## The Need for AI Automation in U.S. Airports

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# Planning phase:





## Addressing U.S. Airport Challenges with AI Solutions

- Growing Air Travel Demand: U.S. airports are struggling to keep up with rising passenger volumes.
- **Operational Inefficiencies:** Long security lines, baggage mishandling, and flight delays hurt passenger experience.
- **Global Competition:** International airports are integrating advanced technologies, leaving U.S. airports behind.
- AI as a Solution: AI-driven automation can enhance security, streamline operations, and improve customer satisfaction.





## AI-Driven Solutions for Airport Modernization

- Smart Security Screening: AI-driven facial recognition reduces check-in and TSA wait times.
- Predictive Maintenance: AI predicts equipment failures, reducing flight delays. Automated Baggage Handling: AI tracking systems minimize lost luggage incidents. AI-Powered Customer Service: Chatbots provide real-time flight updates & assistance.
- Scalability & ROI: AI solutions can be gradually implemented, leading to long-term cost savings and operational efficiency.



# Execution phase:





## Buyer Persona

#### Who are we looking to attract?

- All genders
- Frequent travelers (18-65)
- Business travelers, students, tourists, and families who rely on efficient airport experiences
- All education levels (as airport users)

#### Challenges of consumers:

- Long wait times
- Lost luggage
- Flight delays
- Impersonal

#### Values of consumers:

- Seamless experience
- Reliability
- Security/safety

#### Differentiate:

#### Interaction:

- survey/polls
- social media engagement
- Exclusive Beta Tester Programs

#### Customize:

- Loyalty Program Integration
- Adaptive AI Chatbots

The consumers that offer the most value now and would most likely immediately benefit from Ai implementation within airports would consist of Frequent Business Travelers Those who matter the most in the future would be Leisure **Travelers & Families** 

• Partnerships with Airlines & Loyalty Program

• AI-Powered Personalized Travel Profiles



## Marketing strategy

Acquisition: Through targeted Digital Advertising, Influencer Partnerships, Social Media Campaigns, **Airport & Airline Partnerships** 

- Activation: Our Goal is to convert awareness into active use of AI-powered services by travelers.
- Encourage first-time users to try biometric checkin
- Implement activation of AI-driven notifications
- Promote the Al-powered concierge service

Revenue : Our goal is to monetize AI-powered services through subscriptions, and partnerships.

- Introduce a premium AI subscription for frequent travelers
- Sponsorships and advertising utilizing AI-powered displays

- Integrating AI-enhanced perks into loyalty programs
- track regular engagement using in-app updates
- utilize AI-Powered Learning by using data from previous flights to provide improved, personalized services for repeat travelers

- referral programs and offer incentives
- utilize Social Media Challenges and create campaigns

#### Retention: Our Goal here is to keep users engaged with AI-powered services long-term, ensuring they make AI a part of their travel routine.

Referral : our goal is to encourage satisfied users to spread the word and recommend AI-powered services to others.



# Control phase:





## Year 1 Plan (SMART Budget)

**S - Specific:** Implement and assess technological advancements to gauge effectiveness

**M - Measurable:** Budget Allocation: 20-30% of the overall budget

**Direct Costs:** Software and hardware purchase, Initial technology setup and installation, Training expenses

**Indirect Costs:** Staff time for testing and evaluation, Operational disruptions and adjustments

**A - Attainable:** The budget is realistic and feasible with current resources, based on the cost estimates of software/hardware and setup

**R - Relevant:** Aligns with the company's long-term goal of improving customer value and operational efficiency through technology adoption

**T - Time-based:**Goals met by 12/31/2026



### Year 2 Plan (SMART Budget) **S - Specific:** Scale the successful technologies from Y1 across departments, Integrate effective technologies

into core operations, Use Y1 data to determine which technologies warrant further investment

**M - Measurable:** Budget Allocation: 40-50% of the overall budget

**Direct Costs:** Additional technology purchases, Infrastructure upgrades for scalability

**Indirect Costs:** Integration costs, Continued monitoring and adjustments

**A - Attainable:** The budget allows for gradual and strategic scaling, ensuring a smooth transition into full operational use

**R - Relevant:** Ensures effective technologies from Y1 are fully implemented, driving efficiency and improving customer satisfaction

**T - Time-based:** Goals met by 12/31/2027



### Year 3 Plan (SMART Budget)

#### **S - Specific:**

Fully implement the most effective technologies identified in Y1 and Y2 Optimize usage and maximize impact across all operations Explore new innovations to stay ahead of market trends

#### **M** - Measurable:

Budget Allocation: 60-70% of the overall budget

#### **Direct Costs:**

Full-scale deployment of technologies Advanced software and hardware purchases

#### **Indirect Costs:**

Ongoing support and monitoring Further adjustments based on feedback

#### A - Attainable:

Budget allocation allows for company-wide adoption and optimization of the most successful technologies

#### **R** - Relevant:

Ensures technology remains a key driver of growth and efficiency Aligns with the company's mission to enhance customer value and profitability

#### **T** - Time-based:

Goals met by 12/31/2028



#### **KPI Framework**

#### **Customer Acquisition**

#### Goal: Increase passenger traffic KPI: Number of new passengers per month Metrics:

Passenger growth rate Conversion rate of online bookings to flight departures Customer satisfaction score (from surveys)

#### **Customer Retention**

Goal: Increase repeat customers KPI: Number of satisfied customer Satisfaction Metrics: Repeat purchase rate Churn rate Customer retention rate

#### **Customer Referrals**

Goal: Increase customer referrals KPI: Number of referred customers Metrics:

Referral rate Referral conversion rate Customer satisfaction score (CSAT)



# Monitoring phase:





#### **Risk Assessment Matrix**

#### Impact

Minor	Moderate	Major	Critical
			Data Privacy and Cyber Attacks
		Al System Failures	
	Violation of Data Protection Laws and TSA		
			MAKE A PLAY FOUNDATIO
	Minor	MinorModerateModerateImage: Second	MinorModerateMajorMinorImage: Second se

Likelihood





#### Awareness

Airport travel is inefficient and a burden to customers as well as employs

Inform airline workers of the benefits i.e reduced waiting times



#### Desire

Al will support employees reducing frustration and increasing efficiency

Passenger feedback encouraged with the optional choice of the AI experience



#### Knowledge

Workshops for TSA officers

Al simulation for check ins and tracking

#### Ability



Trials for Al automated baggage handling Smart security screening team to monitor AI functions



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#### Reinforcement

Continuous improvements of AI learning and implementation

Responding to customer feedback to increase positive Al travel experiences

D-LEAG

# Closure phase:







experience.



### Value Stream Mapping

#### **Product Family**

- Smart Airport Solutions
  - Using technology and artificial intelligence to improve efficiency of airports, and therefore, improve passenger experience.
- · Specific use case: Replacing passports with a biometric Smart Travel Identity System, enabling seamless, secure, and efficient airport processing by eliminating manual ID checks, reducing wait times, and enhancing fraud detection.

#### Steps taken by a user

- · Offline enrolment in an app with government ID proof
- · Seamless and quick immigration through biometric scans
- Boarding pass integration to speed up boarding process and reduce lines and wait times.

#### Waste and improvement areas

- The bottleneck would shift to a different area of the airport like security if we cut out all the other lines
- The initial implementation will have a very high cost
- We need international agreement, policies and standards to execute this.
- Cybersecurity issues with storing biometric data

#### Solutions and improvements

- lines



 Use extra space and personell saved up to increase the capacity of security, implement more advanced Al based screening techniques to speed up security

 Public-private partnerships to manage costs · Invest in ensuring security of users' biometric data



# Thank you!

Any questions?

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