Project Title: ML Based Predictive Analytics for Aircraft Engine **Project Design Phase-I** - **Solution Fit** **Team ID**: PNT2022TMID30287

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Customers are businessmen, student, tourist, traveler and all the people traveling in flight.

6. CUSTOMER CONSTRAINTS CC

Customers require accurate and early predictions of the flight engine failure. And they also look for an alternate solution.

5. AVAILABLE SOLUTIONS AS

The reliability analysis of aircraft engines is essential for ensuring the smooth functioning of each component of an aircraft engine.

Explore AS, differentiate

Focus on J&P, tap into BE,

2. JOBS-TO-BE-DONE / PROBLEMS J&P

Engine failure occurs when a turbine engine unexpectedly stops producing power due to malfunction. This lead to a lot of customer dissatisfaction.

9. PROBLEM ROOT CAUSE RC

The root cause of the problem is unforeseen & unpredictable engine failure that cause cancellations and arrival, departure delays.

7. BEHAVIOUR BE

The purpose of this research is to develop methods that can be used to generate reliable and timely alerts.

Focus on J&P, tap into BE,

Identify strong TR & EM

3. TRIGGERS TR

To accurately predict the failure of an engine and track the flight.

4. EMOTIONS: BEFORE / AFTER EM

The aircraft engine failure occurs, passengers often get annoyed and frustrated. They also might lose to reach on time to some important occasions.

10. YOUR SOLUTION SL

Preventable fuel problems such as exhaustion. Structural failures where a broken connecting rod, crank, valve, or camshaft is present account for seventeen percent of engine failures occurs.

8. CHANNELS OF BEHAVIOR CH

Check the engine regularly and maintained properly. And also check the fuel and oil levels regularly in the aircraft engine.

Identify strong TR & EM