

A decorative graphic on the left side of the slide consisting of a network of thin, light blue lines and small circles, resembling a circuit board or data flow diagram, extending from the top to the bottom.

AIRCRAFT ACCIDENT DATA ANALYSIS

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AGENDA

- Introduction
 - About the Data
 - Process steps
 - Results & business application
 - Recommendation
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INTRODUCTION

- Our company is expanding to new industries to diversify its portfolio.
 - Specifically, they are interested in purchasing and operating airplanes for commercial and private enterprises.
 - Know more on potential risks of aircraft to pick the low-risk ones.
 - Considerations:
 - Factors for low-risk: injuries, level of damage, etc.
 - Make and model
 - Level of damage
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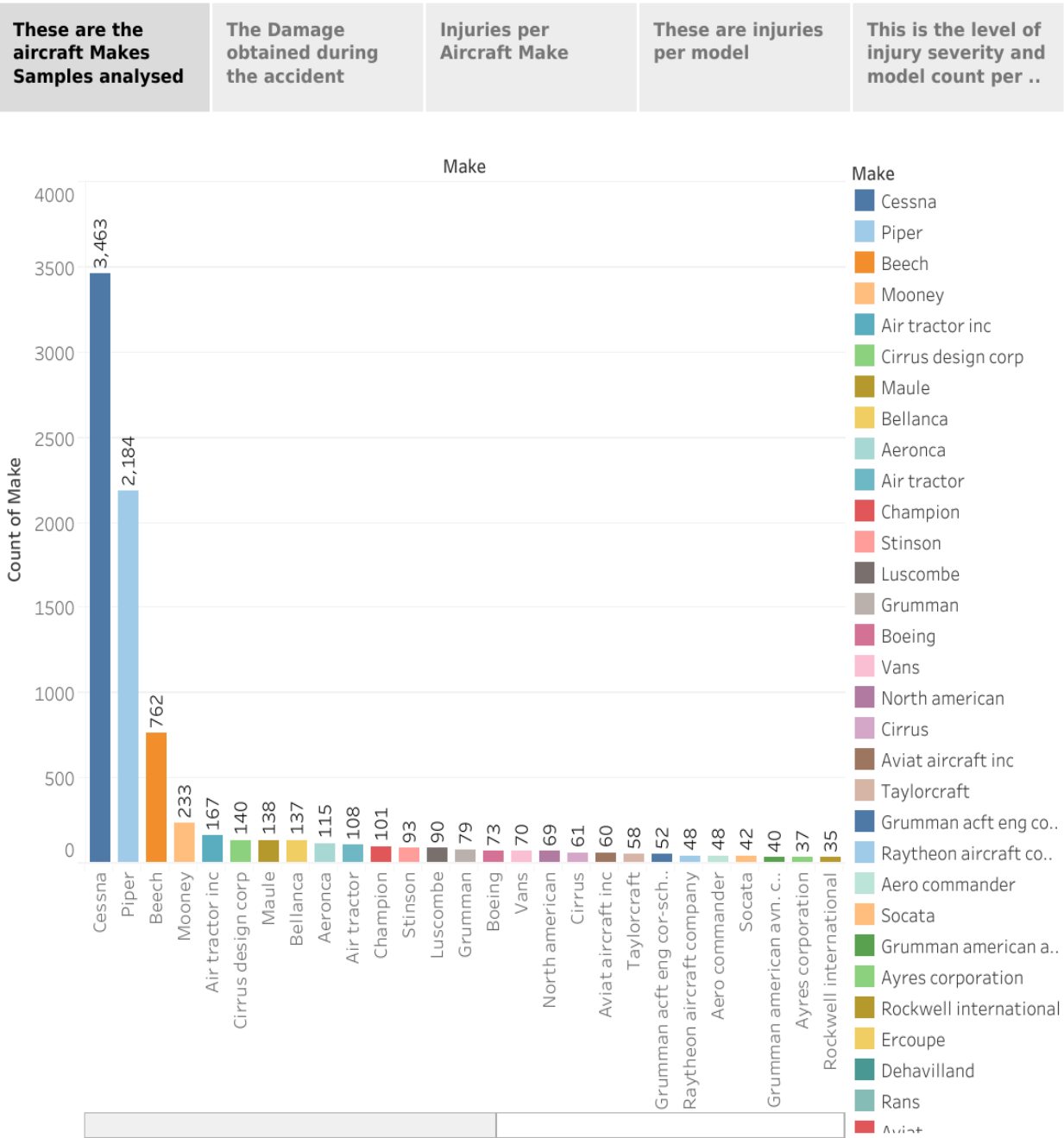
ABOUT THE DATA

- Data is for aviation accident data from 1962 to 2023 obtained from the National Transportation Safety Board.
 - Data on accidents and incidents from aviation used to determine low-risk aircraft
 - Coverage => United States, its territories and international waters
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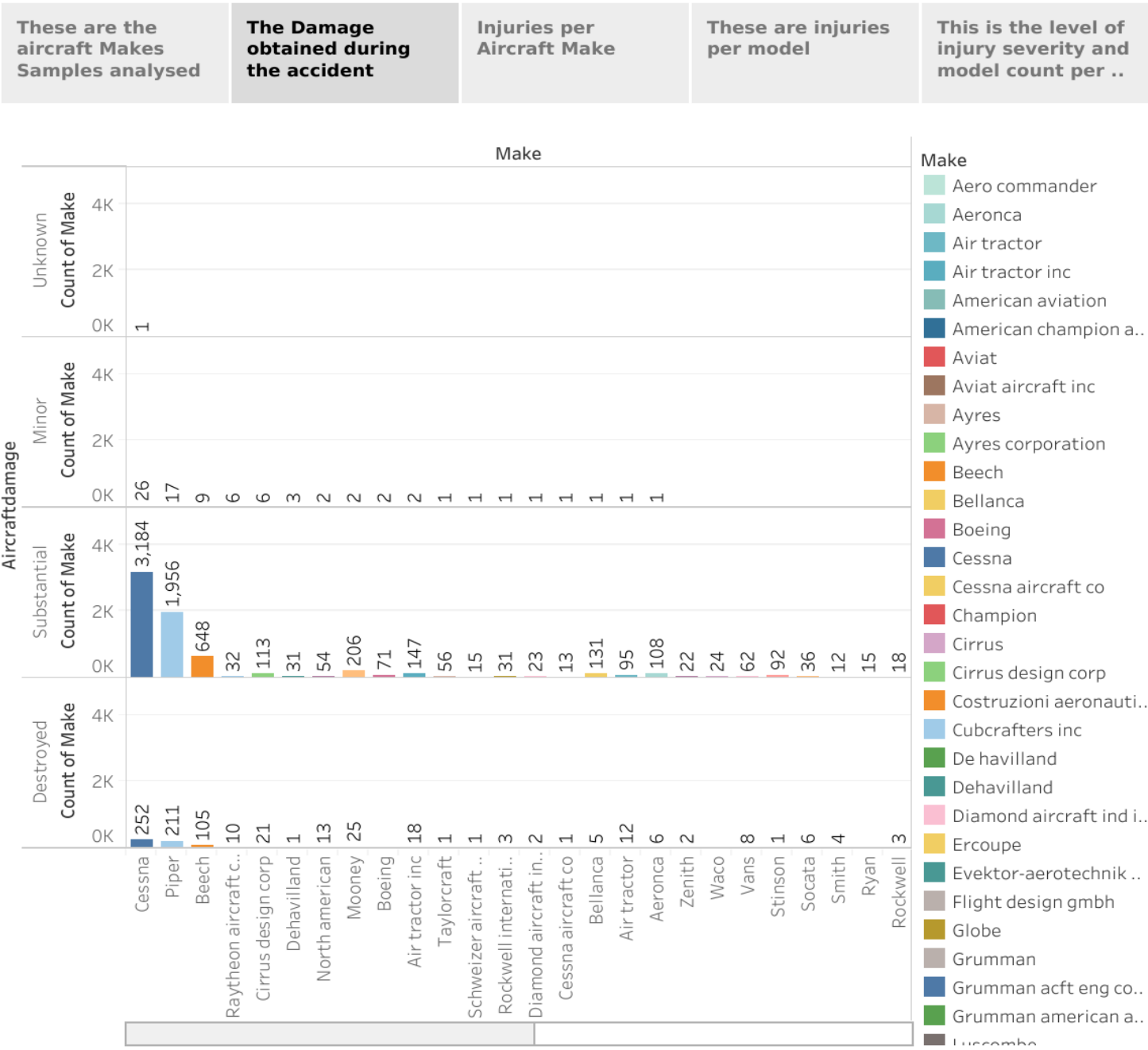
PROCESS STEPS

- Data understanding:
 - Overview – understand business requirements
 - Data understanding - Attributes and records
 - Selecting factors to be considered
- Data preparation
 - Records editing for uniformity and easy manipulation
 - Handling missing records
- Exploring data
 - Answering important questions: make, model, damage, injuries, etc
- Recommendations
 - Selecting prospective suitable make and models

Aircraft Data Risk Analysis Story



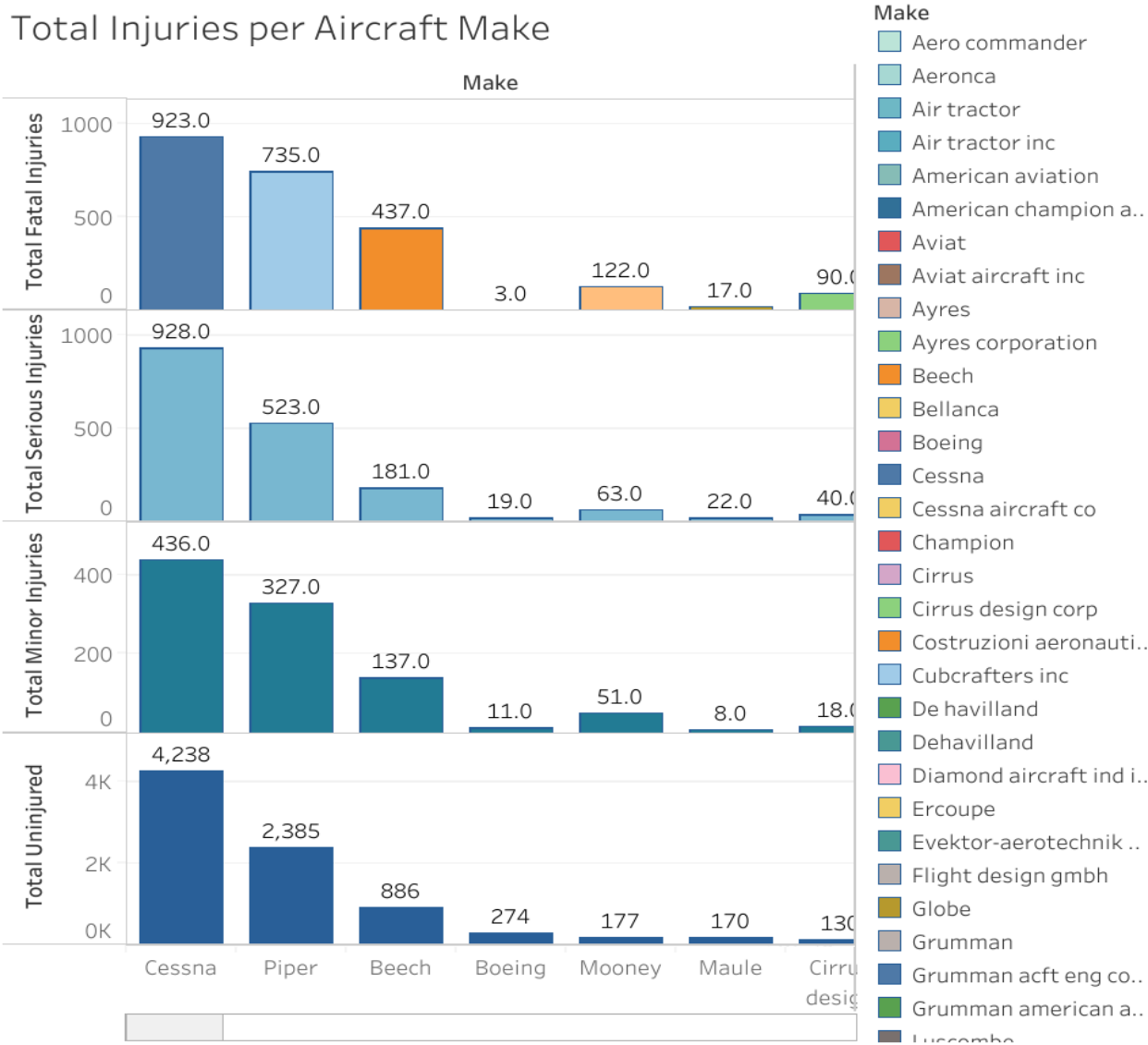
Aircraft Data Risk Analysis Story

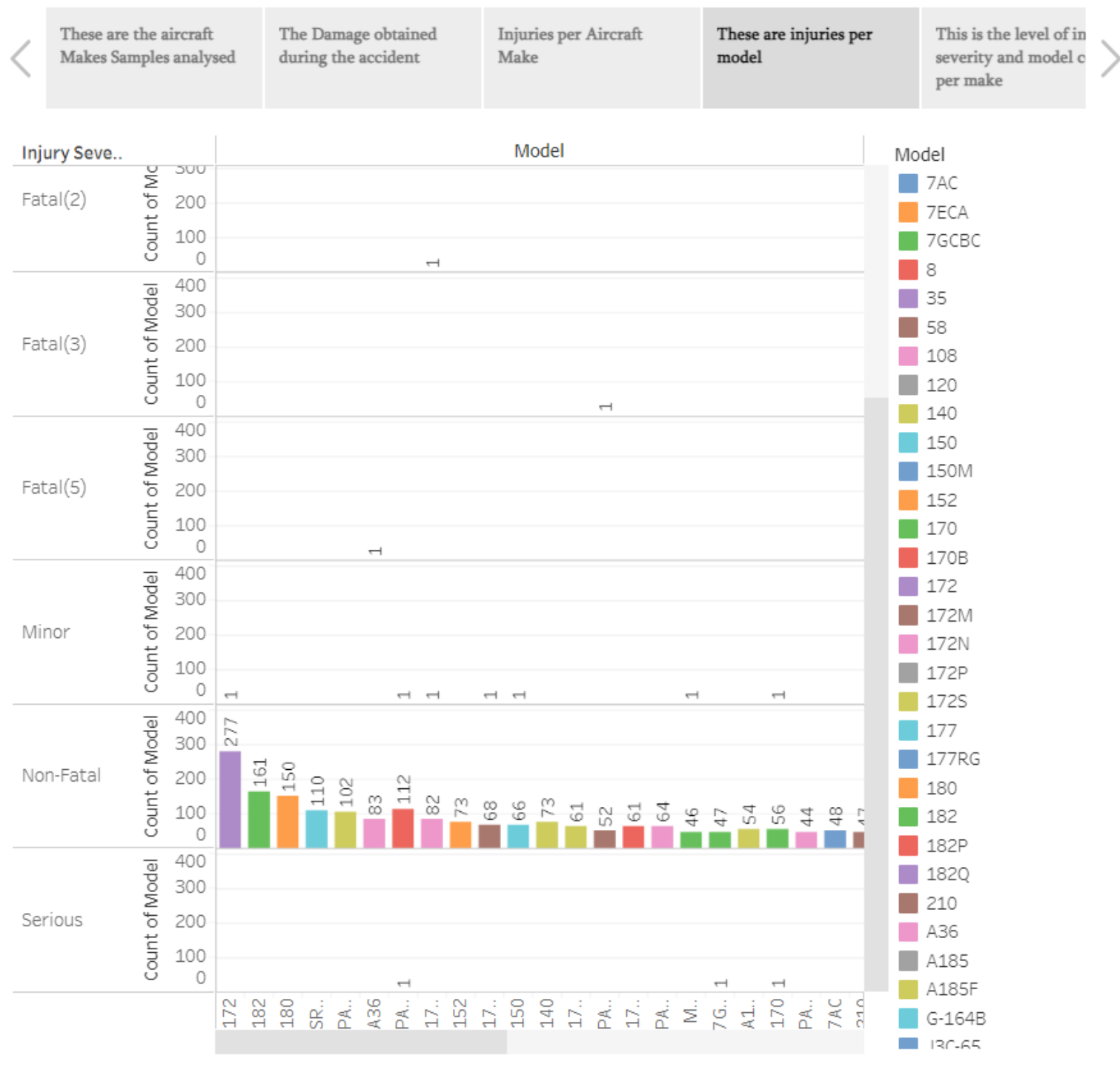


Aircraft Data Risk Analysis Story

| | | | | |
|---------------------------------------|---|----------------------------|------------------------------|---|
| These are the aircraft Makes analysed | The Damage obtained during the accident | Injuries per Aircraft Make | These are injuries per model | This is the level of injury severity and model count per .. |
|---------------------------------------|---|----------------------------|------------------------------|---|

Total Injuries per Aircraft Make

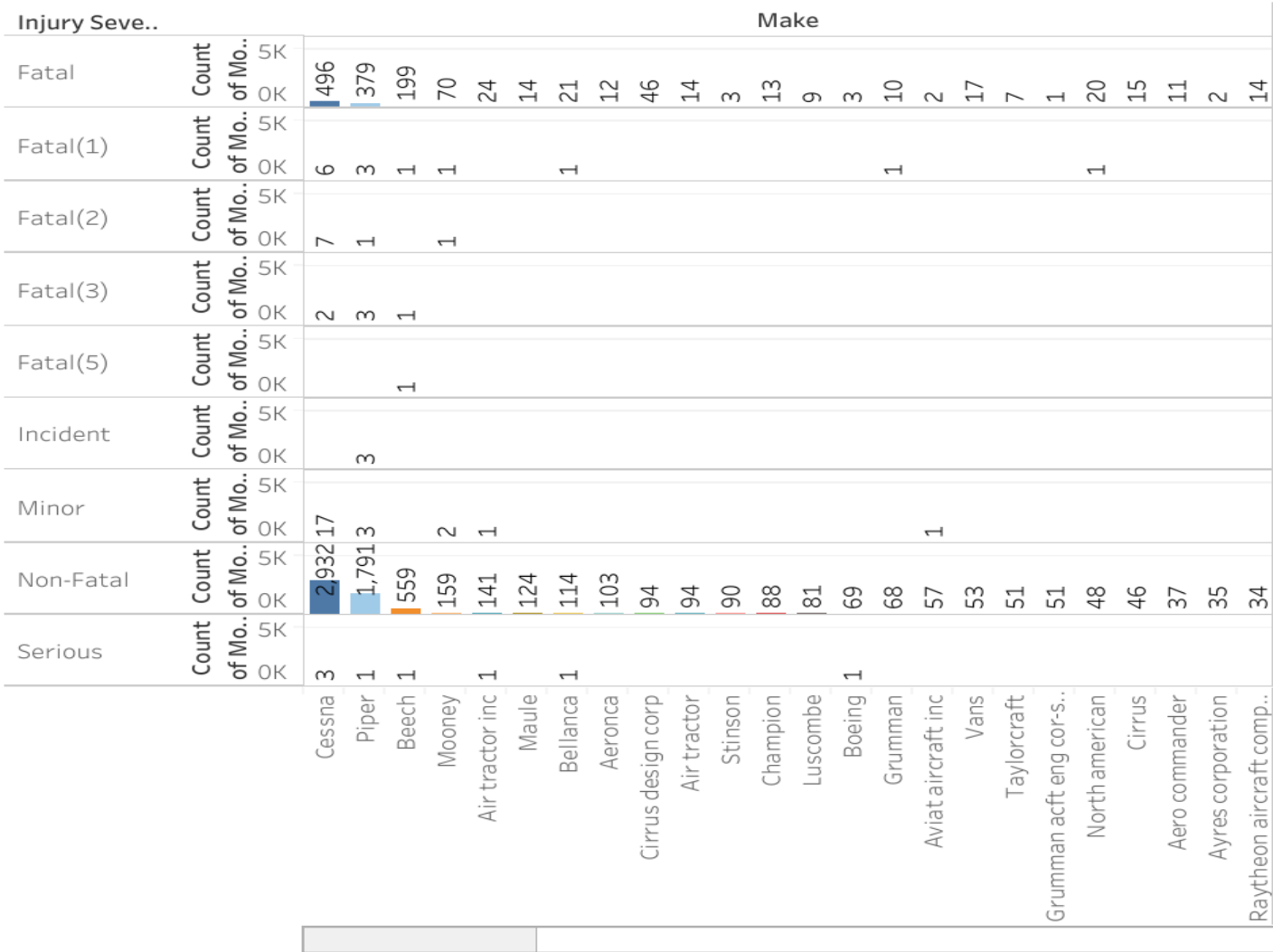




An abstract graphic featuring a series of vertical lines and circular nodes, resembling a circuit board or data flow. The lines and nodes are white and light blue, set against a background that transitions from a light blue at the top to a darker blue at the bottom. The lines are of varying thicknesses and connect to circular nodes of different sizes. Some lines are straight, while others are angled, creating a sense of movement and connectivity. The overall composition is clean and modern, with a focus on geometric shapes and a cool color palette.

This is the level of injury severity and model count per ..

| Injury Seve.. | | Count of Mo.. OK5K | Count of Mo.. OK5K | Make |
|---------------|--------------------------|--------------------------|--------------------------|------|
| Fatal | Cessna | 3 | 496 | |
| Fatal(1) | Piper | 1 | 379 | |
| Fatal(2) | Beech | 1 | 199 | |
| Fatal(3) | Mooney | | 70 | |
| Fatal(5) | Air tractor inc | 1 | 24 | |
| Incident | Maule | | 14 | |
| Minor | Bellanca | 1 | 21 | |
| Non-Fatal | Aeronca | | 12 | |
| Serious | Cirrus design corp | | 46 | |
| | Air tractor | | 14 | |
| | Stinson | | 3 | |
| | Champion | | 13 | |
| | Luscombe | | 9 | |
| | Boeing | 1 | 3 | |
| | Grumman | | 10 | |
| | Aviat aircraft inc | | 2 | |
| | Vans | | 17 | |
| | Taylorcraft | | 7 | |
| | Grumman acft eng cor-s. | | 1 | |
| | North american | | 20 | |
| | Cirrus | | 15 | |
| | Aero commander | | 11 | |
| | Ayres corporation | | 2 | |
| | Raytheon aircraft comp.. | | 14 | |



RECOMMENDATIONS

- The top 3 showing more safety in terms of non-Fatal accidents and Level of Damage. i.e.: Cessna, Piper and Beech Make.
- Model selection: The low-risk are the 172 models (of Cessna), with the most non-fatal injuries.
 - Others: Piper and Beech.
- Cessna has the highest number of model count for non-fatal injuries, thus showing more safety.
- Note: More research to be done based on other factors before making a decision on the chose of Airplane Make having more models that have Non-Fatal incidents/accidents.

THANK YOU 😊