

Non-Technical Presentation - 09/13/24

Project Phase #1

Aviation Safety Analysis

Business Problem

Assess the potential risks of aircrafts and draw recommendations in order to make an informal decision about which models to buy

Stakeholder

Head of the new aviation division

Metrics of success

We want to buy the aircrafts model that have the less number of affected people if the context of an accident or an incident

Data

Source: National Transportation Safety Board

Context: Aviation accident data from 1962 to 2023 in the US and international waters

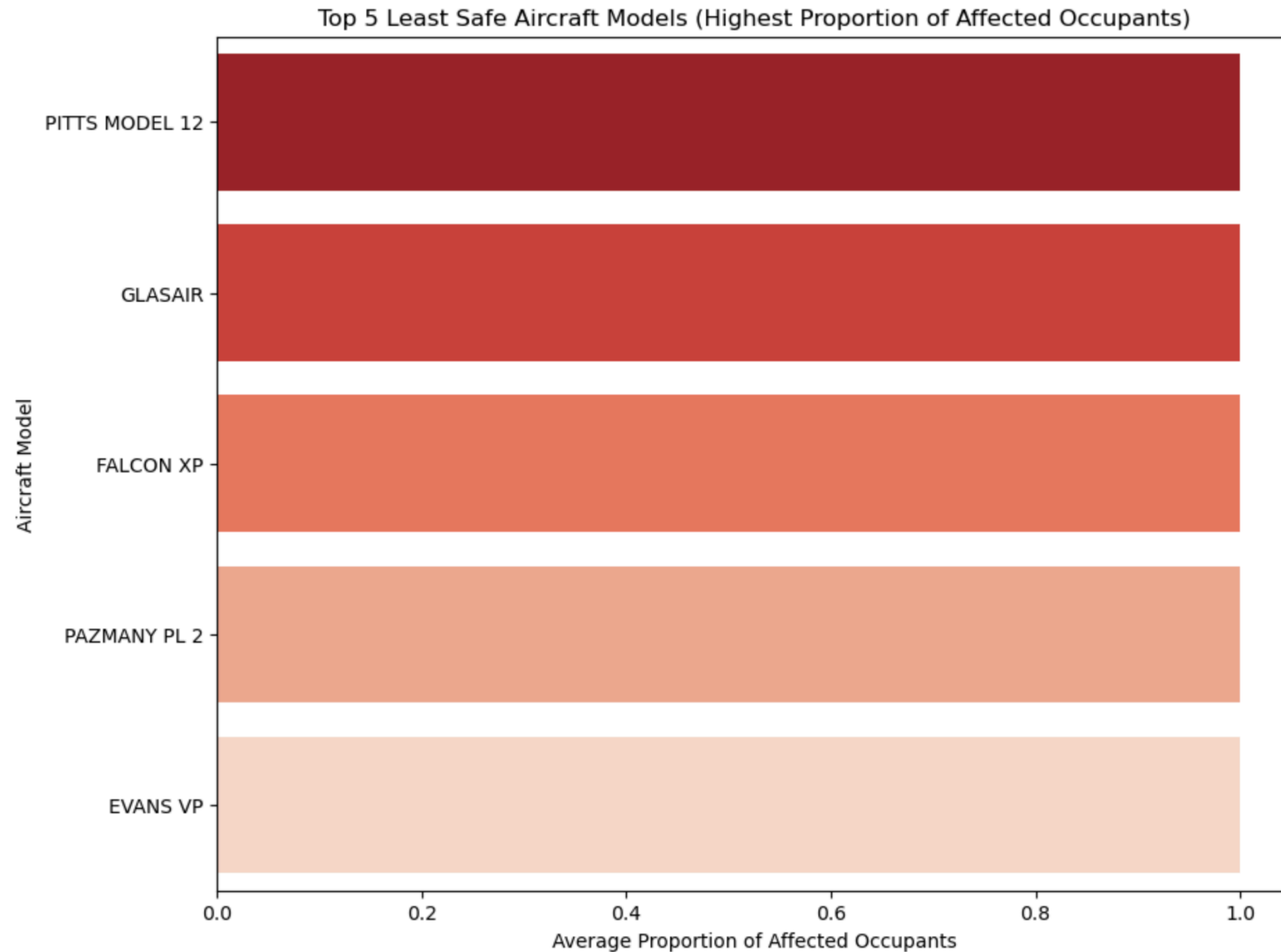
Then, we created 2 new metrics to compare fairly our data

```
df['Total.Occupants'] = (df['Total.Fatal.Injuries'] +  
                        df['Total.Serious.Injuries'] +  
                        df['Total.Minor.Injuries'] +  
                        df['Total.Uninjured'])  
  
df['Proportion.Affected'] = (df['Total.Fatal.Injuries'] +  
                             df['Total.Serious.Injuries'] +  
                             df['Total.Minor.Injuries']) / df['Total.Occupants']  
  
df[['Make', 'Model', 'Total.Occupants', 'Proportion.Affected']].head(5)
```

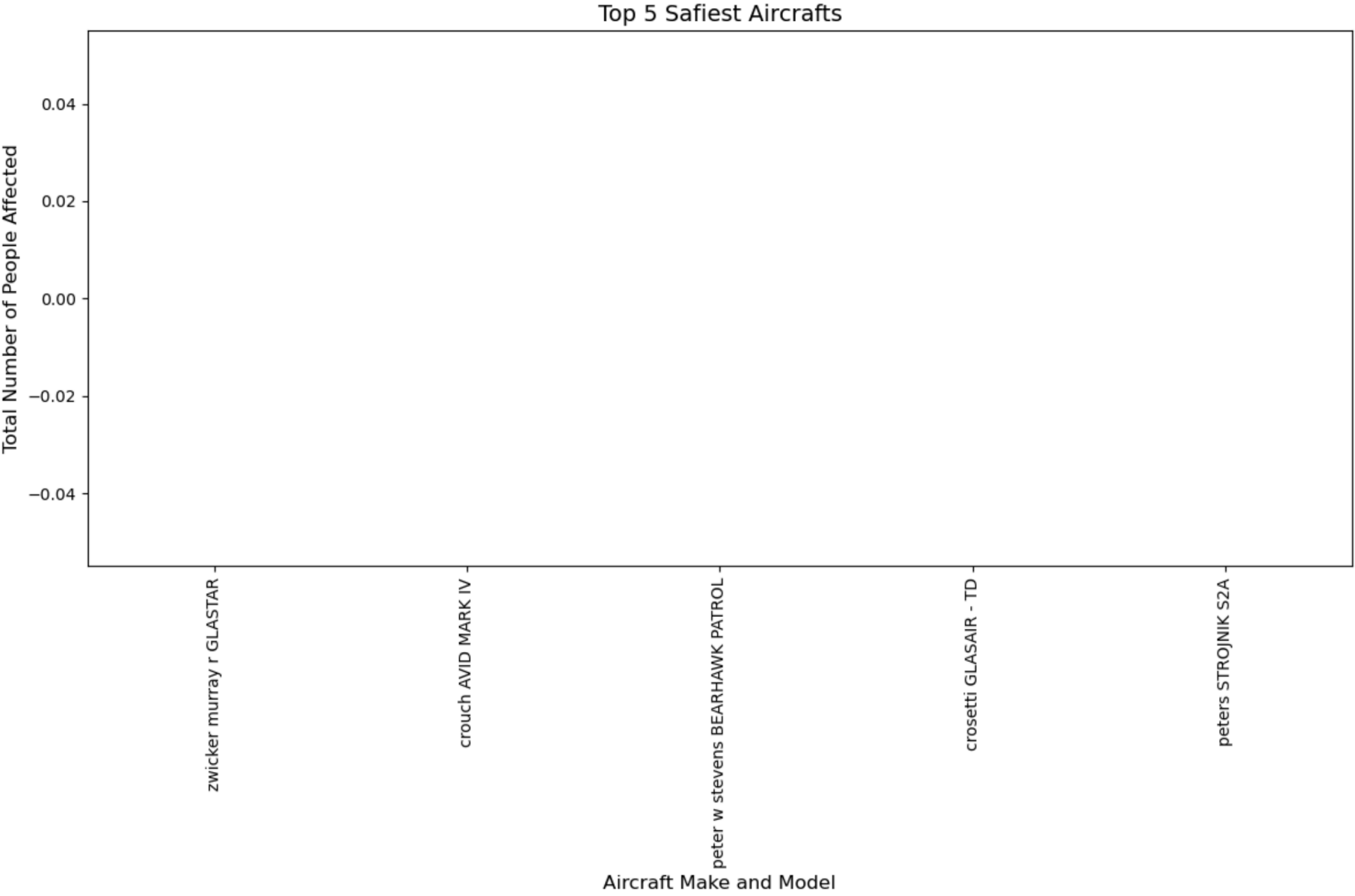
4] ✓ 0.0s

	Make	Model	Total.Occupants	Proportion.Affected
0	Stinson	108-3	2.0	1.0
1	Piper	PA24-180	4.0	1.0
3	Rockwell	112	2.0	1.0
6	Cessna	180	4.0	1.0
7	Cessna	140	2.0	0.0

Now, we can start doing the final analysis (more to come!)



Recommendation #1



Recommandation #1

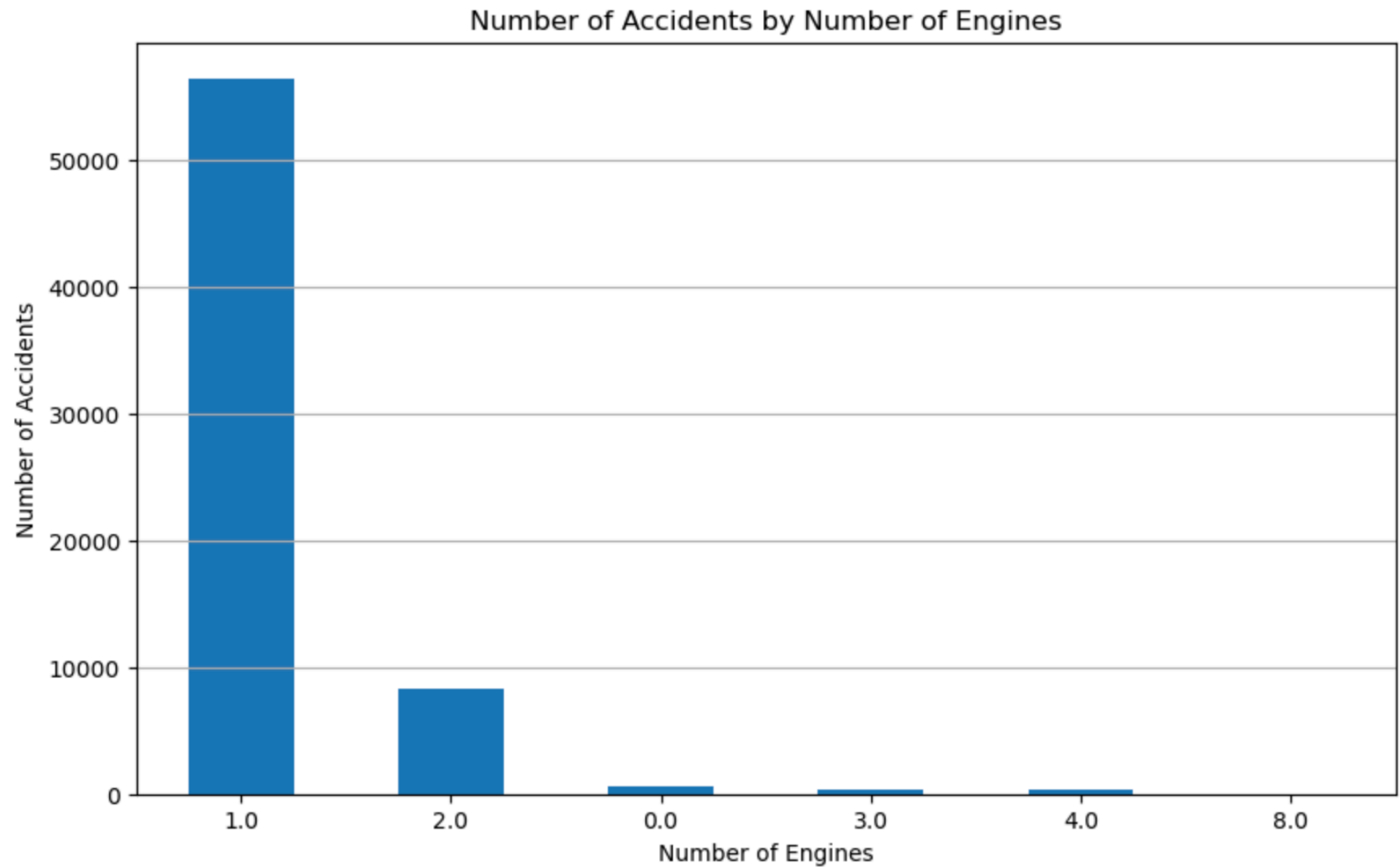
The safest models that my company should buy are :

Zwicker Murray R (from Glastar)

Crouch (from Avid Mark IV)

Peter W Stevens (from Bearhawk Patrol)

Recommendation #2

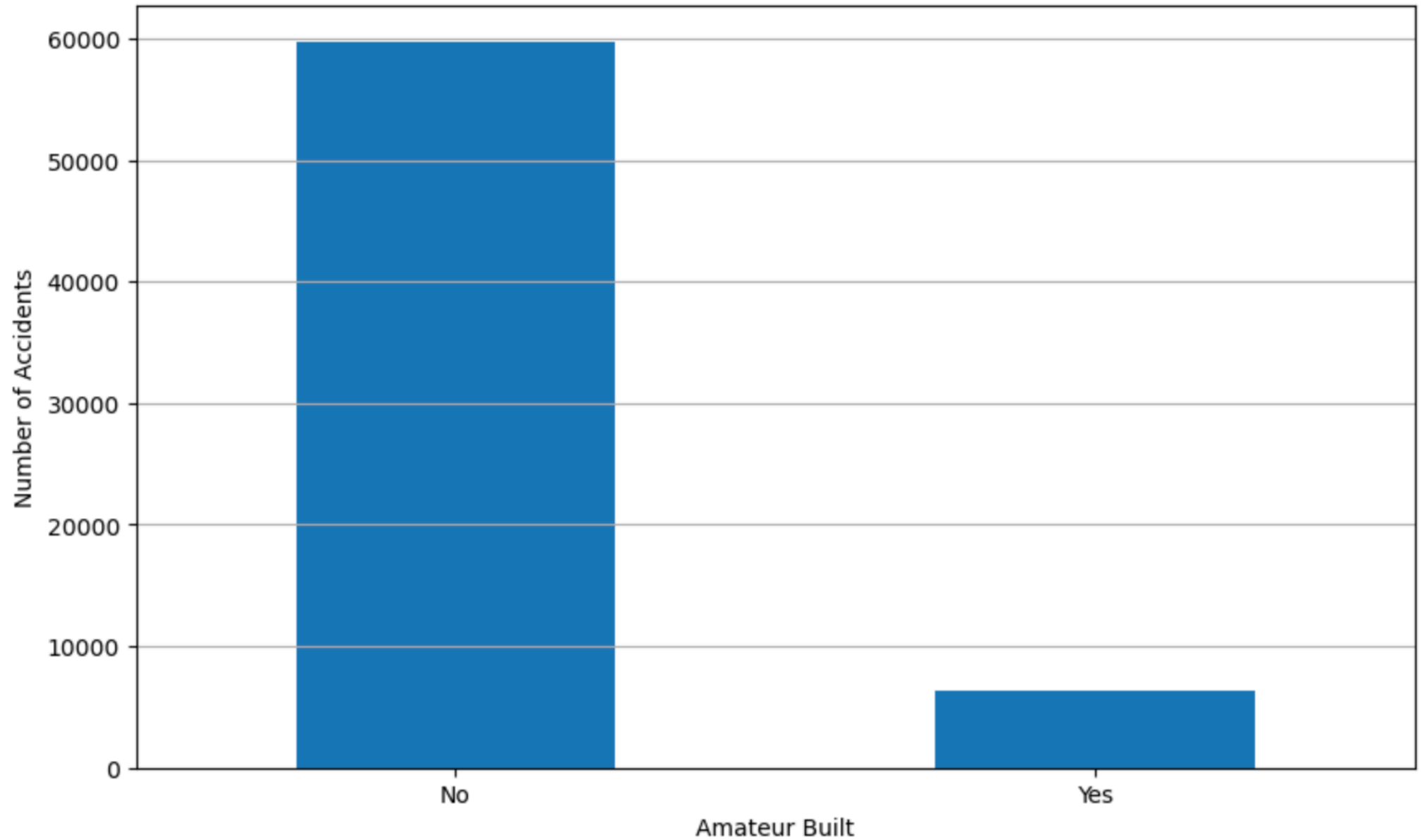


Recommandation #2

If possible, always give preference to more than 2 number of engines when buying an aircraft

Recommendation #3

Number of Accidents for Amateur-Built vs. Commercially Built Aircraft



Recommandation #3

Ensure that the aircrafts you will buy are built by professionals, not amateur builders, because they are much safer