



Aircraft Safety Analysis & Recommendations

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Introduction

Why Aircraft Safety Matters?

- The company is expanding into aviation for commercial and private operations.
- Safety is critical to minimize risk and ensure operational reliability.
- Our analysis identifies the safest aircraft models using accident data.

Data Overview

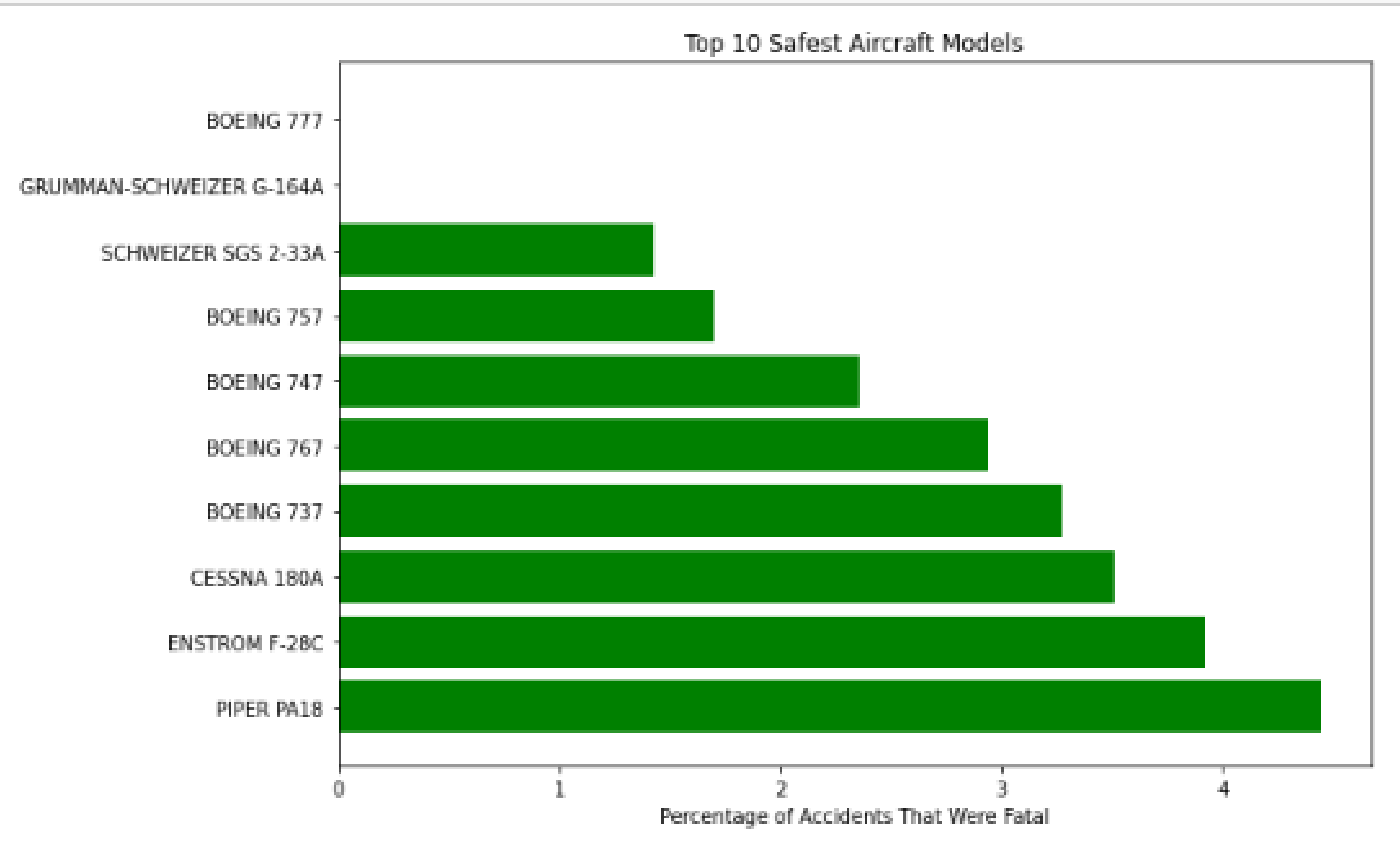
Objective: Identify the safest aircraft models for company acquisition based on accident data.

Data Used in Analysis

- Source: Aviation accident reports
- Key metrics:
 - Total accidents per aircraft model
 - Number of fatal accidents
 - Percentage of fatal accidents
 - Minimum of 50 accidents per model for reliability

a) Aircraft Models with the Lowest Fatality Rates

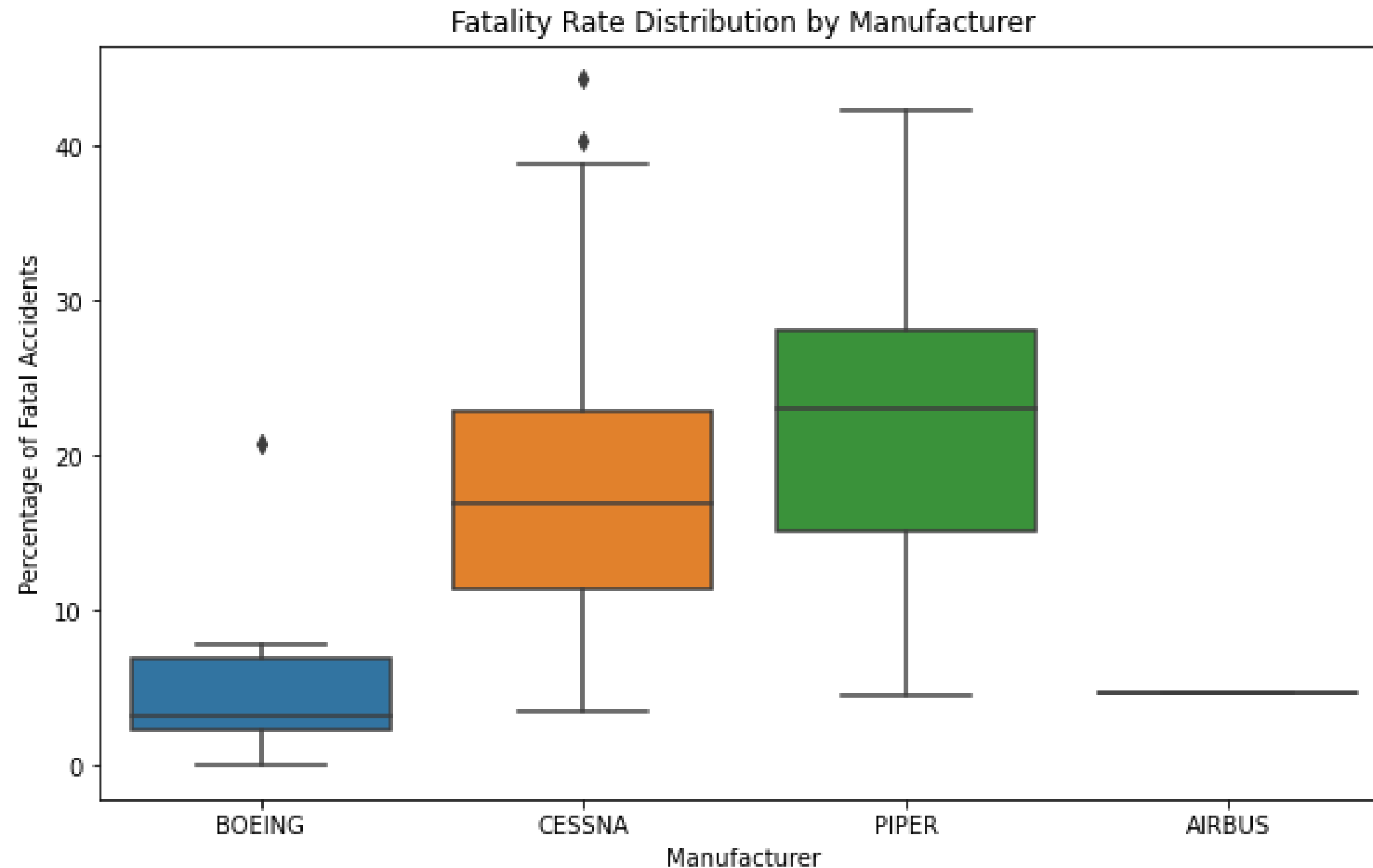
- Boeing 777: 0% fatal accidents (83 incidents)
- Schweizer SGS 2-33A: 0% fatal accidents (53 incidents)
- Boeing 737 Classic: 0% fatal accidents (54 incidents)
- Piper PA-18: 1.8% fatal accidents (55 incidents)
- Boeing 747: 3.1% fatal accidents (65 incidents)



b) Fatality Rate Distribution by Manufacturer

Which manufacturers have the most reliable safety records?

- Boeing, Airbus, Cessna, and Piper were analyzed.
- Boeing and Airbus models show consistent safety performance.
- Cessna and Piper have more variability in fatality rates.



c)Top 5 safest aircraft

Which manufacturers have the most reliable safety records?

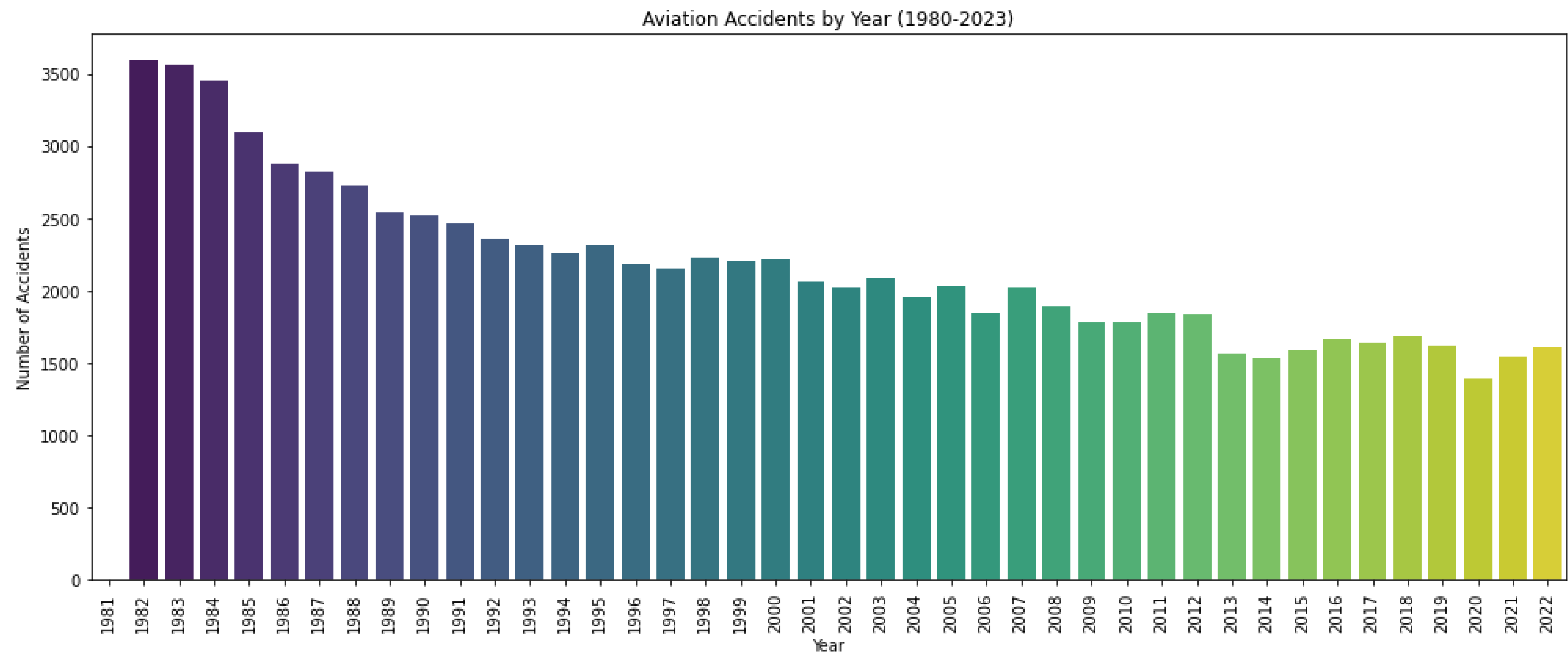
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Top 5 safest aircraft

Make	Model	Number of Accidents	Percent Fatal
Boeing	737	54.00	0.00
	747	65.00	3.08
	777	83.00	0.00
Piper	PA18	55.00	1.82
Schweizer	SGS 2-33A	53.00	0.00

d) Aviation Accidents by Year (1980-2023)

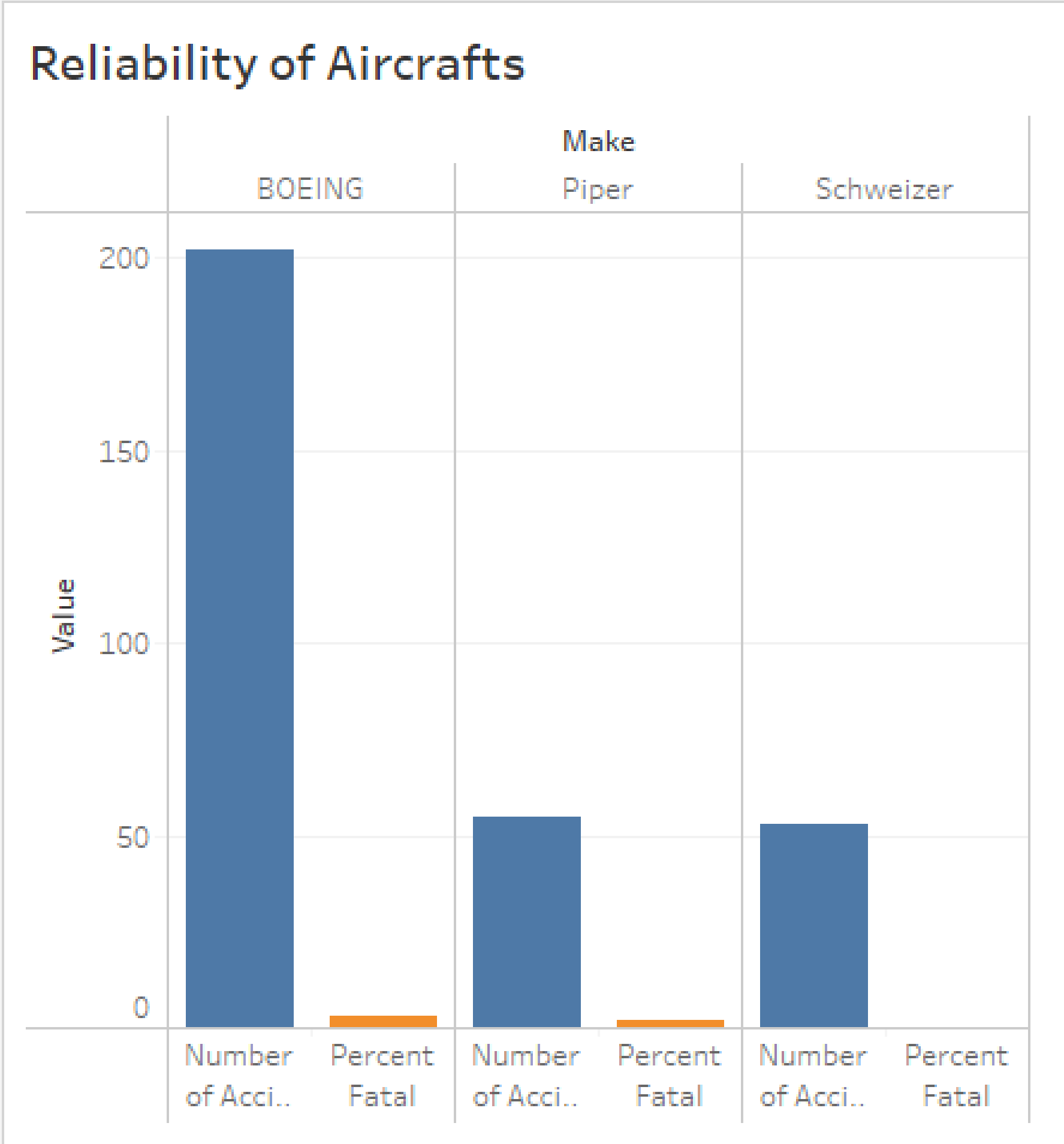
- Data analyzed from **1980-2023**.
- Overall decline** in accident frequency over time.
- Improvements in safety protocols and technology** have contributed to this decline.



e) Reliability of Aircraft

Which manufacturers have the most reliable safety records?

- Boeing, Airbus, Cessna, and Piper were analyzed.
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Key Business Recommendations

Preferred Aircraft Models

Prioritize acquisition of Boeing 777, Boeing 737 Classic, and Piper PA-18.

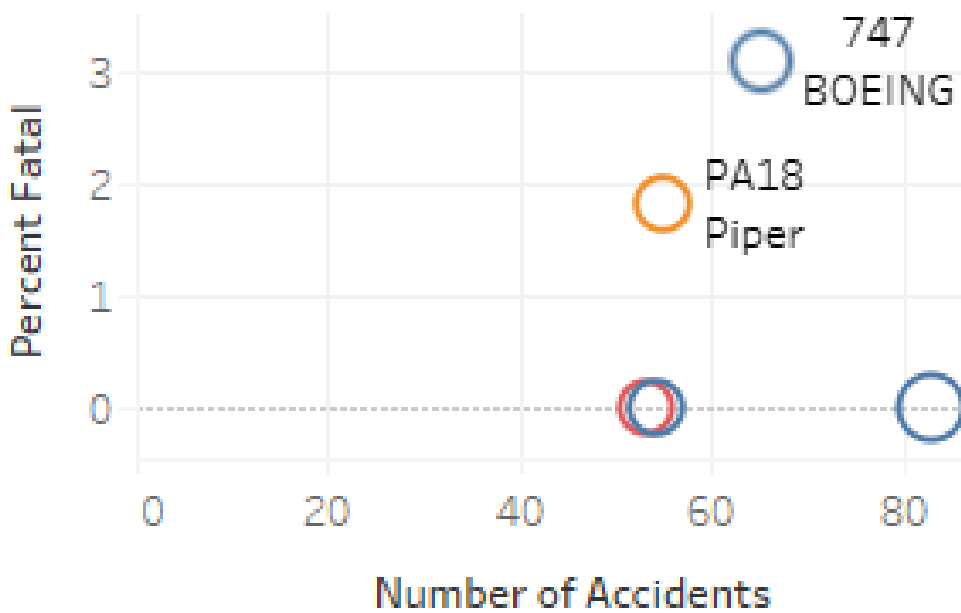
These models demonstrate the lowest fatality rates and strong operational history.

Why These Aircraft Are the Best Choice

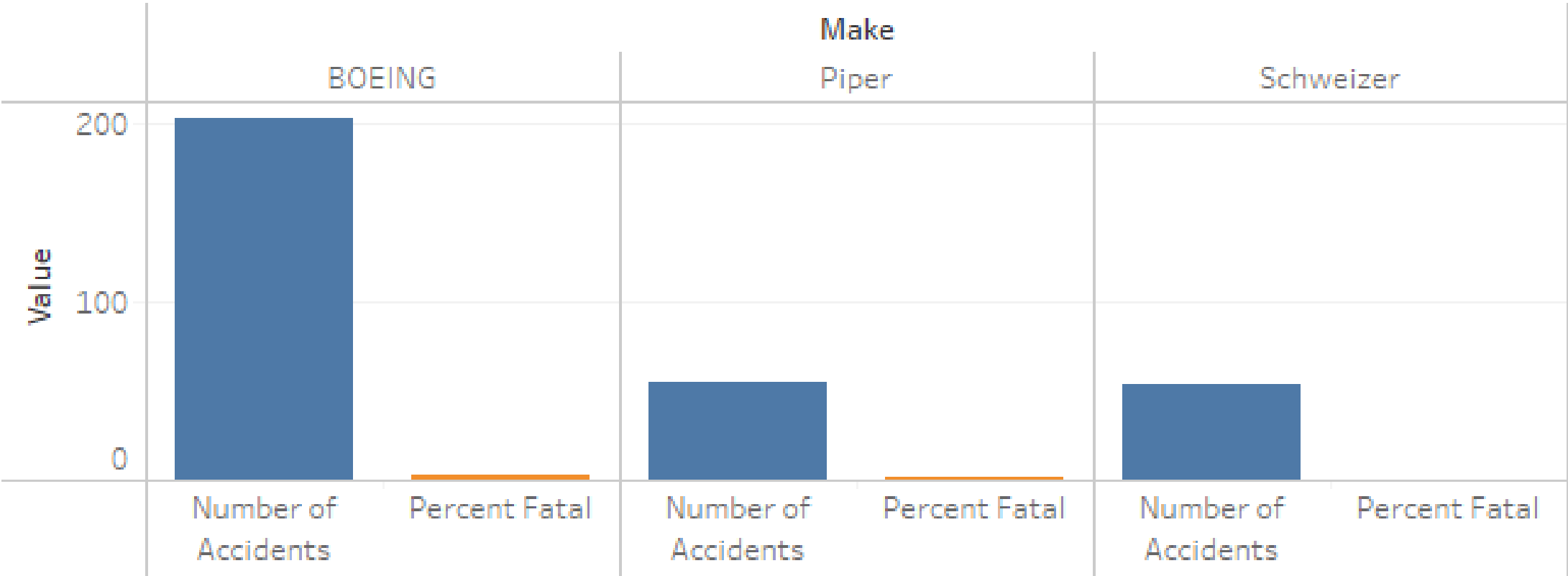
Top 5 safest aircraft

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Percent fatal per No of Accidents



Reliability of Aircrafts



THANK YOU

Q&A