A plane flying over a blue background

AI-generated content may be incorrect.

**We recommend that you follow this structure, although the slide titles should be specific to your project:**

1. **Beginning**
   * **Overview**
   * **Business Understanding**
2. **Middle**
   * **Data Understanding**
   * **Data Analysis**
3. **End**
   * **Recommendations**
   * **Next Steps**
   * **Thank You**
     + **This slide should include a prompt for questions as well as your contact information (name and LinkedIn profile)**

**Introduction**

This Aircraft risk analysis activity is meant to support a strategic airplane investment decision by a company intends to venture into Aviation Business. The main goal is to pick and identify which aircraft models present the lowest safety risks and suit the company’s target business niche.

**Business Understanding:**

The company would like to venture into Aviation industry, and as such, they would like to know the safest Aircraft/s to purchase specifically for **business** and private **operations**. Based on the data given, the metrics need to be defined, the data is cleaned, and interpretation is deduced.

**Data Understanding:**

To begin with our Analysis, we will first Load the required Libraries, and there after loading our Data.

The process is focused on using data-driven evaluation of aviation incident records (Aviation Data) to analyze and arrive at meaningful insights which aid at the analysis and final decision.

**The Metrics to guide on this Analysis are listed below.**

1. Models Aligned to the company’s Business Niche
2. Fatality rate
3. Severe damage likelihood
4. Phase of flight risk

**To begin with our Analysis, we will first Load the required Libraries, and there after load our Data**

**Step 2: Calculate Risk Metrics:**

The Risk Metrics are calculated based on below key indicators:

1. **Fatality rate**

* This is computed as **Fatality\_Risk = (Total Fatalities for Model) / (Total Incidents for Model)**
* The rationale for this is to Normalize by number of incidents to compare models fairly
* More weight is given to models with recurring fatal accidents and scaled to 0-100 in composite score.

1. **Severe damage likelihood**

* Measures probability of aircraft being substantially damaged or destroyed.
* This is computed as :**Damage\_Risk = (Count of "Destroyed" or "Substantial" damage incidents) / (Total Incidents)**
* This uses **Aircraft.damage** values i.e
* Destroyed = Complete loss
* Substantial = Major damage
* Other = Minor/No damage

1. **Phase of flight risk**: This Identifies risk patterns during critical flight phases.
2. (Incidents in Phase X) \* (Fatality Rate in Phase X) \* (Phase Weight)