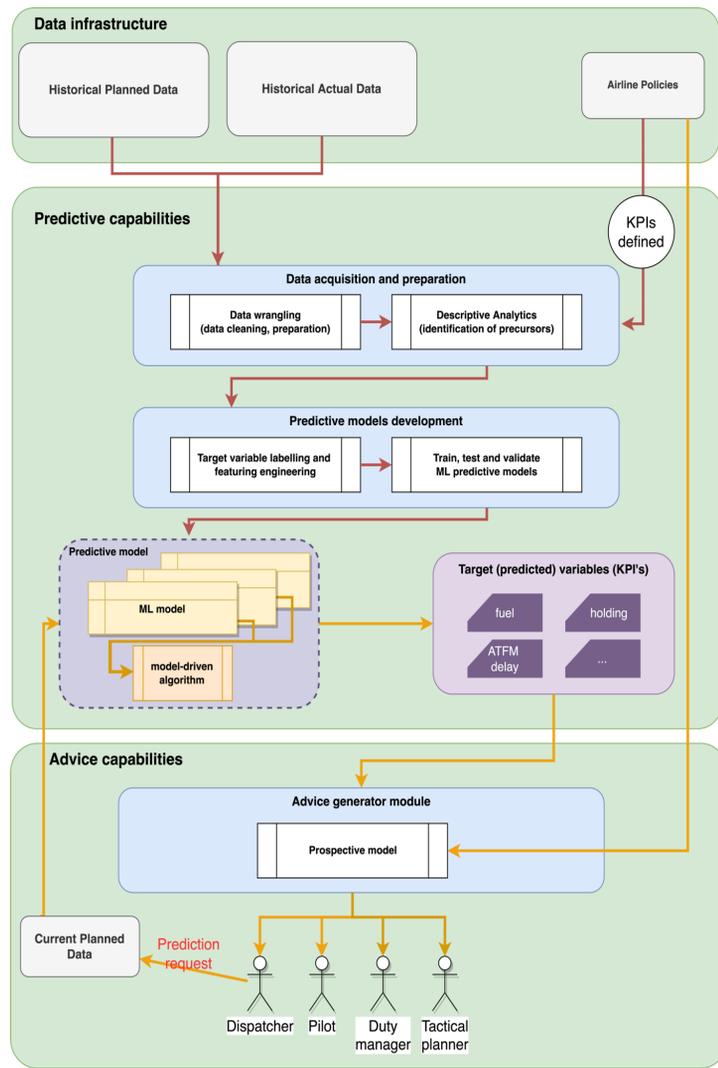




DISPATCHER3

Machine learning to support flight planning

Architecture & Approach



Dispatcher3 is composed by three layers

- **Data infrastructure**
Store and prepares historic datasets
- **Predictive capabilities**
Pool of individual Machine Learning Models (e.g. holding at arrival, ATFM delay)
- **Advice Generator**
Combines outcome of individual models for different flights

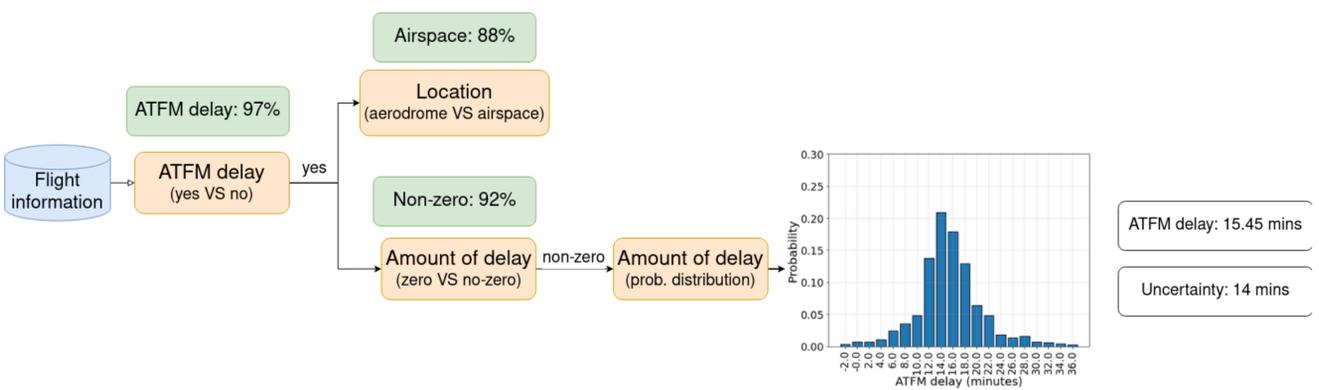
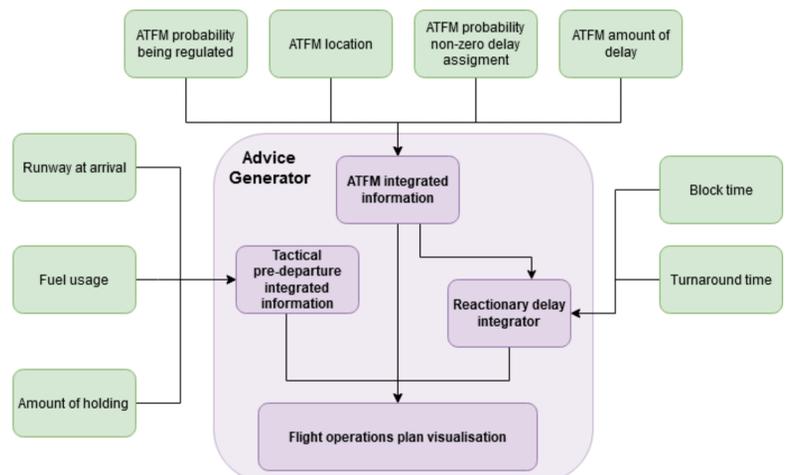
Challenges

- Different prediction horizons and data availability
- Account for uncertainty
- Prediction of non-observed events (avoiding survivorship bias)
- Development of individual machine learning models

Advice Generation

Integration of individual models

- **Pre-departure (3-4h prior EOBT)**
 - Landing runway
 - Holding
 - Fuel usage
- **Planned (>4h prior EOBT)**
 - ATFM integrated information
 - Reactionary delay (e.g. probability missing slot)



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