

## ATC Advisory System for the Prevention of Bird Strikes

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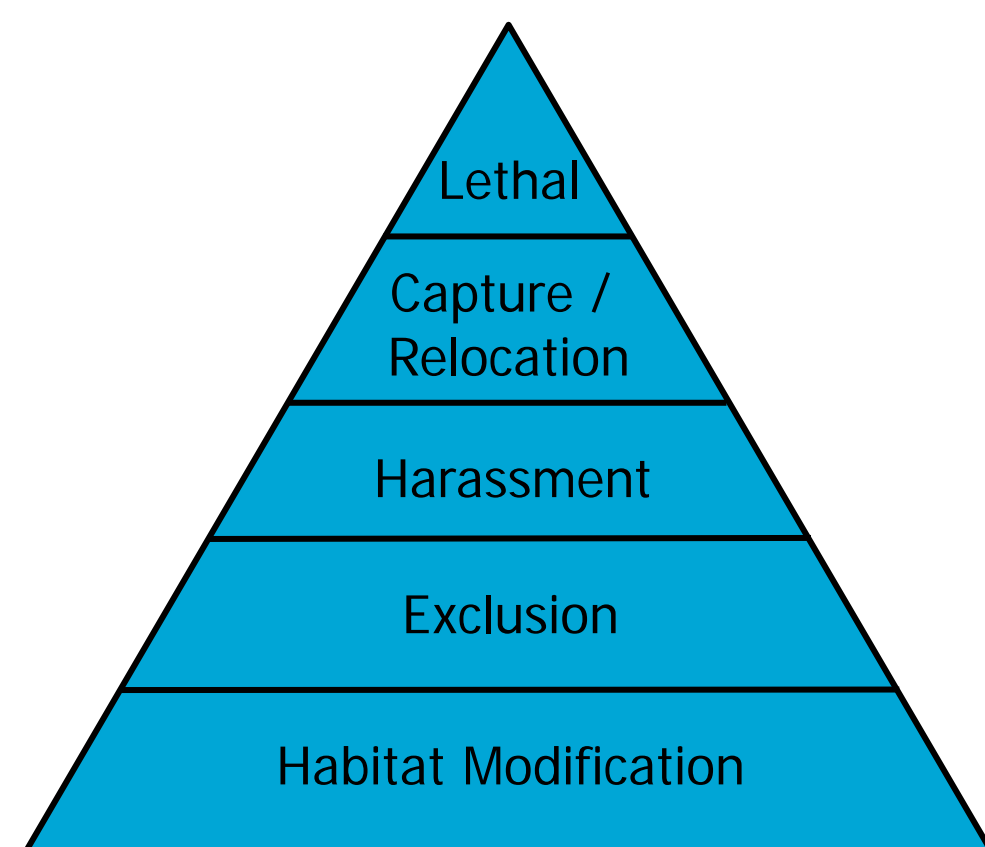
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# ATC Advisory System for the Prevention of Bird Strikes

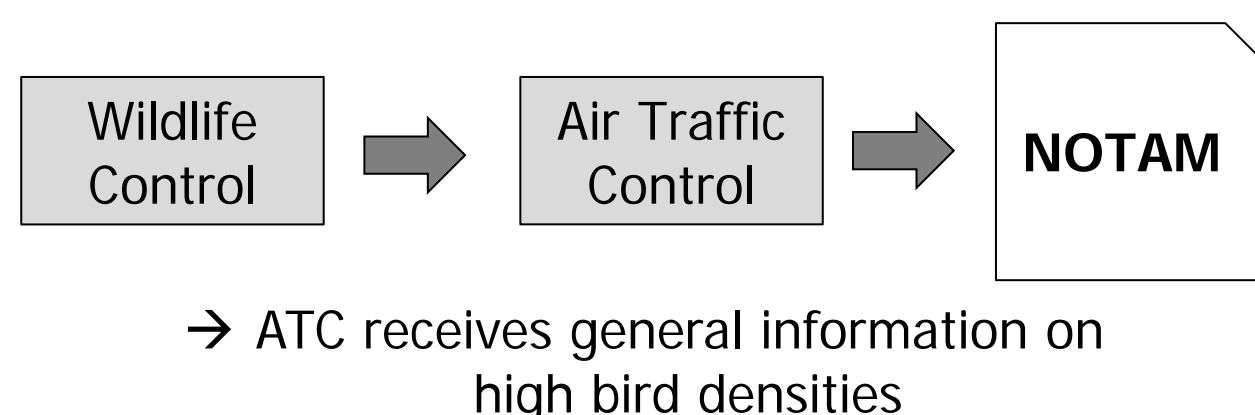
Isabel Metz, Joost Ellerbroek, Thorsten Mühlhausen, Dirk Kügler, Jacco M. Hoekstra

## Current Bird Strike Hazard Mitigation Measures at Airports



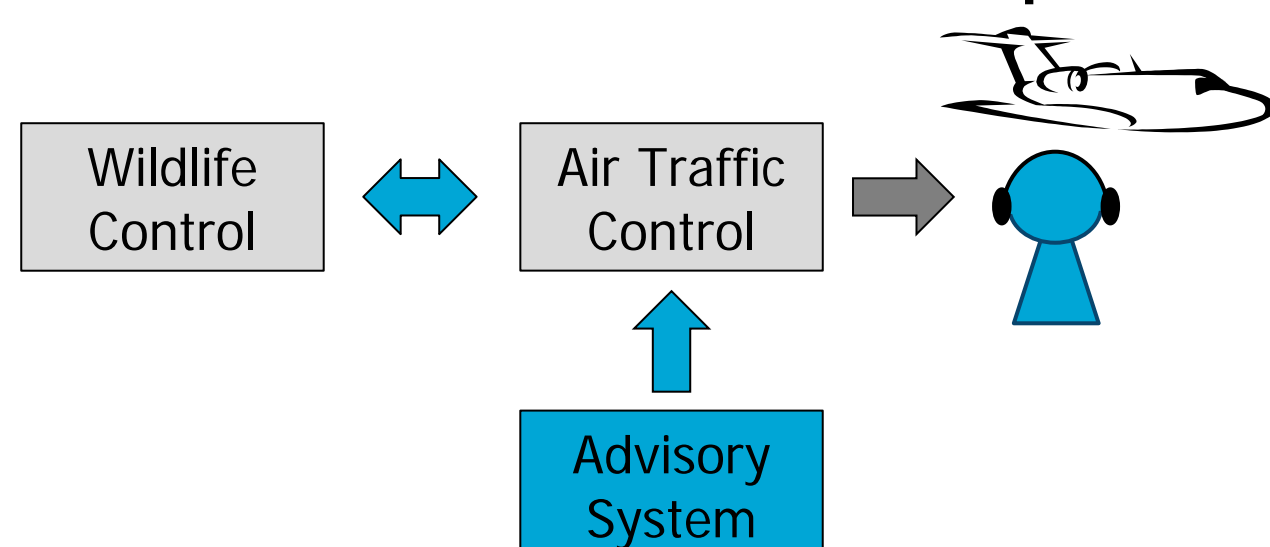
- carried out exclusively by the Wildlife Control Unit
- habituation to the measures
- geographically limited

## Current Information Flow at Airports



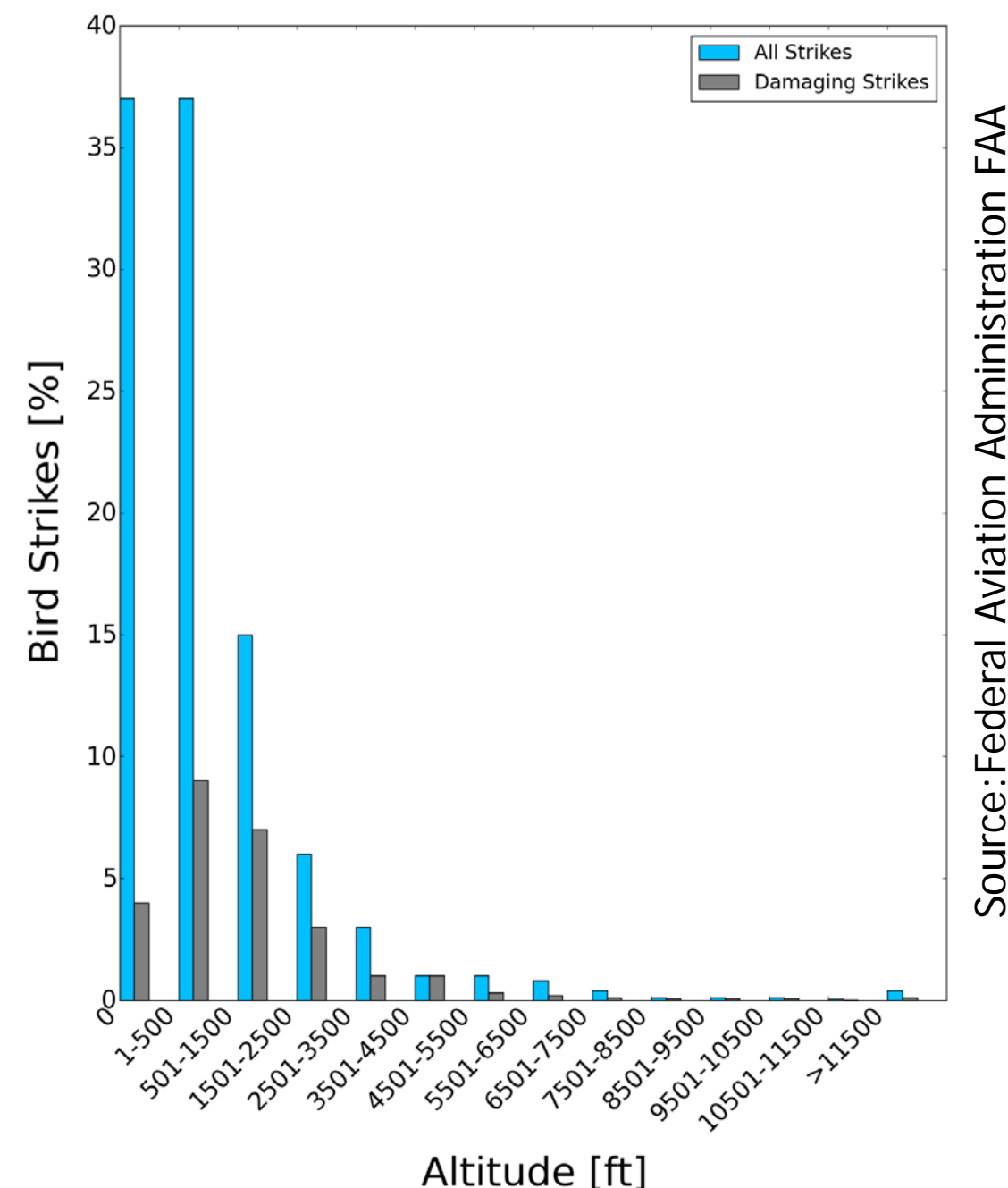
- ATC receives general information on high bird densities

## Intended Information Flow Airports



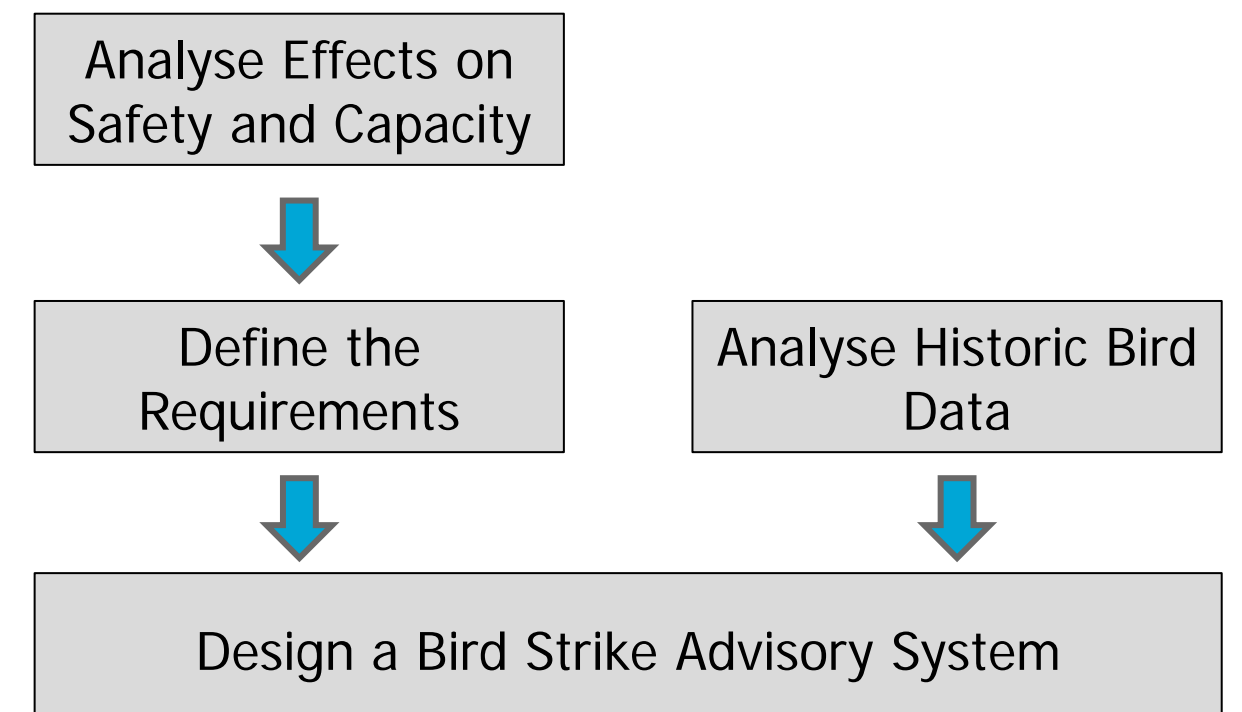
- ATC receives detailed information on current and predicted bird movements

## Current Situation



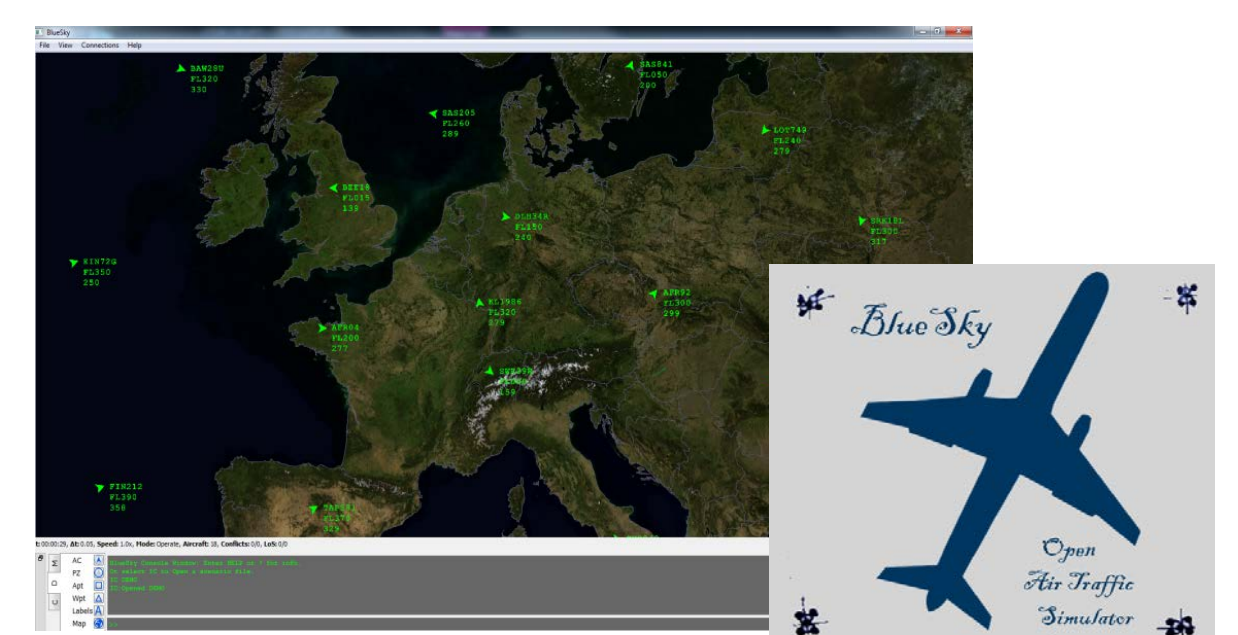
- delays and operational impacts
- costs of ca. one billion US\$ per year for commercial aviation worldwide
- increasing risk due to increasing bird populations and rising air traffic
- **a threat to aviation safety**

## Approach

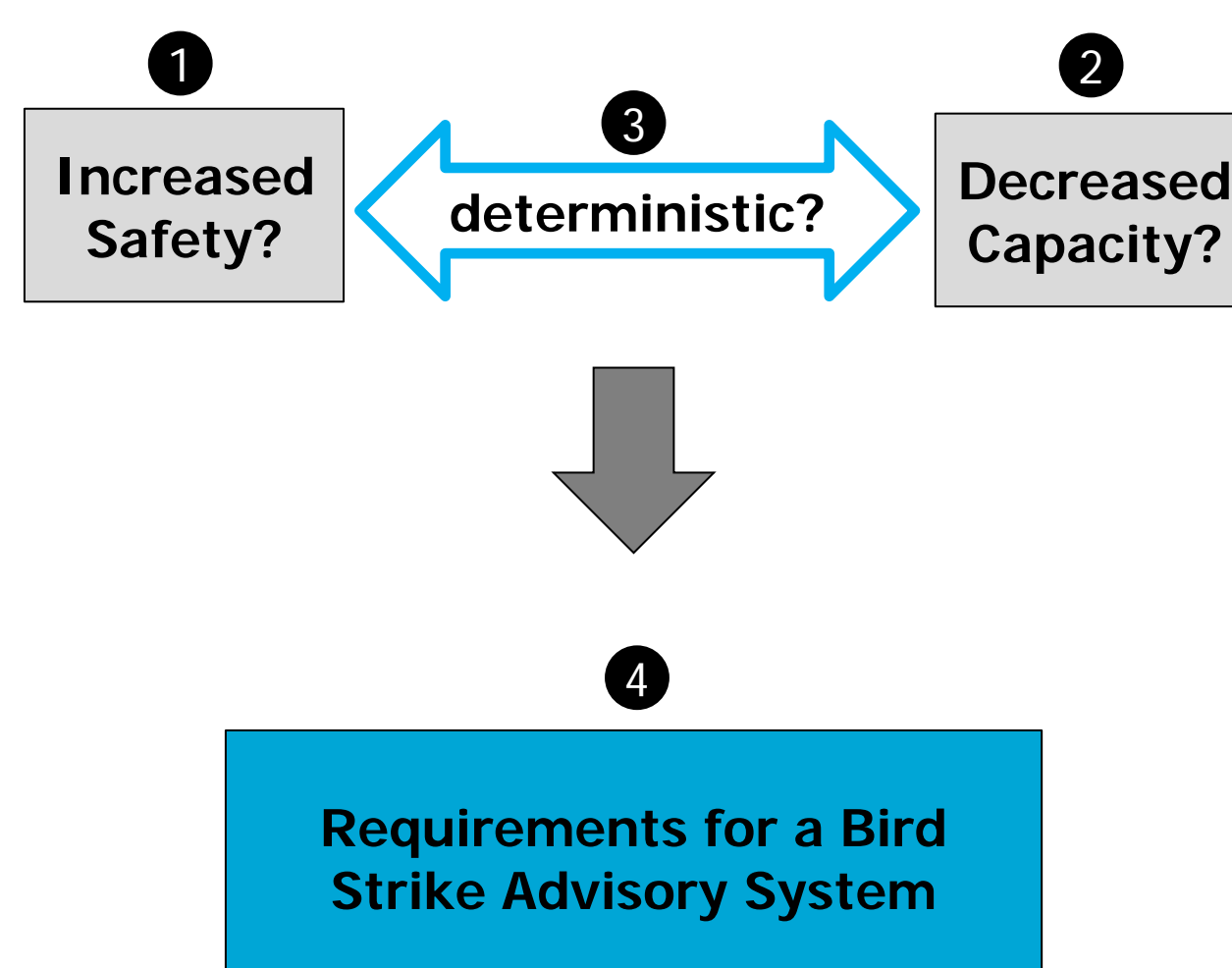


## Method

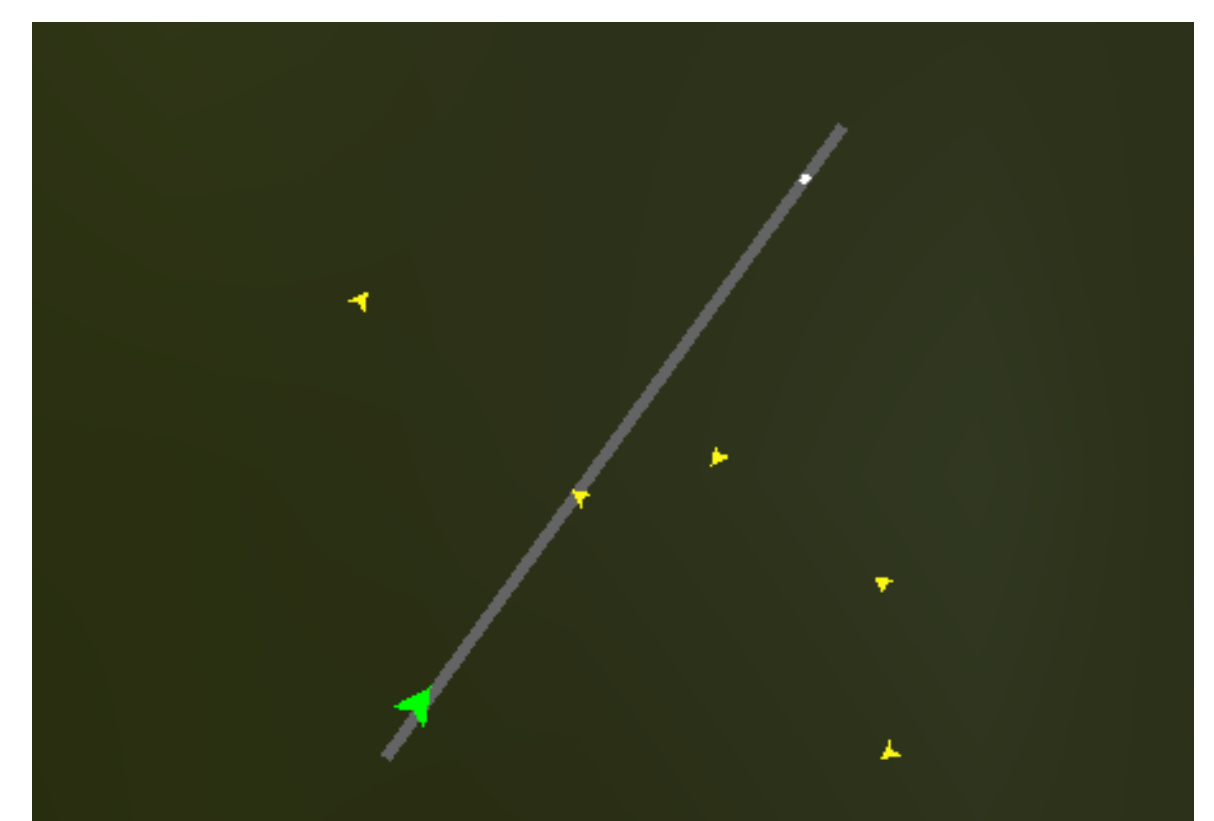
fast-time simulations using the BlueSky Open Air Traffic Simulator



## Four Main Research Questions

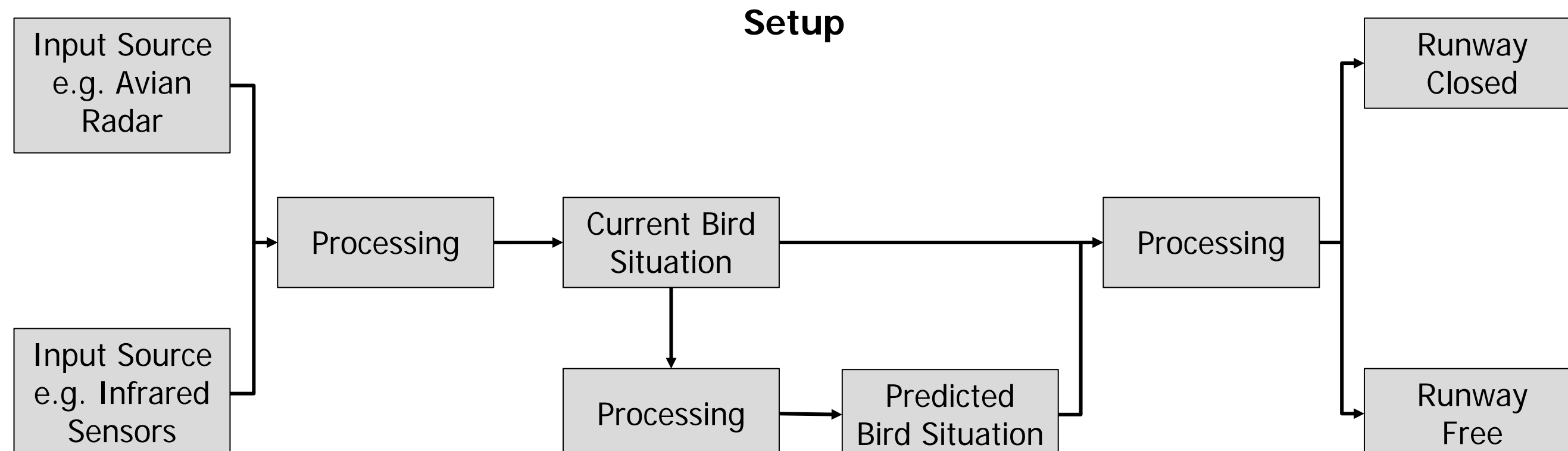


## Scenario Screenshot

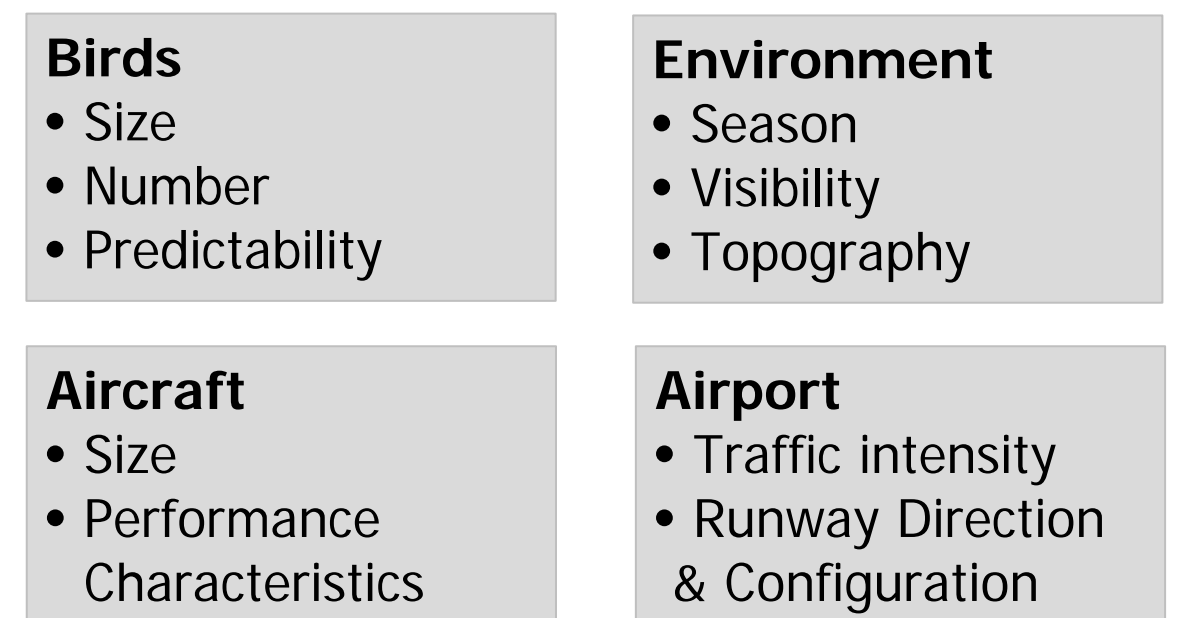


air traffic in green, bird traffic in yellow

## Setup



## Simulation Variables



## Key Literature

Dolbeer, R. (2013). The history of wildlife strikes and management at airports. In *Wildlife in airport environments. Preventing animal-aircraft collisions through science-based management* (pp. 1-6). Baltimore, MD, USA: The John Hopkins University Press.

McKee, J., Shaw, P., Dekker, A. & K. Patrick (2016). Approaches to Wildlife Management in Aviation. In *Problematic Wildlife. A Cross-Disciplinary Approach* (pp. 465-488). Cham, Switzerland: Springer.

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