

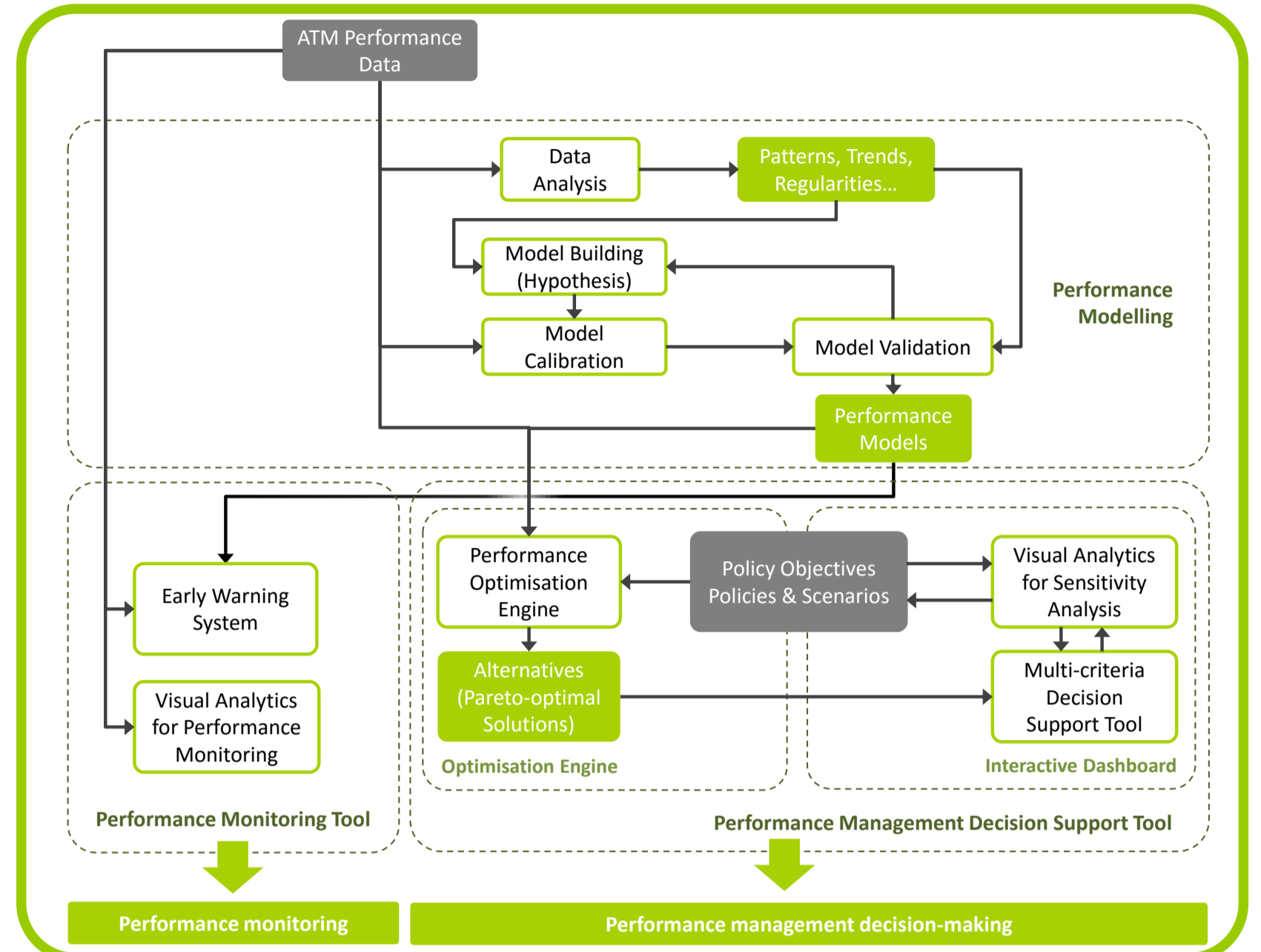
The INTUIT Project

ATM Performance Monitoring: Opportunities

- Complex interaction: policies-stakeholders-technologies-market
- Increasing availability of data

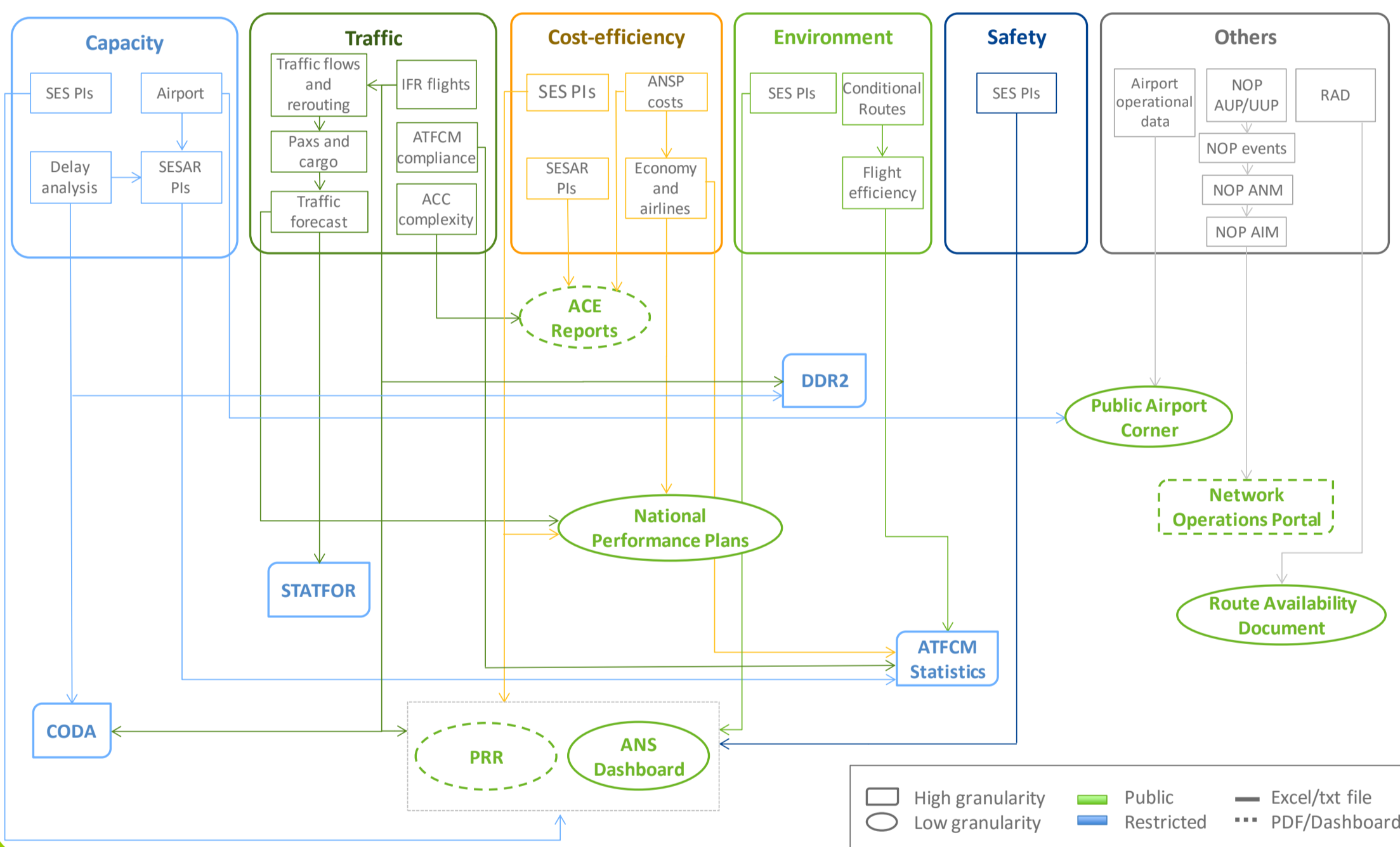
INTUIT Objectives

- Explore potential of visual analytics, machine learning and systems modelling to understand trade-offs between ATM KPAs
- Build on this new analytical and visualisation functionalities to develop new ATM performance monitoring and management tools



Performance Data and Research Threads

Performance Monitoring Data



Research Challenges

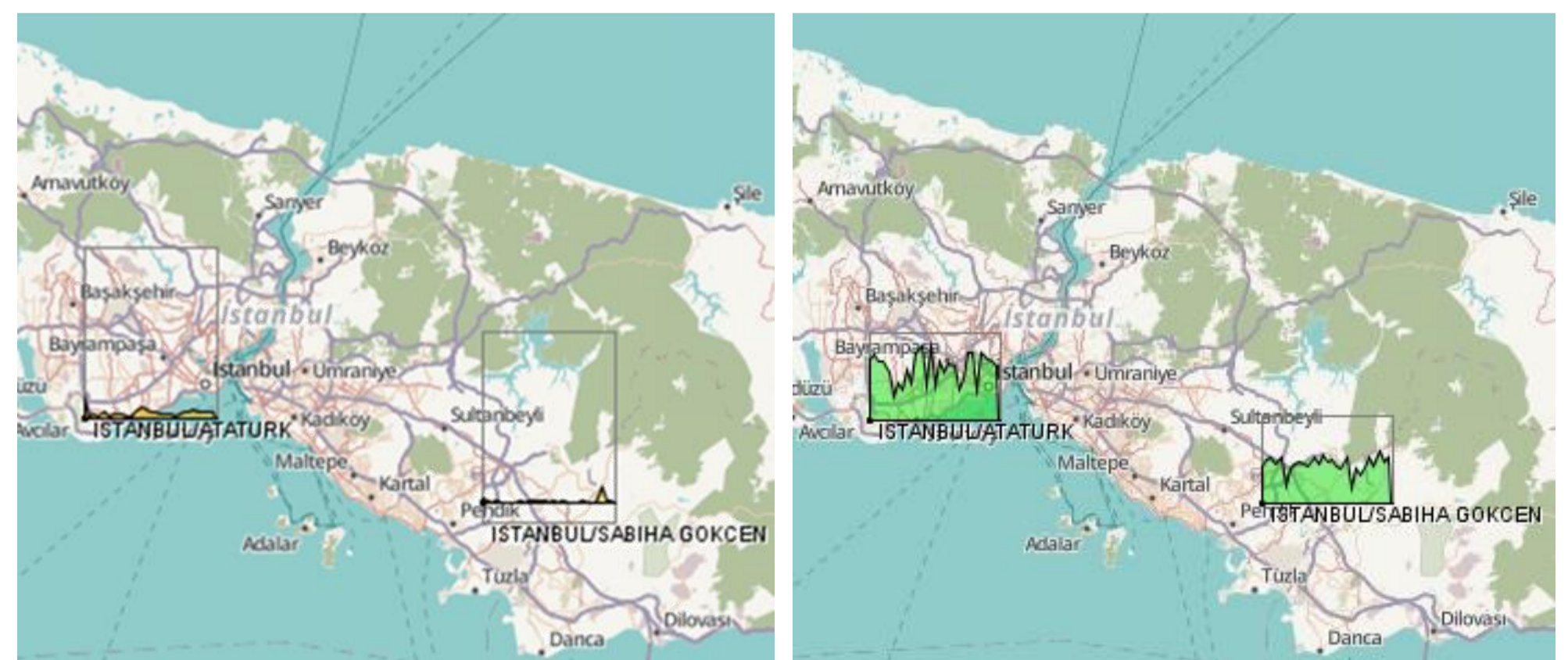
- ATCO workload: demand-capacity drivers
- Cost-efficiency: trade-off cost of delay vs environment
- Uncertainty impact: ATOT – en-route – arrival
- New metrics: demand constraints, gate to gate indicators, predictability
- Safety: new KPIs, trade-offs

Example: ATFM Delay Analysis for Network Bottleneck Assessment

Flights affected by external regulations



Flights affected by external regulations vs incoming regulated flights



Target Outcomes

- Review of performance databases and data quality assessment
- Comprehensive study on the ATM performance trade-offs together with predictive and descriptive models
- Decision-support tools for policy management according to measurable objectives