# #DidyouKnow

**0.28%**
Of times flight delay is caused by conventional Baggage scanning

# INTELLIGENT BAGGAGE SCANNING AT DELHI AIRPORT -BAGGAGEAI

**Baggage handling and security is a major operational challenge at Airports.**

Delhi airport is one of India's finest and also the busiest. Being the capital city, Delhi handles a major chunk of International and Domestic flights — the Indira Gandhi International Airport in Delhi handled 17,831,081 international passengers and a total of 67,301,016 passengers over the course of 2019 to 2020 March!

Air traffic is on an exponential rise in the new era of globalization. However, the technology that is used to aid air transport is still lagging in some aspects — the major one being speed. This is completely justified because the traditional systems are not equipped to handle the new issue of an increased volume.

Moreover, several objects like lighters and e-cigarettes are easily disguised under the conditions of busy scanning booths, untrained screeners and low accuracy of the detectors.

BaggageAI's desire to solve these problems led to a super fast and precise technology of Baggage scanning. BaggageAI thus got selected by the Airport Authority of India under the "Innovate for Airports" program and had the opportunity to run a pilot project in Delhi's International Airport. The results were astounding.

It is noticed that 0.28% of times flight delay is caused by the conventional Baggage Scanning. Also, interestingly, the traditional scanners are not as accurate as one would expect — proof from the Delhi Airport scanners themselves.
A total of 1754 Check-In baggage and 19632 Arrival Baggage X-Rays (DIAL data) from the Delhi Airport were received for the Pilot project. Note that these bags were already scanned and cleared because no threats were detected by both the departure and arrival airports.

On passing these images through BaggageAI scanners, 47 new threats got detected in check-in baggage and a whopping count of 1098 new threats were found in the arrival bags! **This adds up to 2.67% and 5.59% of check-in and arrival baggage respectively that still carried threats and passed undetected via two major Airports.**

**The objects of concern majorly included lighters, power banks, copra and e-cigarettes.**

On summarizing the results, the accuracy of BaggageAI scanners turns out to be 98% and the percentage of threats detected soars at 94%! Also, the traditional scanners were heavily overtaken with time-optimized BaggageAI processing of 10800 scans per hour! In comparison, Delhi Airport has the capacity to scan only 1700 bags every hour. That is over a 600% increase in time optimization!
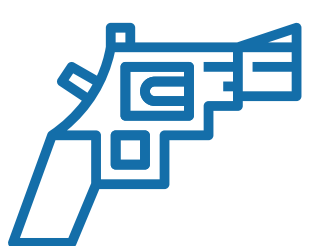
# BaggageAI
## PILOT RUN AT DELHI AIRPORT

Delhi airport is one of India's finest and also the busiest. Being the capital city, Delhi handles a major chunk of International and Domestic flights - the Indira Gandhi International Airport in Delhi handled **17,831,081 international passengers** and a total of **67,301,016 passengers** over the course of 2019 to 2020 March
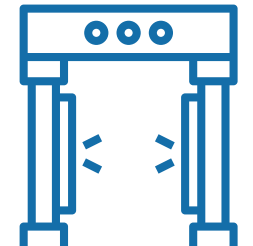
## PROBLEM STATEMENT
To Eliminate Errors in Detection of Threats by Consecutive Conventional Scanners
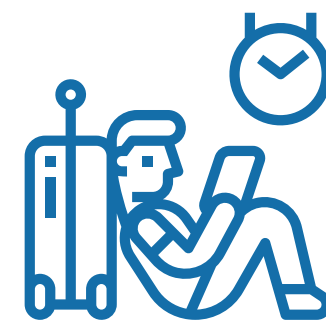
## STUDIES SHOW

**4,432 firearms** were found at TSA checkpoints in 2019.

Banned items made it through US airport security in **8 out of 10 tests.**

Agents posing as passengers had a **94.44% success rate** in sneaking banned items.

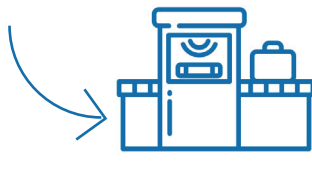**+0.28% of times flight delay** is caused by conventional baggage Scanning

## SOLUTION
An advanced **time-optimized and precise scanning aid** to filter the undetected threats with speed

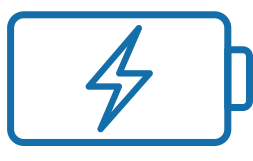| AIRPORT TRAFFIC | CHECK-IN BAGGAGE SCANNED | ARRIVAL BAGGAGE SCANNED |
|---|---|---|
| Over 67 million/annum | 1754 | 19632 |

## HARDWARE
The output of two consecutive conventional scanners – one at departure airport, the second at Delhi Airport, provided as input to the baggageAI scanner. Time taken by Delhi Airport Scanners: **1700 Scans/Hour**
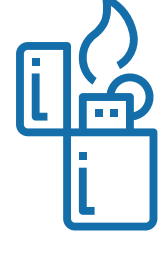
## CONTRABAND

POWER BANK    E- CIGARETTES    LIGHTER    COPRA

## RESULTS

**THREATS**
**47** (2.67%)
IN CHECK-IN BAGGAGE

**THREATS**
**1098** (5.59%)
IN ARRIVAL BAGGAGE

**TIME**
**10800** SCANS /HOUR
EXPONENTIAL INCREASE IN TIME OPTIMIZATION

## SAFETY OPTIMIZED
In spite of two scanners at two major airports, 1145 new threats were detected in only a tiny percentage of the total baggage! That calls for an immediate update of the existing systems.

**But most importantly,** BaggageAI not only provides high accuracy and speed benefits but also takes the heat off the human screeners who can then focus on more critical issues like bombs and IEDs. A secured journey makes the difference between a Destination and a Destiny