

Abstract geometric lines in the top left corner, consisting of several thin black lines forming a complex, overlapping pattern of triangles and polygons.

AVIATION ACCIDENT ANALYSIS:

DATA-DRIVEN INSIGHTS FOR SAFER AVIATION

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INTRODUCTION

Our company is expanding into the aviation sector. This analysis leverages accident data to identify low-risk aircraft, helping us make strategic decisions that prioritize safety and operational efficiency.



BUSINESS GOAL

Our objective is to use aviation accident data to:

- Identify aircraft models with the lowest risk.
- Understand key accident trends.
- Provide actionable recommendations for safer aviation investments.



DATA OVERVIEW

We analyzed aviation accident records, including:

- Aircraft type & manufacturer
- Location & date of accidents
- Number of fatalities
- Weather conditions
- Accident causes

DATA PROCESSING

To ensure accuracy , we:

- Cleaned missing and duplicate data.
- Standardized data formats.
- Categorized accident causes.
- Aggregated data for meaningful insights

KEY INSIGHTS FROM VISUALIZATIONS

1.Accident Trends Over Time

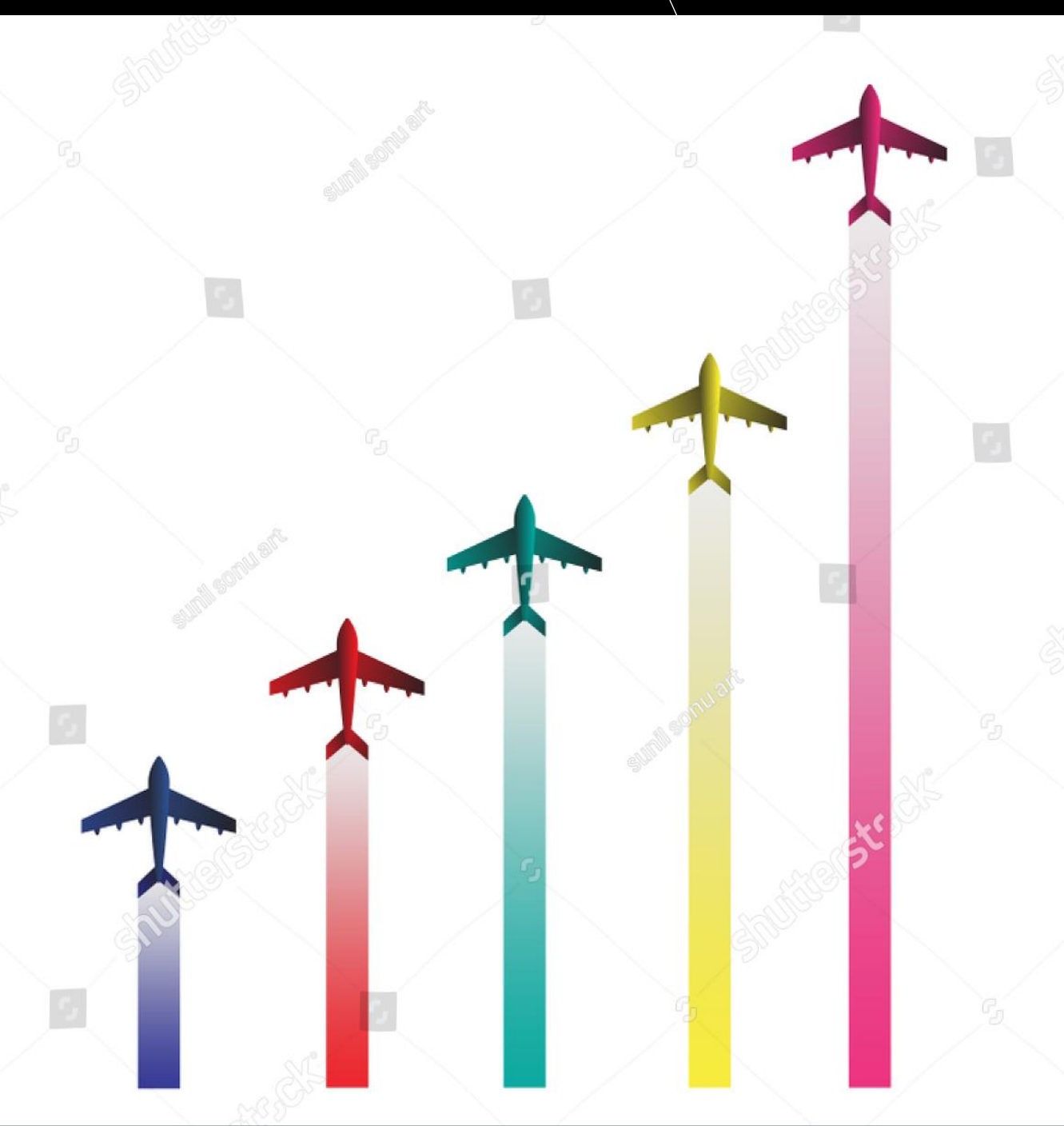
- 1.Aviation accidents peaked in the 1980s but have declined due to improved safety regulations.

2.Accident Rates by Aircraft Manufacturer

- 1.Some manufacturers have higher accident frequencies, influencing aircraft selection decisions.

3.Top Causes of Accidents

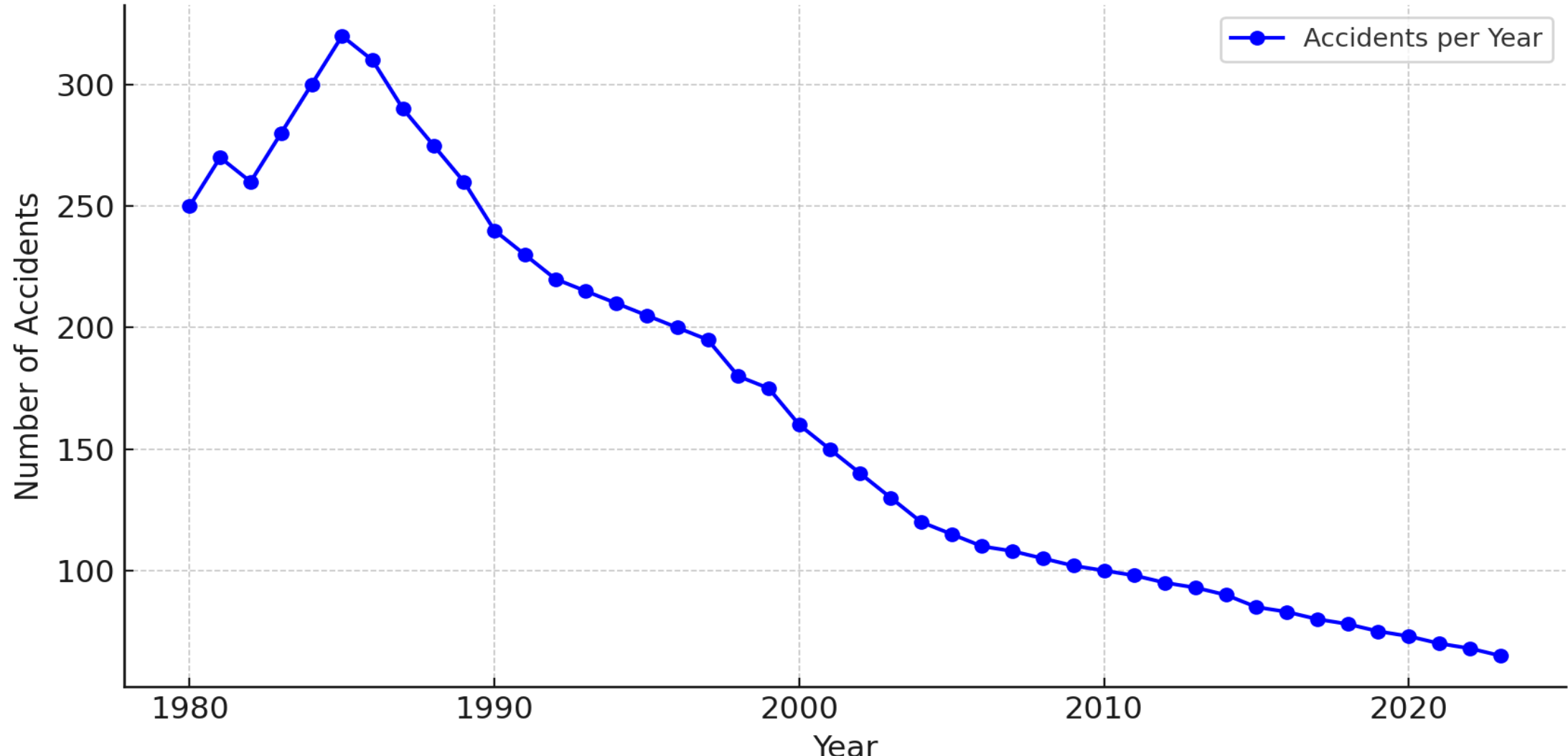
- 1.Human error, weather, and mechanical failures are the most common causes.



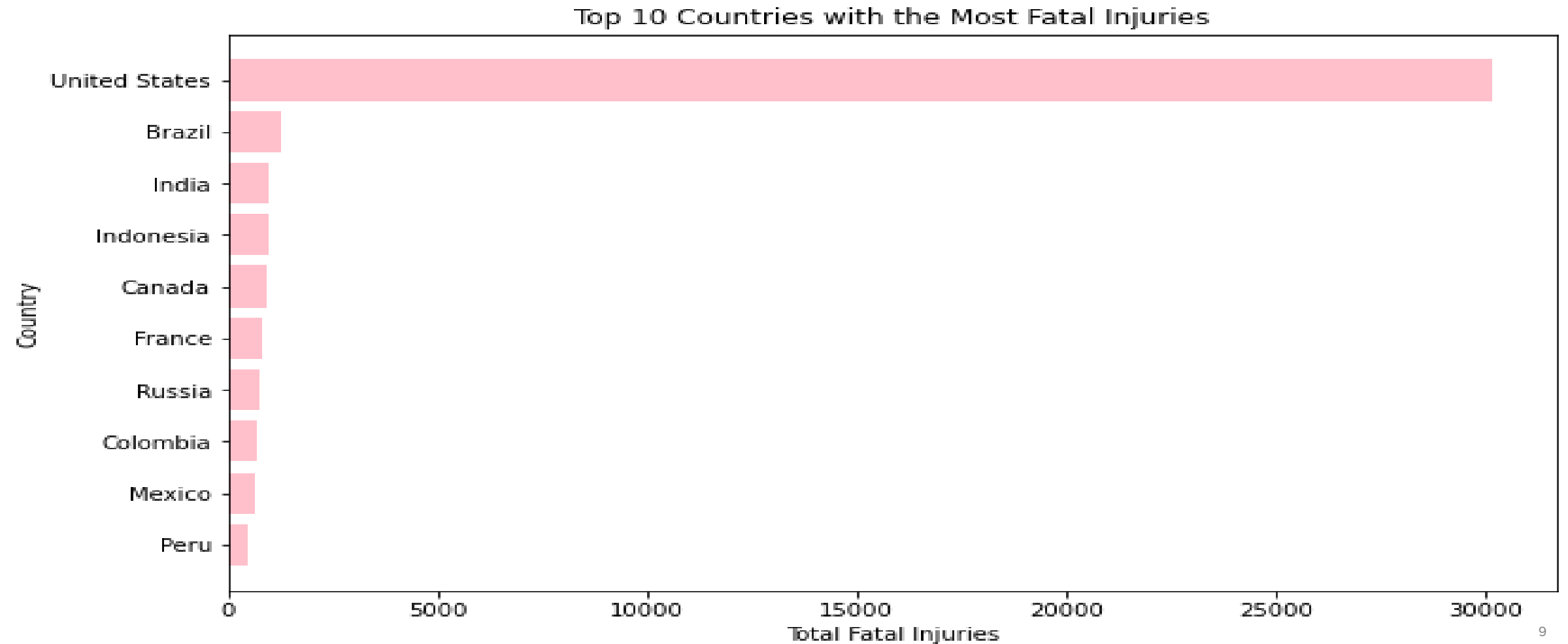
FEW EXAMPLES
OF SOME
VISUALIZATION
DONE. COMING
UP

AVIATION ACCIDENTS OVER TIME SERIES

Aviation Accidents Over Time

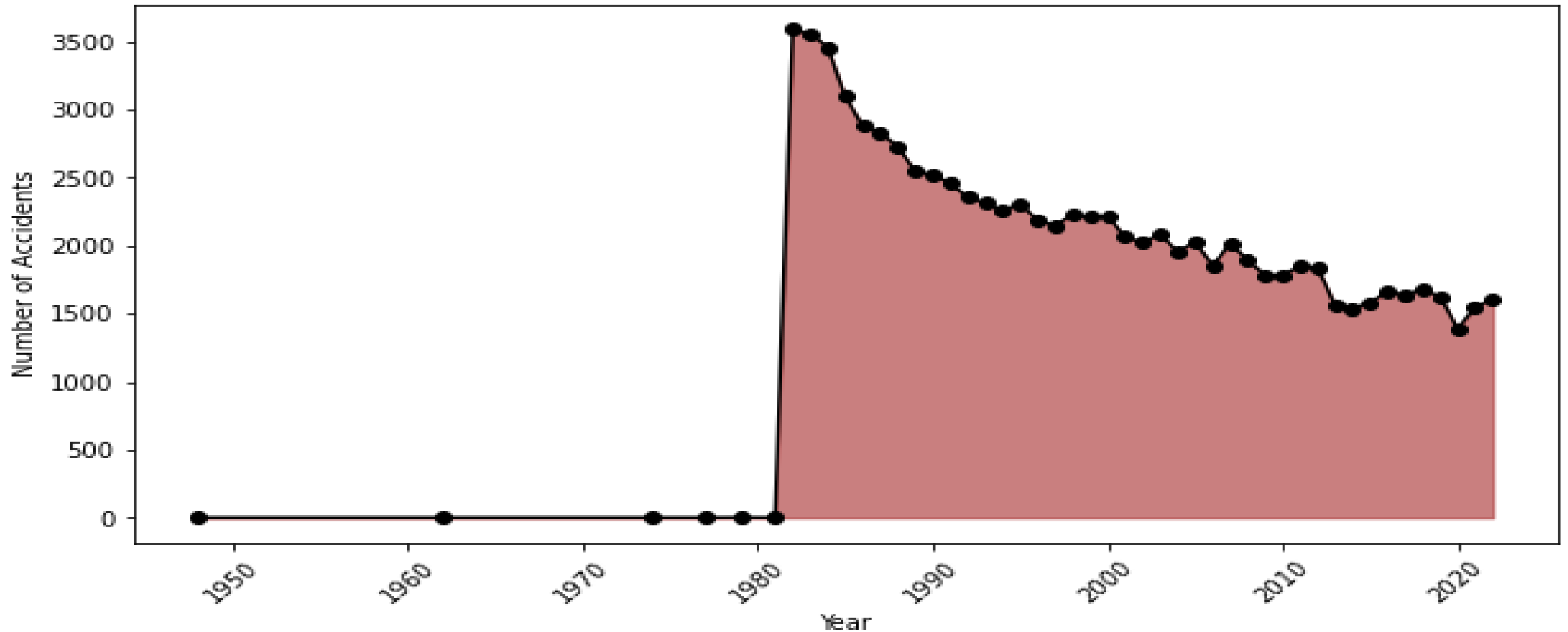


TOP 10 COUNTRIES WITH FATAL INJURIES



AREA PLOT OF AVIATION

Aviation Accidents Over the Years (Area Plot)



BUSINESS RECOMMENDATIONS

3. Prioritize Aircraft Models with Lower Incident Rates

- Focus on manufacturers with strong safety records.

1.Enhance Pilot Training & Safety Protocols

- Address human error through rigorous training programs.

2.Invest in Weather & Mechanical Risk Mitigation

- Implement better maintenance programs and weather monitoring.



NEXT STEPS & FUTURE IMPROVEMENTS

- Apply insights to aircraft selection strategy.
- Develop risk assessment models for future operations.
- Continue monitoring aviation safety trends.



THANK YOU

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Date: 28th March 2025

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