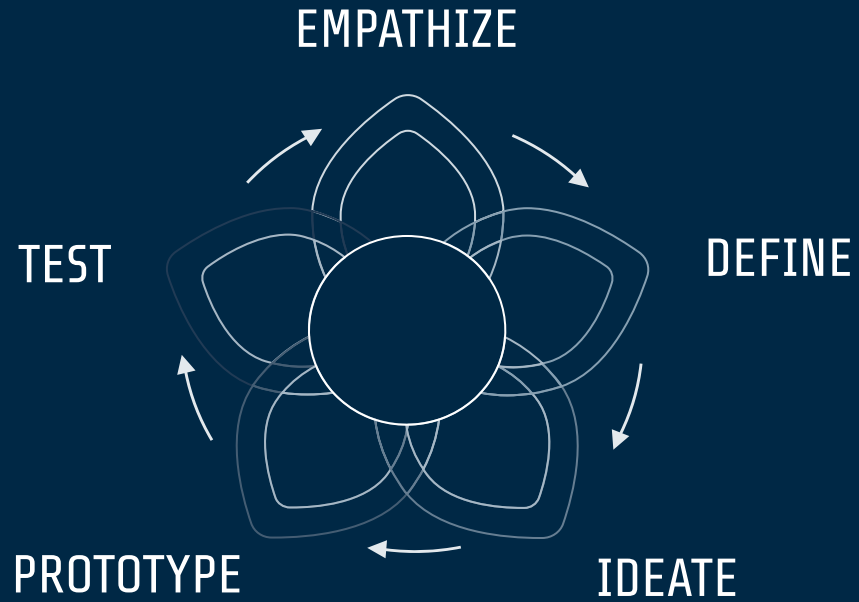




# KIANA CONSULTING PHASE-I REPORT

3 x Zones

# CONTENT



EMPATHIZE

DEFINE

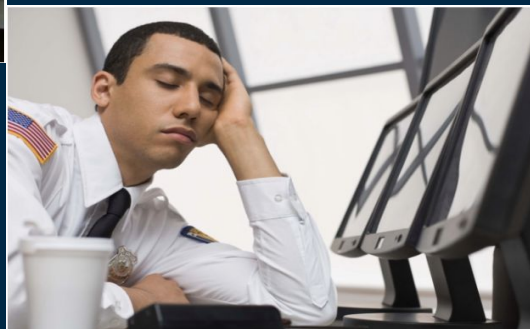
IDEATE

PROTOTYPE

TEST



## CURRENT SITUATION



EMPATHIZE

DEFINE

IDEATE

PROTOTYPE

TEST



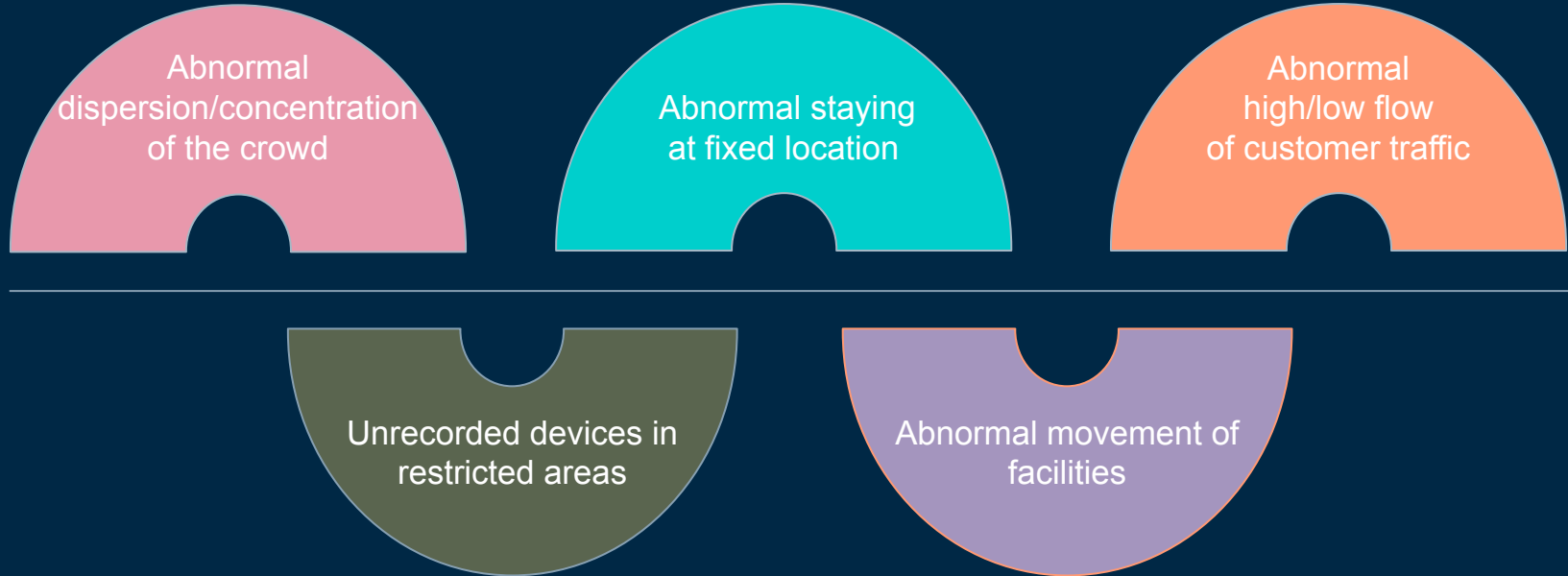
# 890,758

Number of devices  
appear in TPS1 Level 2





## DETECT ABNORMAL MOVEMENT & DENSITY





GOAL : Enhance the efficiency of detection and response time



01

MAINTENANCE NEEDS



02

EMERGENCY SITUATION



## SPECIFIC APPLICATION



"When there's a fire incident or bomb threat, people will be running away from the site."



"When a person is stuck in an elevator, the device remains at the same location for a long period of time."



"When there's medical related emergency, the crowd will be gathering at one location."



"When the restroom or other facilities needs maintenance, the passenger flow will drop significantly."



"If a non-airport device appears in a place that is not open to the public, that might be guests entering restricted areas, either by mistake or on purpose."



"An airport device moves out of its normal range may be associated with equipment stealing."





## ADVANTAGES

Prevent maintenance issue to ensure airport's operational continuity

### OPERATION

**Efficiency**  
Reduce response time for emergency



Ensure airport's and passengers' safety

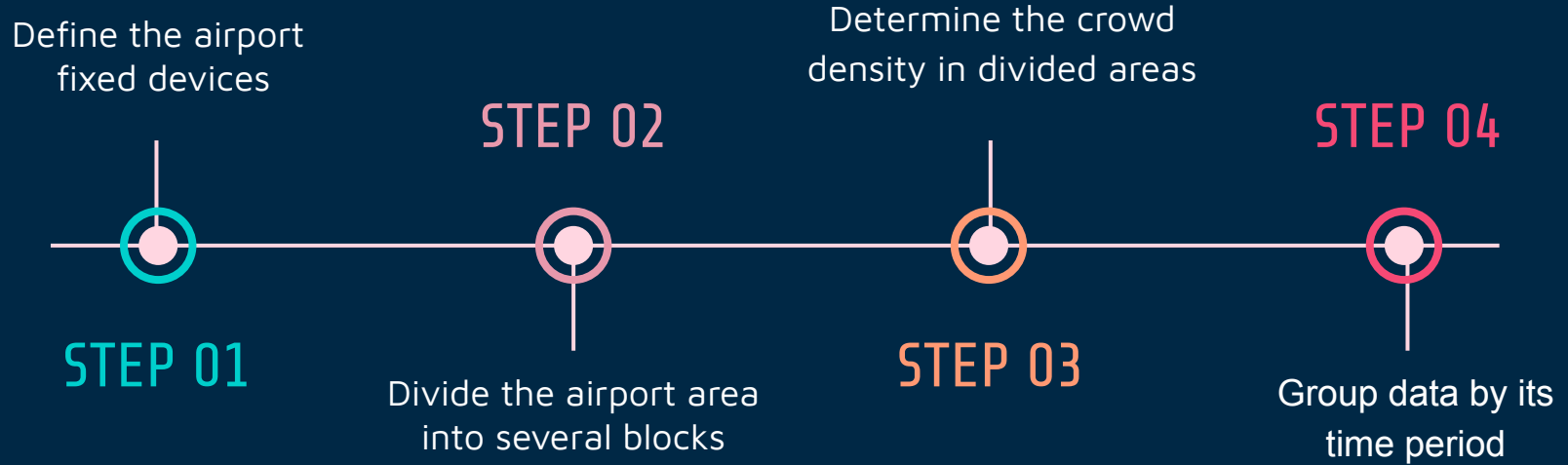
### SAFETY

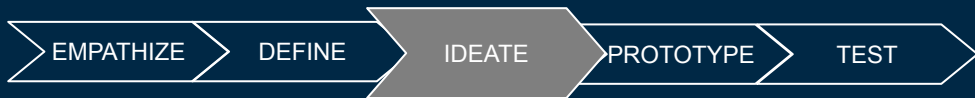
**COST**  
Reduce manual labor cost & security cost.





## TECH APPROACH





## TECH APPROACH

Determine the normal movement speed of the crowd



STEP 05

STEP 06

Use models to distinguish the normal and abnormal



Confirm the reliability of our model by determining whether any previous events were detected by our test dataset.

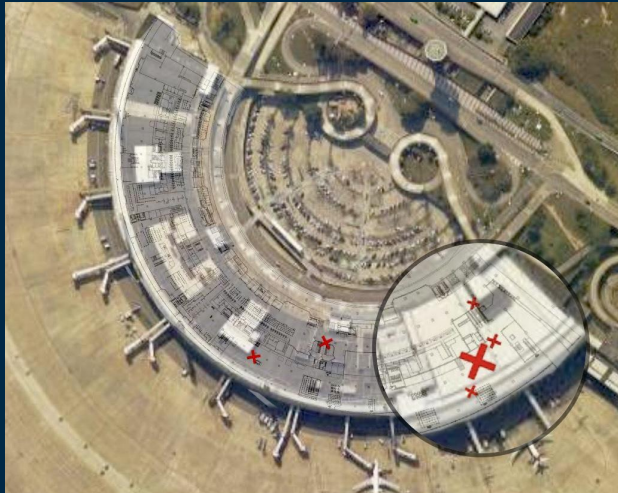


STEP 07





## Fixed Devices

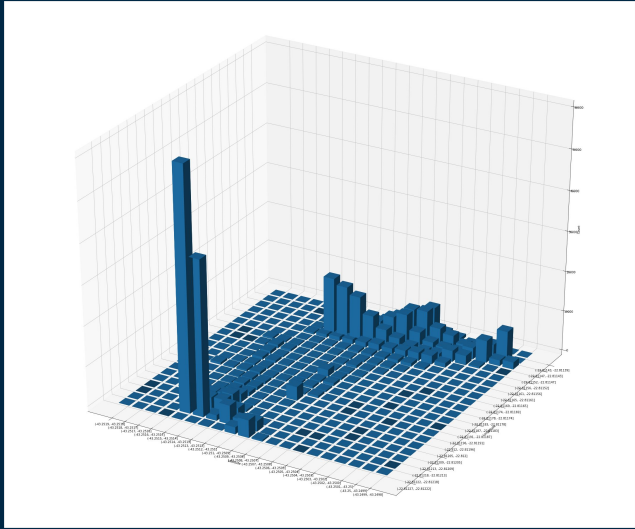


MAC Address (e.g.):

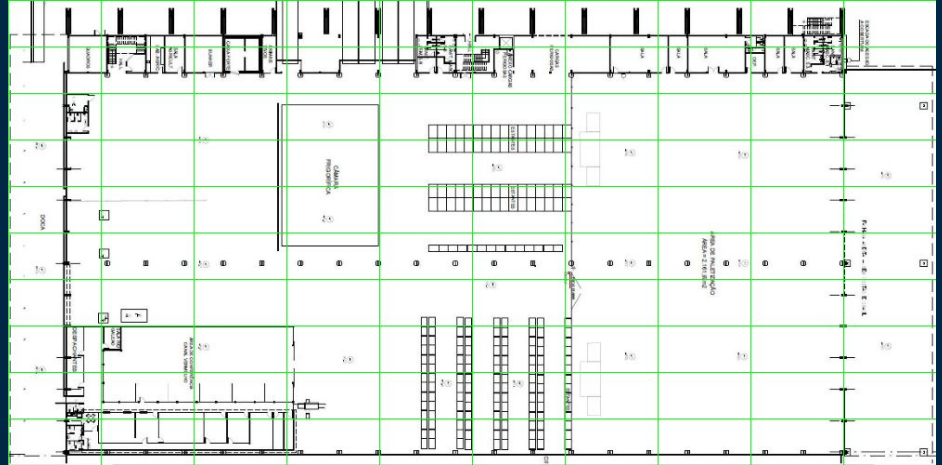
00:05:9e:97:19:b0  
28:80:23:32:16:10  
28:80:23:32:16:11  
28:80:23:32:16:12  
28:80:23:32:16:16  
30:b5:c2:d4:c1:40  
c0:25:e9:7e:d8:5c  
c0:25:e9:7e:d8:5d  
c0:25:e9:7e:d8:5e  
d0:04:01:48:f9:66  
fc:64:3a:24:ab:dc



Crowd density by coordinates



Grids



EMPATHIZE

DEFINE

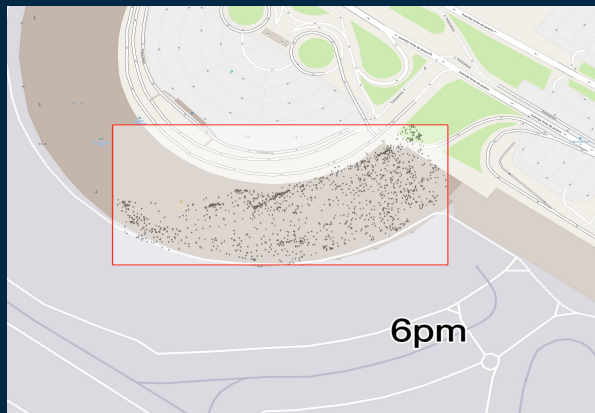
IDEATE

PROTOTYPE

TEST

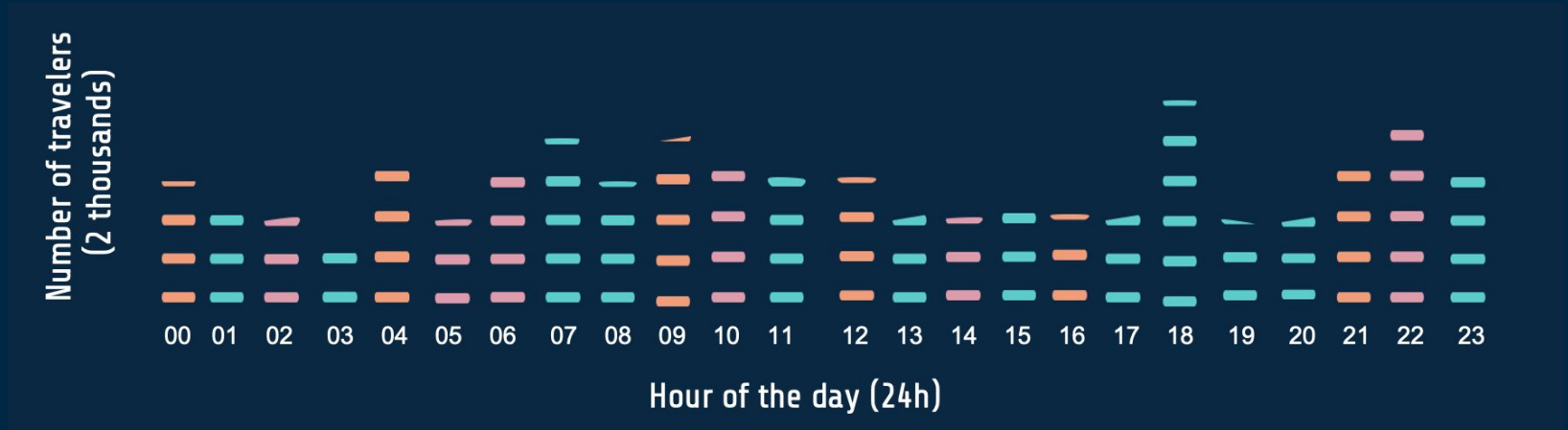


One day's Crowd  
Density  
at 4am, 8am,  
6pm, and 11pm



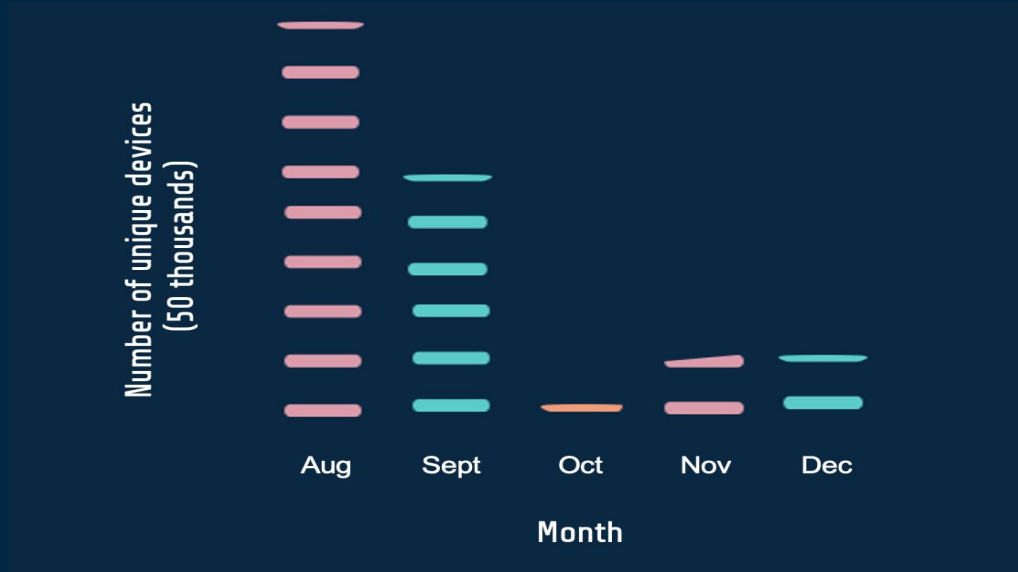


## Average Traveler Amount by Hours





## Amount of Unique Devices by Months



The background is a dark blue field decorated with a pattern of small squares and thin vertical lines. The squares are in three colors: teal, pink, and orange. Some squares are solid, while others are outlined. The vertical lines are thin and white, extending from the top edge of the image. The word "THANKS" is centered in the middle of the image in a large, white, sans-serif font.

# THANKS