



# Vienna Airport Perspective: Innovation & AI Aviation Forum Austria 2026

# About Me



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## Digital InnoVIEation Hub

### Internal

- Challenges
- Ideas
- Focus topics
- Continual improvement process

### External

- Innovation networks
- Partner (~40)
- Inspiration
- Company exchanges

### 1. IDEATE Generate innovative Ideas



### 2. INCUBATE

Run small-scale experiments (PoCs) to test the learnings, ideas and share



### 3. IMPLEMENT Implement the change at scale



### Possible changes

- Product
- Process
- Policy
- System
- Strategy
- Etc.

# Airport Complexity: Processes & Stakeholders



# Airport Data Sources

## STRUCTURED DATA

REGULATIONS & REPORTS



## INTERNAL DOCUMENTS

DEPARTURES		ARRIVALS	
15:40	NEW YORK	15:40	ON TIME
17:25	LONDON	17:25	DELAYED
19:50	FRANKFURT	18:10	ON TIME
19:50	CHICAGO	19:50	BOARDING

## SENSOR SYSTEMS



## BAGGAGE TRACKING



## UNSTRUCTURED DATA



## INCIDENT REPORTS



## MAINTENANCE LOGS



## SMART WASHROOMS



## WEATHER DATA



## SOCIAL MEDIA & FEEDBACK

# DATA IS THE FOUNDATION OF AI



# Machine Learning Use Cases in Airports

## Passenger Flow Analytics



Footfall & Queue Prediction

## Failure Forecasting



## Prescriptive Maintenance



Optimal Repair & Scheduling



## Sensor Data Monitoring



IoT & Real-Time Alerts

## Financial Forecasting



Revenue & Cost Predictions

## Operational Dashboards



## Flight Optimization



## Baggage Analytics



Lost & Mishandled Detection

## Demand Forecasting



Traffic & Staffing Predictions





Annotate/Measure Bulk Actions View Export

Layers

- Punch List Items [0]
- Photos
- Annotations [0]
- Thermal Anomalies (651) 
  - Transparency
  - Single bypassed 3
  - Hotspot 68
  - Multi hotspot 566
  - Miscellaneous issue 14
- Site Regions
- Site Overlays
- Boundaries
- Thermal Orthomosaic
- RGB Orthomosaic
- Base Layer

Feuerwehr Übungsplatz

Katharinenhof

# Generative AI Use Cases in Airports

## Customer Service & Assistance

### Travel Info & FAQs



## Future Scenarios

### Disruption Detection



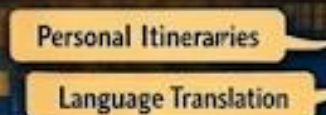
## Process Automation



## Resource Optimization



## AI Travel Assistant



## Digital Twin Simulation



## Knowledge Management



## Smart Recommendations

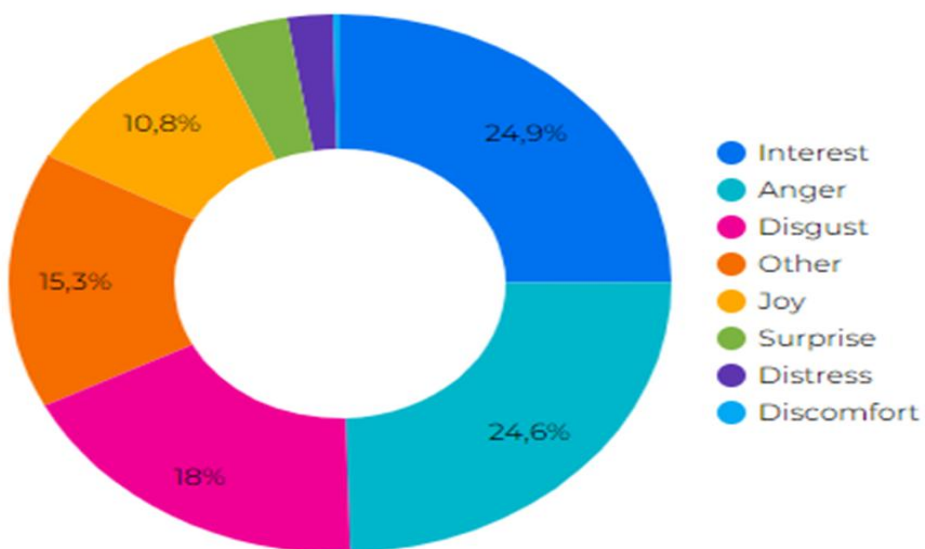


## Generative Simulations



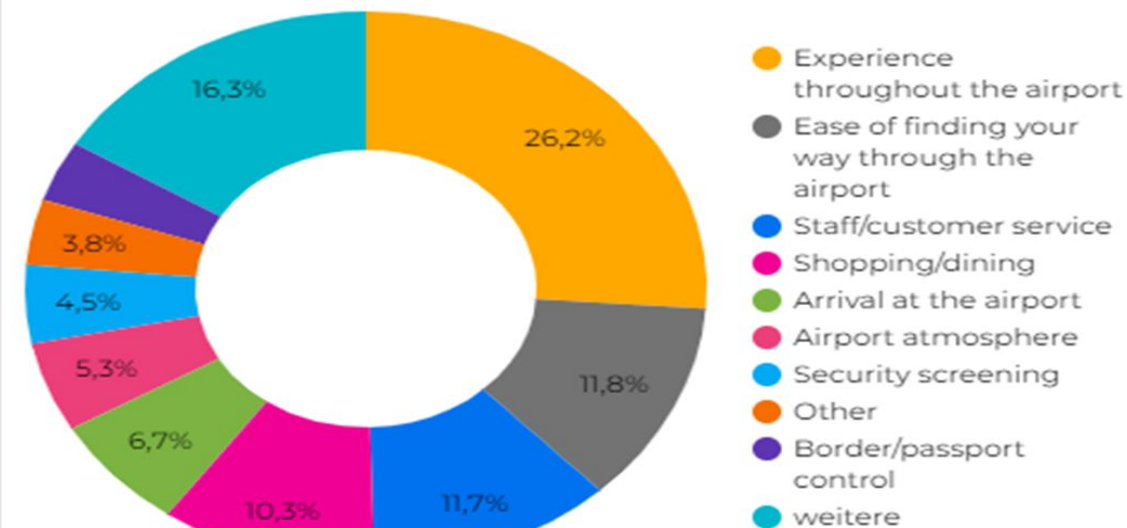
## Overview of emotions

AZ | ⋮



## Overview of categories

AZ | ⋮



Category	Interest	Anger	Disgust	Joy	Surprise	Distress	Discomfort	Other
1. Experience throug...	598	203	466	521	297	71	0	254
2. Ease of finding yo...	418	201	133	1	0	0	0	332
3. Shopping/dining	373	234	263	25	0	0	0	52
4. Arrival at the airport	356	154	0	0	40	0	0	66
5. Other	101	19	26	108	0	7	7	83
6. Airport atmosphere	98	113	143	0	0	19	0	111
7. Security screening	94	224	20	0	0	0	0	81
8. Ease of connectin...	90	74	50	0	0	67	25	11
9. Check-in	41	28	20	99	0	0	0	0
10. Border/passport c...	38	253	0	0	13	0	0	0

# Video Analytics in Airports

## Security & Safety

Perimeter Breach



Unattended Baggage



Behavior Analysis & Access Control



## Operational Efficiency

Turnaround Monitoring



Ground Safety & Protocols



Gate Management



## Passenger Flow & Experience

Queue Monitoring



Crowd Heatmap



Passenger Counting



# Robots in Airports

PV Inspection Drones

Facade Cleaning



Restroom Cleaning

Autonomous Wheelchairs



Autonomous Ground Handling Vehicles

Baggage Handling




# Agentic AI Use Cases

## General Business Applications

### Autonomous Customer Service

Refund Processed  
Address Updated



### HR Automation




### Compliance & Audit Bots

Policy Violation



### Code & Test Agents

Bug Found




## Airport Operations

### Dynamic Gate Management



### Baggage Anomaly Handling



### Passenger Assistance

New Flight Booked  
Hotel Arranged



### Eco & Maintenance Agents



Made with AI