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# QUADABRA

A tool to analyze historical trajectory data, detect conflicting pairs of aircraft automatically, and quantitatively assess the probability of a mid-air collision.

## Benefits of QUADABRA

### Efficiency Boosts

QUADABRA supports ANSPs in analyzing critical occurrences in the airspace. For example, a loss of separation does not necessarily imply a high collision risk. Therefore, the quantitative metrics computed by QUADABRA help to prioritize occurrences. It focuses analysts' attention on safety-relevant cases – both reported and unreported events.

An interactive dashboard makes it possible to visualize occurrences in a way that makes the analysis more efficient than traditional static reports. This saves time and costs. The quantitative risk metrics facilitate objective and reproducible risk assessments.

### Safety Increase

QUADABRA provides additional safety assessments beyond the rule-based approach because maintaining separation standards alone cannot guarantee a low collision risk. Large amounts of historical data are used to detect risk hot spots and potential weaknesses in the airspace design. This is achieved by analyzing conflicting encounters irrespective of whether separation standards were maintained.



**QUADABRA efficiently analyzes critical occurrences and detects previously hidden risks.**

## Working with QUADABRA in 5 Steps

01

### Upload

You upload your historical trajectories in your preferred data format.

03

### Explore

You receive the results on your web-based dashboard. There, you can sort encounters by different risk metrics and access multiple KPIs.

05

### Generate

You can generate customized reports for specific encounters in the format of your choice.



02

### Compute

Our algorithms identify conflicting pairs, quantify the risk metrics and the probability of mid-air collisions.



04

### Visualize

You have access to a 4D visualization and can replay situations.





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**Do you want to understand your risks better?  
Contact us for a demonstration of what  
QUADABRA can do for you.**

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QUADABRA is Swiss-made and developed by SKAI Data Services