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## Problem

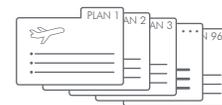
Offer determination for the Yana platform is an ever-changing, multidimensional optimization challenge that cannot be solved using business rules. What compensation to offer? What alternatives to show? Which passengers to contact? At what point before departure? How do these rules evolve in real time as flight conditions change? How should airlines choose from the hundreds of potential execution pathways?



## Solution

Volantio's proprietary technology, GreenLeaf, is an advanced machine-learning based system that can automatically simulate, predict, and optimize Yana platform performance, eliminating the need for cumbersome, static business rules. Given a series of constraints and objectives, which can change in real time, GreenLeaf guides the pathway to the optimal solution for airlines.

## How it works



① **Passenger modeling** - Based on interactions with over 7 million bookings to date, the passenger behavior model determines how individual passengers will react to specific offers from the Yana platform: Will they accept the offer? If there are several options, which one will be selected? How long will it take them to make a decision?

② **Flight plan simulation** - Given the passenger model, GreenLeaf simulates and predicts the outcome of a set of offers to bookings on a target flight. Of the thousands of possible plans, which will even be feasible given current constraints? How do the options available change as flight conditions (both on target & alternative flights) change?



③ **Flight plan optimization** - Given the specific goals of the module deployed (e.g. profit maximization, volunteer solicitation), GreenLeaf then chooses the optimal processing plan for Yana. GreenLeaf and Yana work hand in hand in real time. On a minute by minute basis, as customers accept or decline offers, Yana feeds data back to GreenLeaf for constant, automatic optimization of the specific flight plan (which is then fed back to Yana for execution).



④ **Post-flight feedback** - Once a flight closes, anonymized statistical data regarding acceptances and declines is fed from Yana back to GreenLeaf for continuous optimization. Which offers were successful and unsuccessful? Why? This information - from over 7 million bookings to date - ensures that the platform improves continuously.

## Why it's valuable?



**Scalable** - To achieve scale, the Yana platform requires thousands of decisions to be made every day. It is neither effective nor cost efficient to manage these decisions through laborious, low-level, manually maintained business rules. GreenLeaf enables Yana to scale in a low cost, highly efficient manner.



**Proven** - Volantio has invested over 3 years in engineering and data science resources to build and optimize GreenLeaf's statistical models and operational capabilities. GreenLeaf is powered by the largest dataset of its kind in the aviation industry - over 7 million distinct bookings. Airlines get access to GreenLeaf from Day 1, translating to happier passengers and more profits faster.



**Adaptable** - More than ever, the aviation industry faces dynamic change. In order to maximize value, Yana requires a fast intelligence layer which can respond quickly when flight conditions change. Based on real-time information, GreenLeaf can adapt its recommended flight plan, making decisions down to a seat by seat basis to optimize outcomes.