PROPOSAL: IDENTIFYING LOW-RISK AIRCRAFT FOR THE NEW AVIATION DIVISION

Presentation
by Linda Temoet

INTRODUCTION

- Task Overview: The company's new aviation division requires a proposal to identify the lowest-risk aircraft for its fleet. This proposal aims to provide insights into the safest aircraft models based on accident data.

- Data Source: The analysis uses a dataset from Kaggle containing aviation accident data from 1962 to 2023. The dataset covers civil aviation accidents in the United States and international waters.

- Time Period Focus: To ensure relevancy, only data from the years 2000 to 2023 was used, as aircraft technology has significantly advanced in recent decades

PROPOSAL PROCESS

SPECIFICATION

IMPLEMENT

PROJECT

GET DATA

RECCOMENDATION
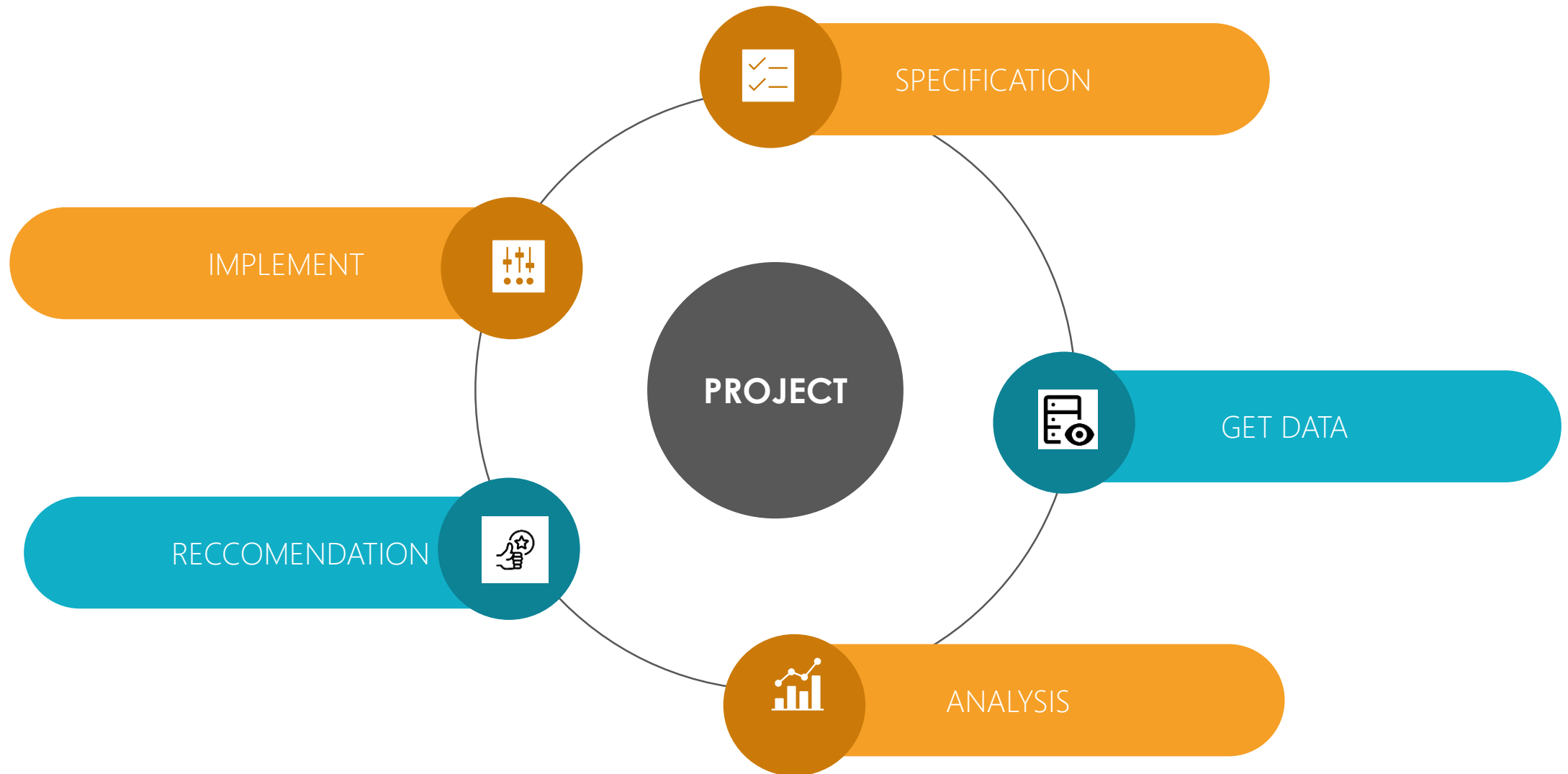
ANALYSIS

OBJECTIVES

Main Objective:

Perform a risk analysis to determine the lowest-risk aircraft..

Other Objectives.

Evaluate accident injury severity for various aircraft makes.

Determine the number of uninjured passengers for different aircraft types.

Calculate injury severity for different aircraft engine types.

DATA OVERVIEW

Data Description

The data was obtained from Kaggle. It was Aviation accidents data

Tools

The tools used for analysis were python pandas. Matplotlib and Tableau were also used for Visualization

Data Used

There were 8 main columns used for analysis

DATA PROCESSING

There were 4 main stages of data processing:

1. Filtering: Removed unnecessary sections of the data.
2. Cleaning: Organized and cleaned for better analysis.
3. Analysis: Extracted relevant data to answer objectives.
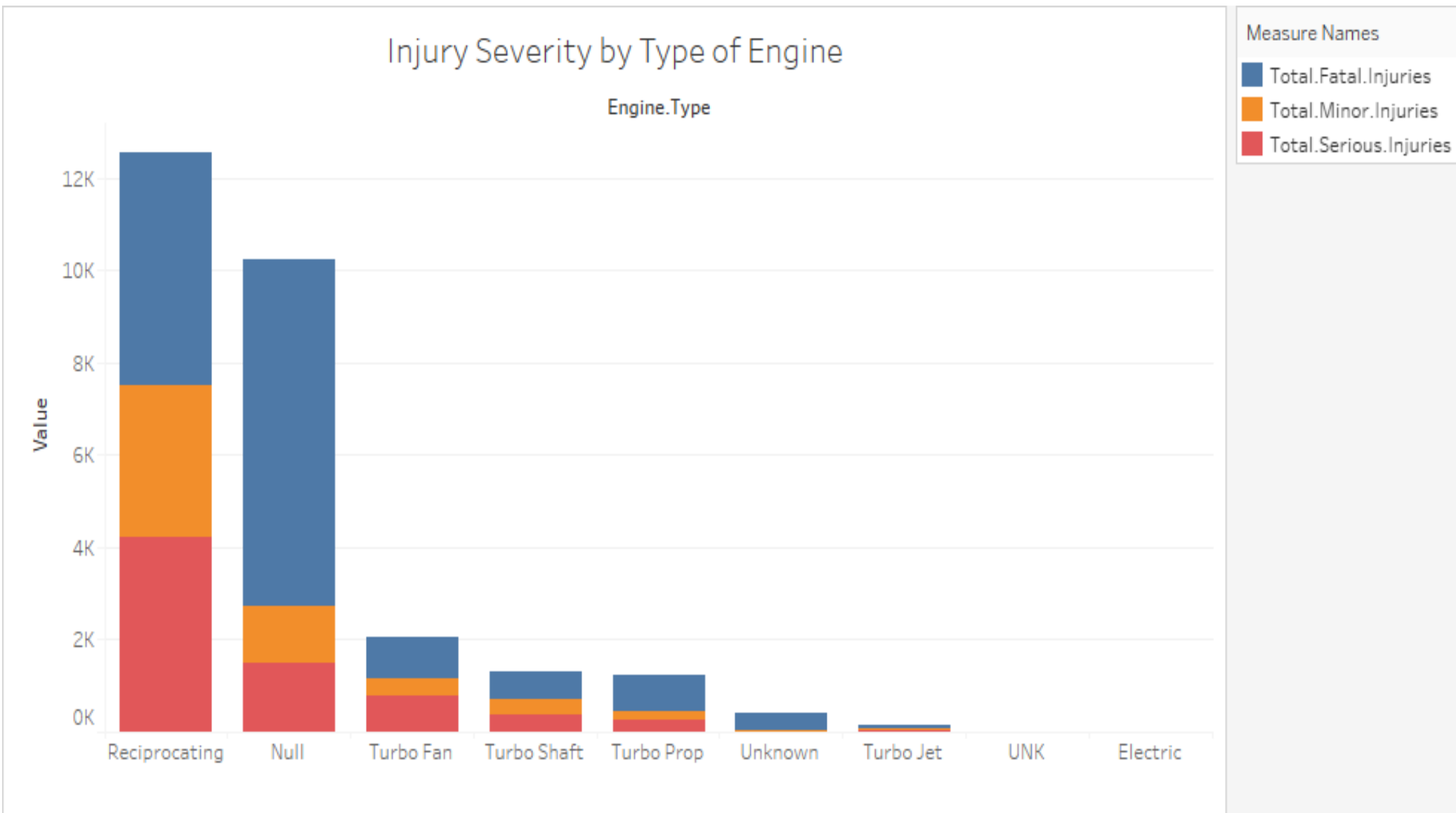4. Visualization: Created visuals using Matplotlib & Tableau

Risk Analysis Main Objectives

Plot of Total Fatal Injury according to Airplane make
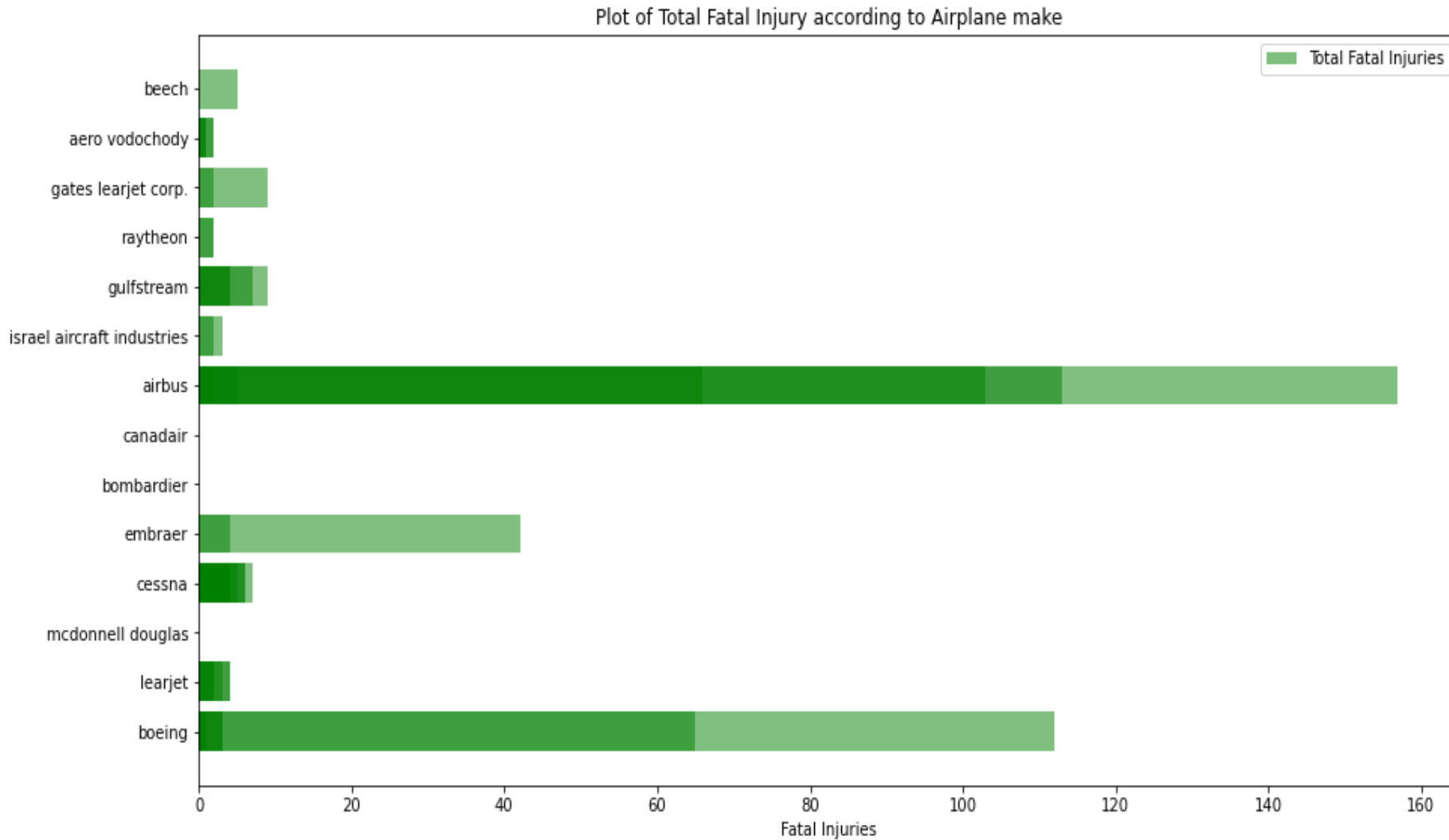
Here we have the visualization of the total fatalities by airplane make. It clearly shows the aircraft makes that have the least number of fatalities.

Fatalities by Engine Type

Injury Severity by Type of Engine

Engine.Type

Measure Names
- Total.Fatal.Injuries
- Total.Minor.Injuries
- Total.Serious.Injuries

Here we see that the fatalities were lesser in the Turbo fan Engine type

Passenger Safety

Aircraft Make Vs uninjured
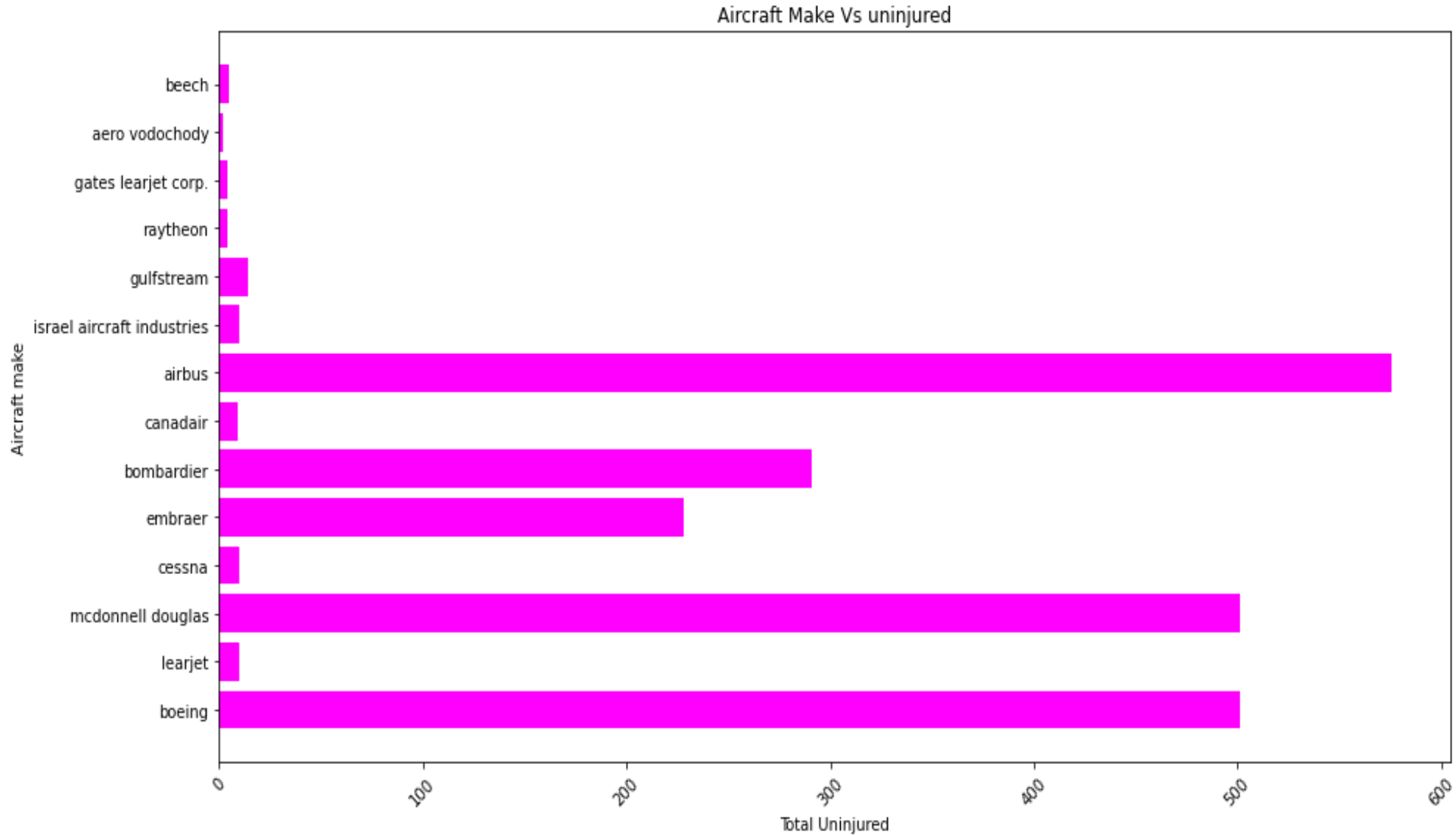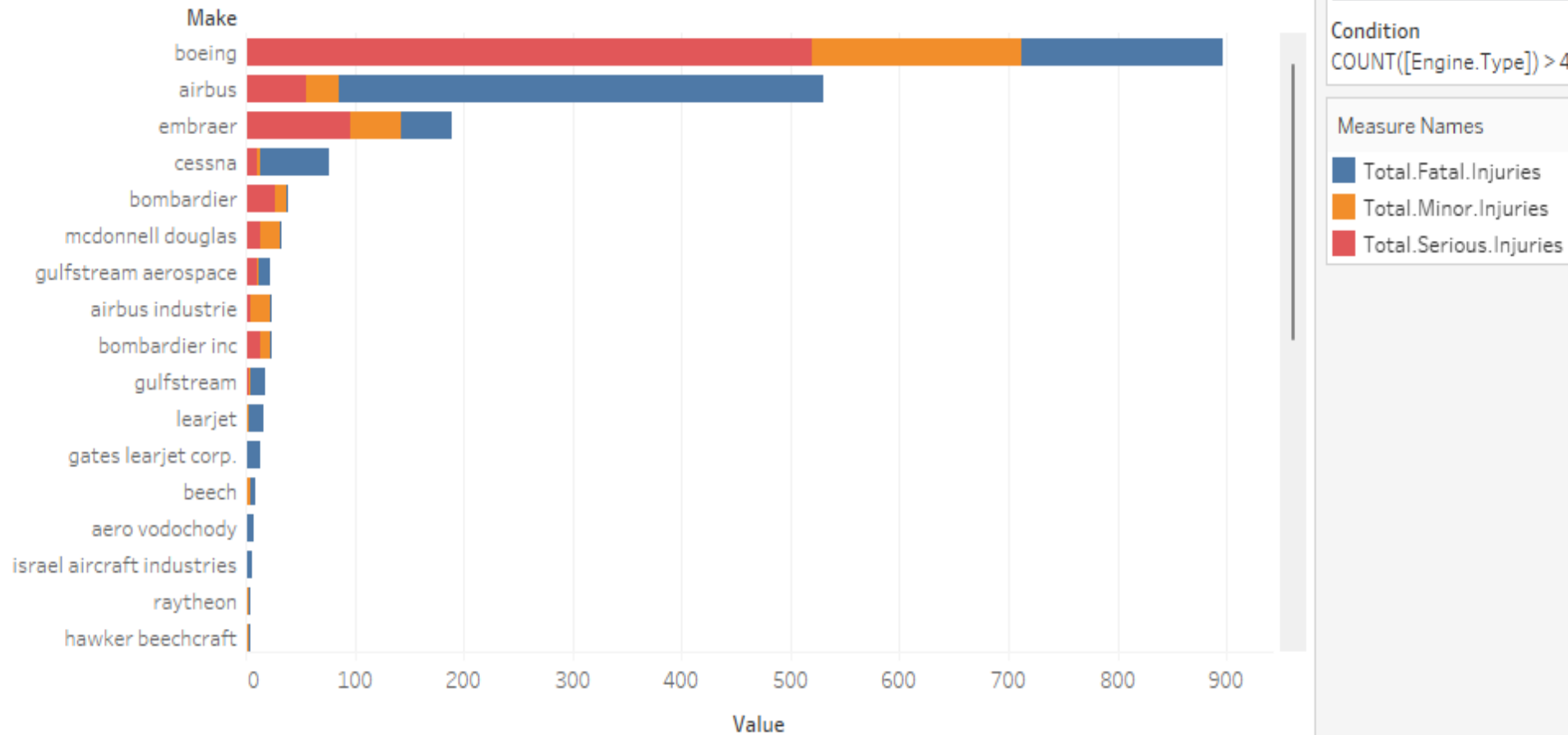

Here we have a graph that showcases passenger safety by the different aircraft makes

Recommendations

Injury Severity by Aircraft Make

Make
- boeing
- airbus
- embraer
- cessna
- bombardier
- mcdonnell douglas
- gulfstream aerospace
- airbus industrie
- bombardier inc
- gulfstream
- learjet
- gates learjet corp.
- beech
- aero vodochody
- israel aircraft industries
- raytheon
- hawker beechcraft

Value: 0 100 200 300 400 500 600 700 800 900

Make

Condition
COUNT([Engine.Type]) > 4

Measure Names
- ■ Total.Fatal.Injuries
- ■ Total.Minor.Injuries
- ■ Total.Serious.Injuries

From this graph, these are the 3 main aircraft recommendations:

1. Mcdonnel Douglas

2. Bobardier

3. Embraer

Thank You

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