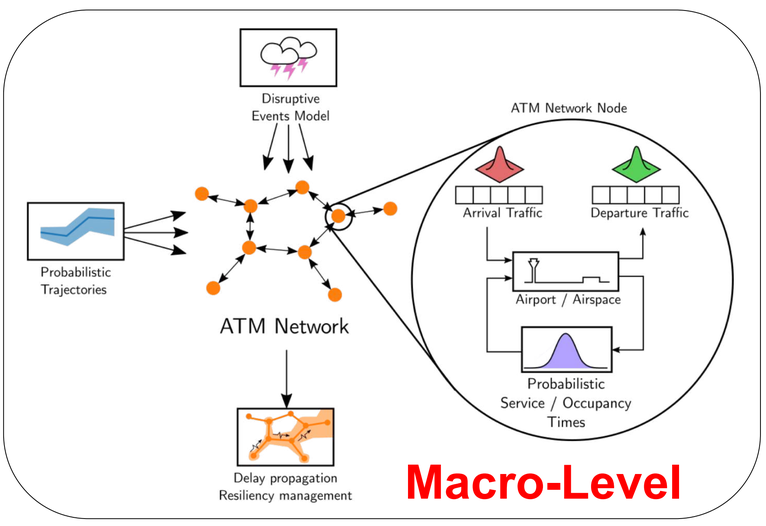

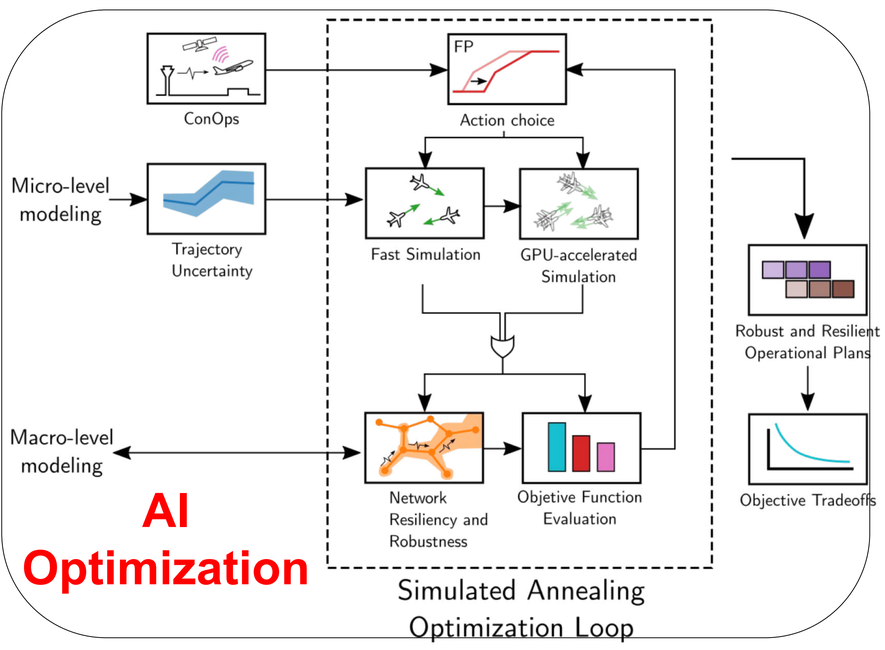

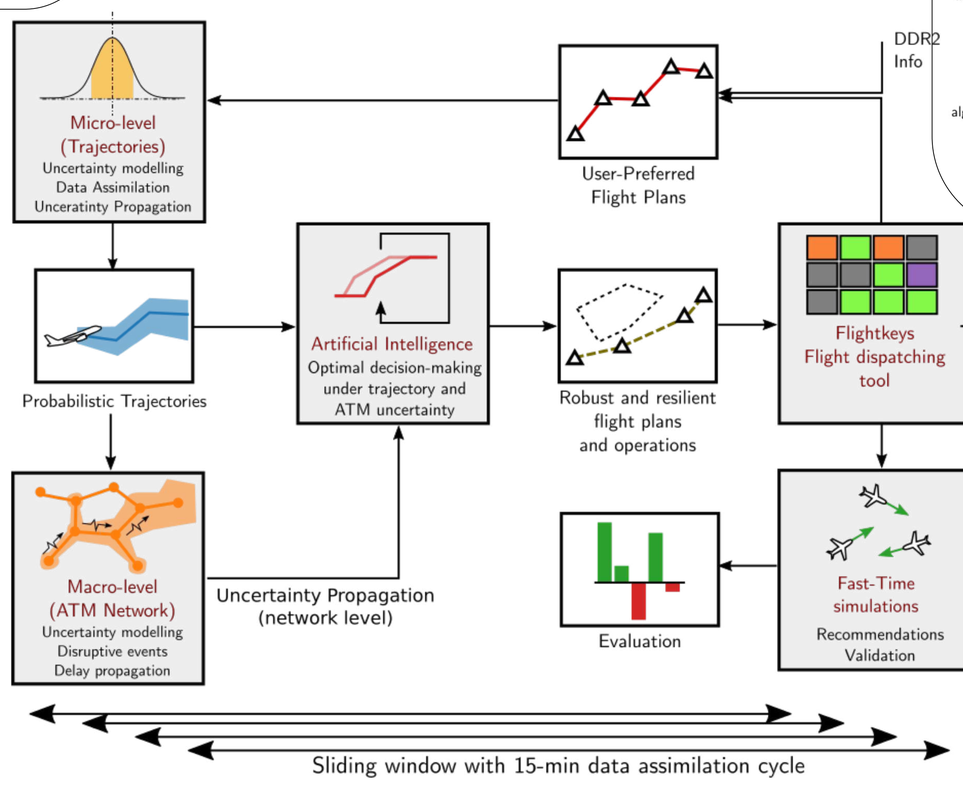

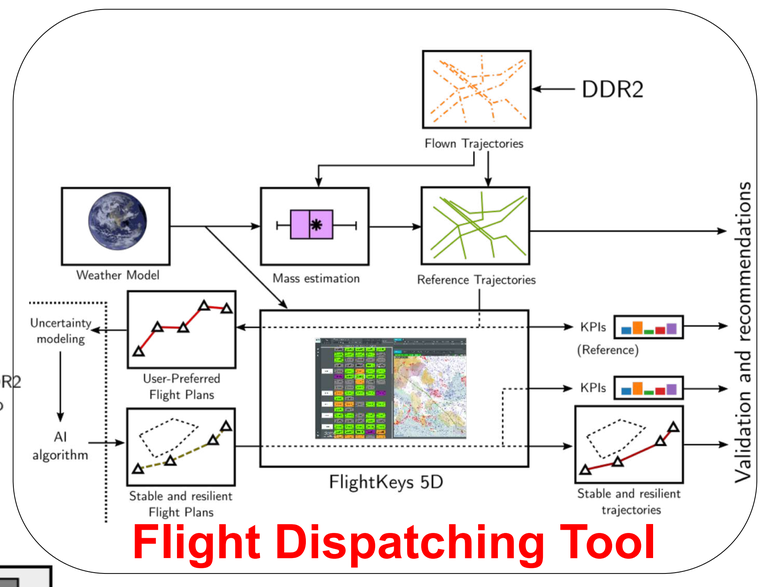

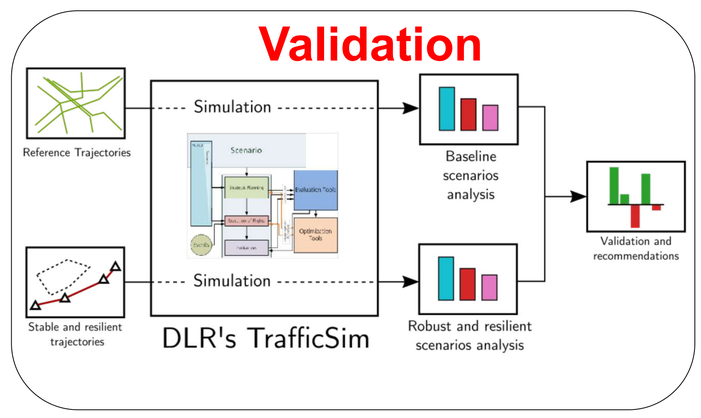

The **overall goal** of **START is to develop, implement, and validate optimisation algorithms for robust airline operations that result in stable and resilient ATM performance even in disturbed scenarios.**

Objectives

1. To **model uncertainties at the micro (trajectory) level**, **assimilate observations** (via ADSB/Radar) every 15 min. using advanced data science methods, and **propagate trajectory uncertainties** using assimilated models and a stochastic trajectory predictor.
2. To **model uncertainties at the macro (ATM network) level**, **assimilate observations** (satellite data for storm, and network status) every 15 min. using advanced data science methods, and **propagate ATM network uncertainties** using the assimilated models.
3. To **develop an Artificial Intelligence (AI) algorithm** capable of generating a set of pan-European (i.e., considering the whole traffic over Europe) robust trajectories that make the European ATM system resilient when facing these relevant uncertainties.
4. To **implement** those algorithms as an **advanced flight dispatching demo functionality** for airspace users to obtain robust trajectories.
5. To **validate these concepts** through system-wide simulation procedures in order to evaluate their stability, **assessing the benefits for both the airspace users and the network manager**. Recommendations for the derivation of resilient TBO networks will be derived.

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