

A black and white photograph of an airplane's wing and tail section against a backdrop of a cloudy sky and distant mountains. The word "AEROSPACE" is overlaid in large, semi-transparent letters.

AEROSPACE

Aircrafts with Low Risk for Business Growth.

Author: Dennis Muriungi

OVERVIEW

Commercial and private aviation businesses are growing.

Problem: What are the least dangerous aircraft types?

Information: Aviation Accident Dataset on Kaggle (1919–2023)

Techniques: Data cleansing, fatality analysis, accident scene analysis, and time trend analysis

Output: Data-driven suggestions for the safest aircraft to buy



BUSINESS PROBLEM

New to the aviation sector, the business seeks to lower risk.

Important queries:

1. Which kinds of aircraft have the fewest fatalities?
2. Where do the majority of accidents happen?
3. In what ways have accidents evolved over time?

DATA UNDERSTANDING

Source: Kaggle dataset of aviation accidents (23k+ records, 1919–2023)

Variables: date, type, operator, fatalities, location, country, cat, year, decade

Goal: Fatalities

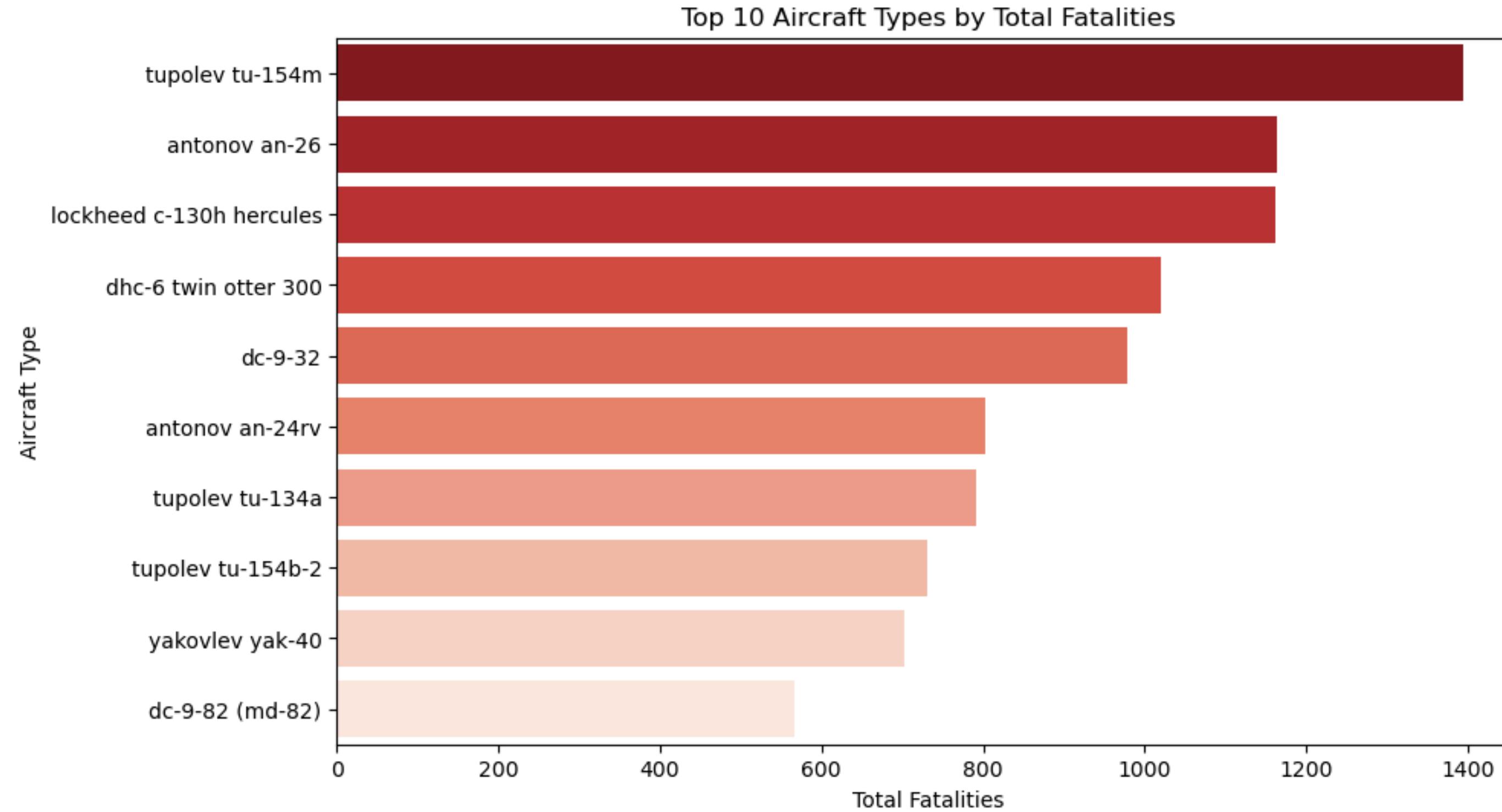
Focus: Comparing the safety of commercial and private aircraft

DATA CLEANING

- 115 rows of duplicates were eliminated.
- Missing values have been fixed.
- Limited year formats to 1919–2023)
- Fatalities were converted to numbers for analysis



ANALYSIS 1 : TOP 10 AIRCRAFT TYPES BY FATALITIES

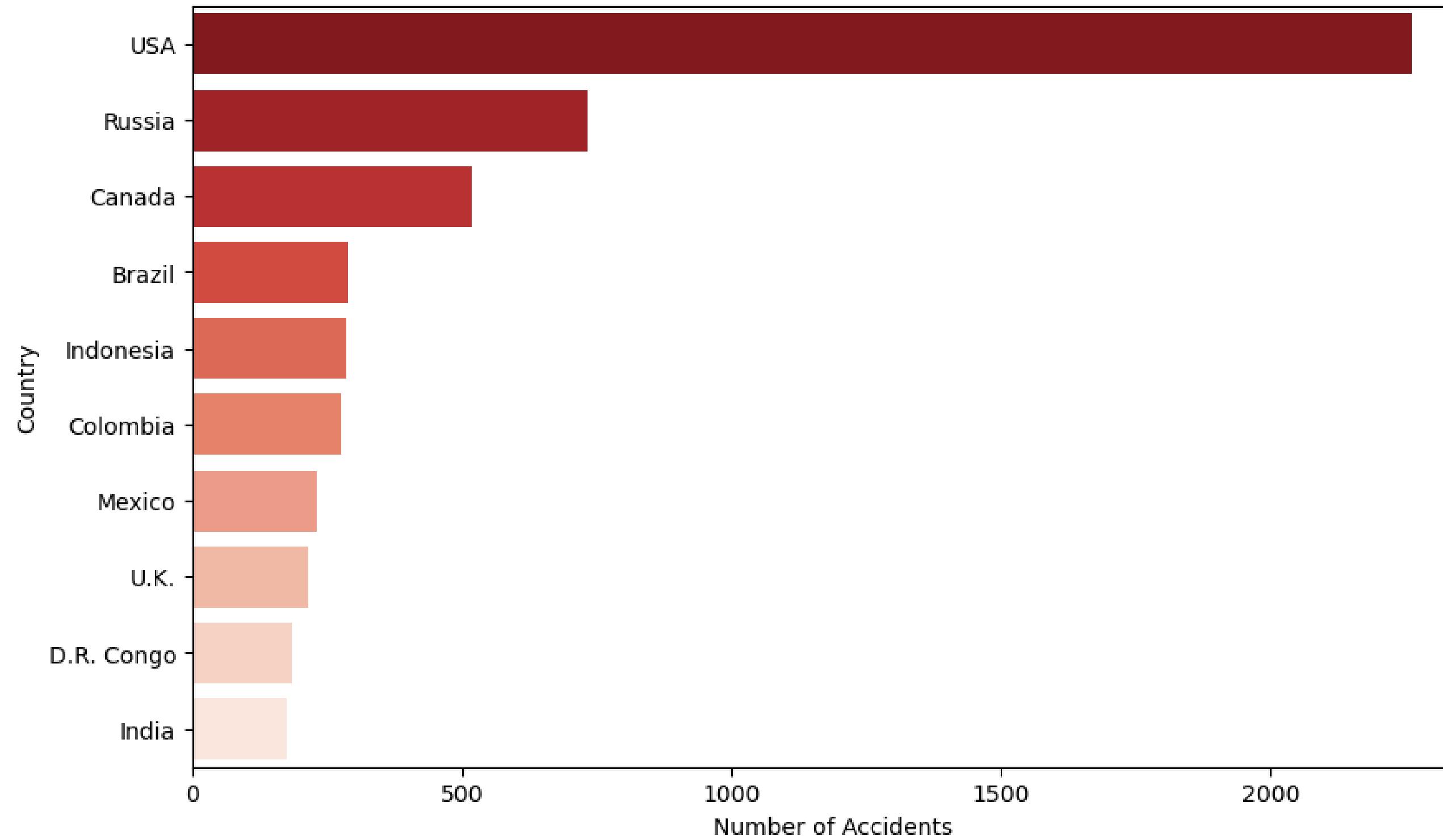


Focus on contemporary commercial jets that exhibit lower historical risk rather than investing in antiquated models with high fatality rates.

ANALYSIS 2 : LOCATION OF ACCIDENTS BY COUNTRY

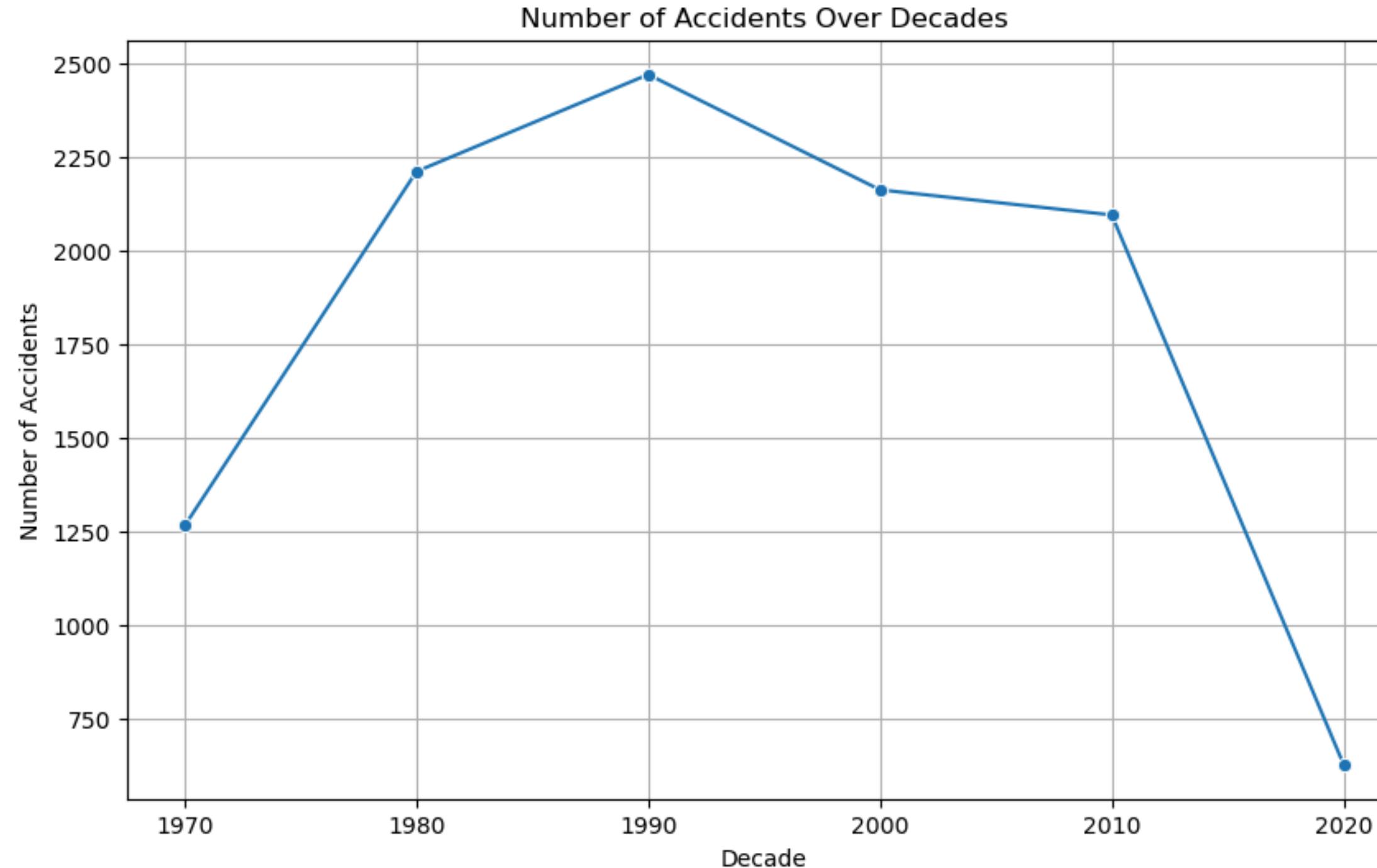


Top 10 Countries by Number of Accidents



WHEN GROWING OPERATIONS, THINK ABOUT CONCENTRATING ON NATIONS WITH STRICT AVIATION REGULATIONS (LIKE WESTERN EUROPE) AND EXERCISING EXTRA CAUTION IN AREAS WITH A HISTORY OF MORE ACCIDENTS.

ANALYSIS 3 : THE TIME OF ACCIDENTS



- Accidents have decreased in recent decades after peaking in the middle of the 20th century.
- Because of technology and regulations, modern aircraft are generally safer.

RECOMMENDATIONS

- **Businesses Sector:** Invest in more recent models of Boeing and Airbus for a lower risk and better safety record.
- **Private Sector:** Modern Cessna aircraft and small jets have comparatively low fatal accident rates.
- **Focus on the Country:** Steer clear of areas with historically elevated accident rates.

THANK YOU

Get In Touch!



dennis.muriungi2@student.moringaschool.com

