

# SMART AVIATION OPERATIONS

IATA Innovation Submission  
April 8, 2019

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ATOLLOLOGY

Smarter Operations Start Here

A Lufthansa airplane is shown in flight, banking upwards. In the background, an airport terminal with a large glass facade and a control tower are visible. The scene is overlaid with a semi-transparent blue filter.

**Atology leverages Computer Vision & Artificial Intelligence to rapidly convert physical operations into actionable insights, transporting companies overnight into the modern world of smart operations.**

# HOW ATOLLOGY IS DIFFERENT

We instantly create Smart Operations for our customers by digitizing and balancing all of the three core physical operational elements:

1. People
2. Equipment & vehicles
3. Cargo & luggage



We let you manage by fact by turning passively observed activities into actionable data

# ATOLLOGY SUBSCRIPTION-BASED SOLUTION

Customer Facility

Turnkey HW & SW

## Physical Operations

People



Equipment  
& Vehicles

Cargo &  
Baggage



No Interfaces Required

# ATOLLOGY

1 Self-Install  
(A Few Hours)



Generates Big Data

2



3



Non-Intrusive = No Disruption or Risk to Operations

ATOLLOGY

# MANUFACTURING OPERATIONS

**7.5%** Points of Sustained Utilization: Worth over \$150,000 / year per Mill

2018-07-27 < >

day swing

Stations: 3

5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 1:00

## Mill 11

Utilization: 2.5 hr, 60.1% (+47.2%)



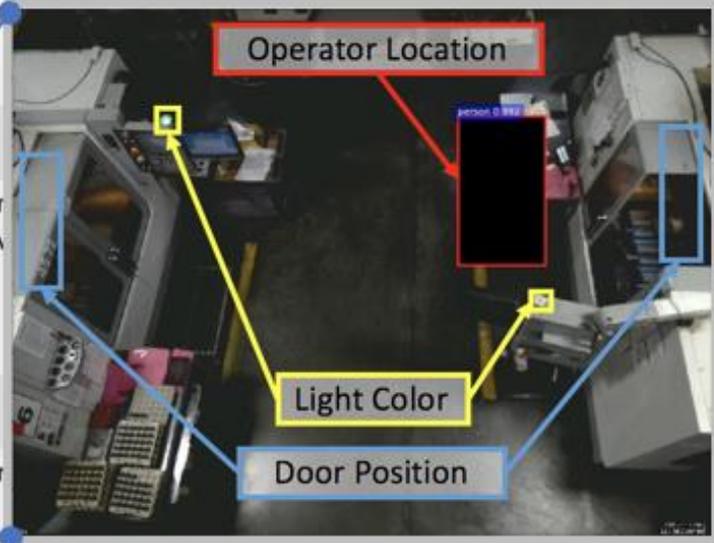
## Mill 13

Utilization: 2.1 hr, 51.2% (+36.3%)



## Mill 14

Utilization: 2.0 hr, 48.8% (+12.1%)



9 minutes Idle at 9:08 am



6 minutes Ignored at 9:08 am



5 minutes Ignored at 9:08 am





# SMART OPERATIONS CUSTOMERS

## MANUFACTURING OPS



South Bay Solutions

lumenetix

eurofins

VANDER-BEND  
MANUFACTURING



Schneider  
Electric

GENERAL  
MILLS

SCHAEFFLER GROUP

TESLA

BorgWarner

connect-homes

## YARD OPS

CEMEX

Trimac

Lehigh Hanson  
HEIDELBERGCEMENT Group

TITAN  
AMERICA

HAMM

TRUE LEAF FARM

Mai Dubai  
water is life

## GROUND OPS

Tampa  
International  
Airport

Gatwick  
LONDON AIRPORT

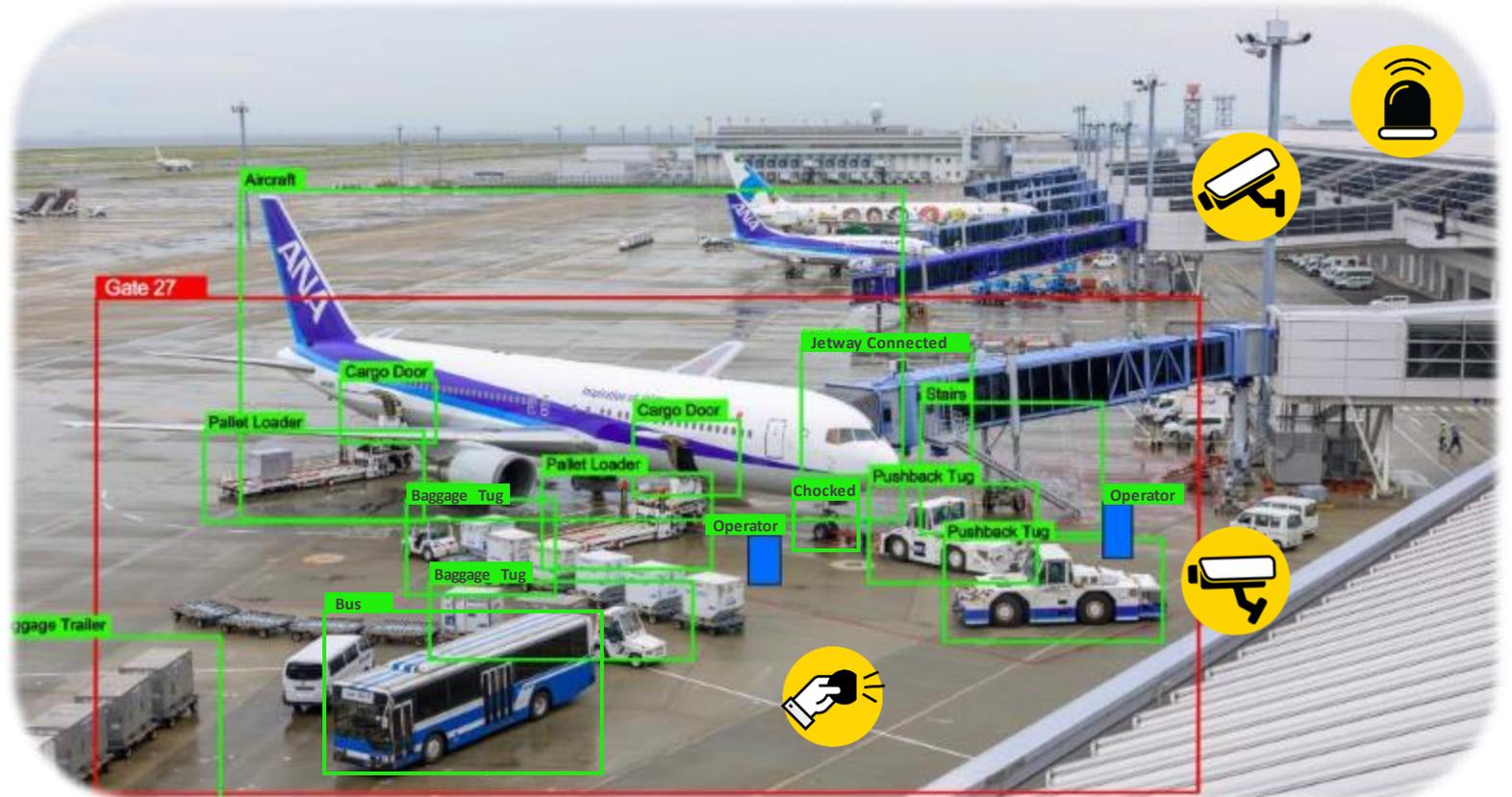
CVG  
CINCINNATI/NORTHERN KENTUCKY  
INTERNATIONAL AIRPORT

Released  
1<sup>st</sup> Product in  
Jan 2018

# Ground Operations Monitoring

By placing Atollogy monitoring devices in and around the people, equipment and cargo, we can gather intelligence and judge operational efficiency.

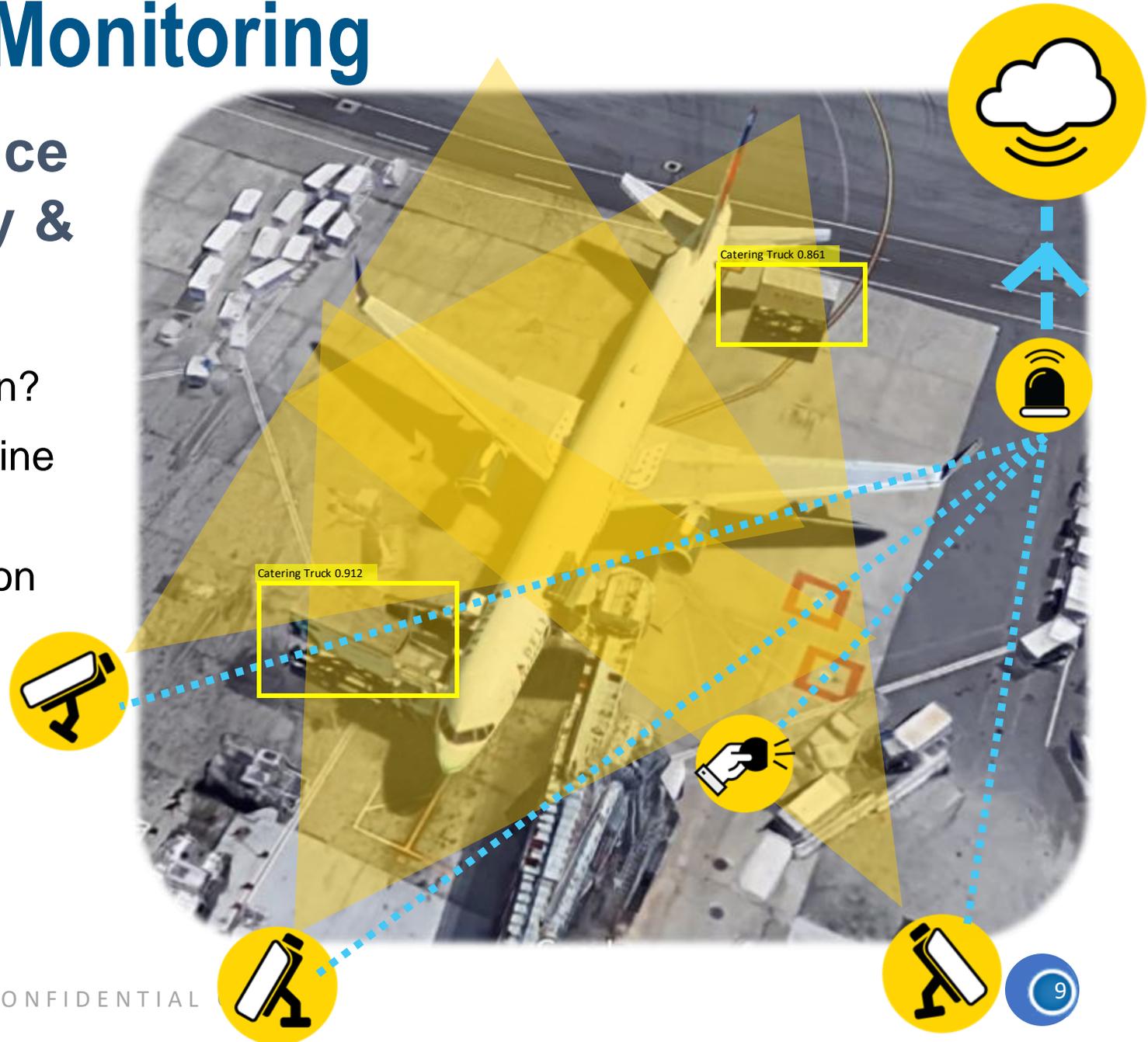
In this example, 11 types of equipment / states are being monitored



# Ground Operations Monitoring

Realtime analytics to reduce delays, increase efficiency & enhance safety

- What is the duration of each gate turn?
- How do cycle times vary by gate, airline and aircraft?
- Was the service equipment in place on time? Did they finish on time?
- What are the bottlenecks?
- How do we get alerted if a step isn't getting completed on time?
- Where is the nearest fuel truck?



# Terminal Map Dashboard

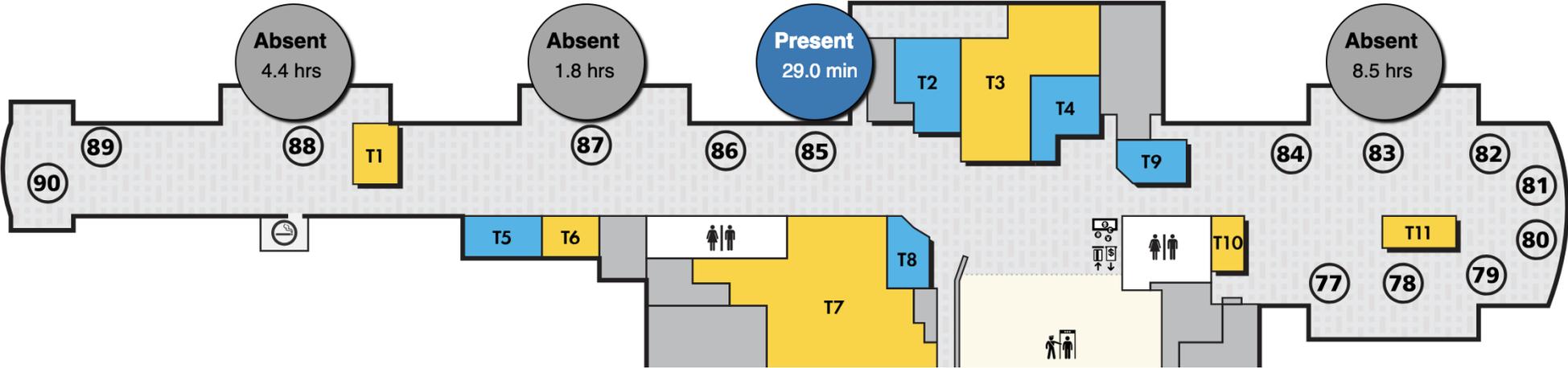


John Muhlner ▼

Terminal Map | [Gate Status](#)

Gate Count: 4

Day Shift for March 13th, 2019  
US/Eastern  
Live Mode On



# Gate Status Dashboard



John Muhlnner ▾

[Terminal Map](#) | Gate Status

📅 2019-03-13 < >

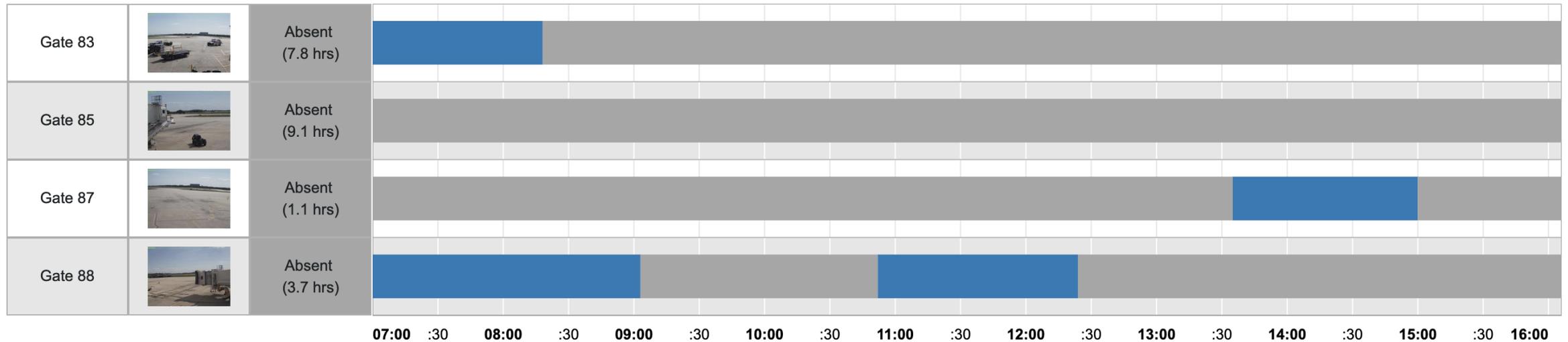
Day

Tampa Airport ▾

Day Shift for March 13th, 2019 16:06

Live Mode On

■ Absent ■ Present



# GATE DETAIL VIEW

Terminal Map | Stand Summary | Stand Detail | Tarmac View | QC

2018-02-12 < >

AM PM

AM Shift for February 12th, 2018

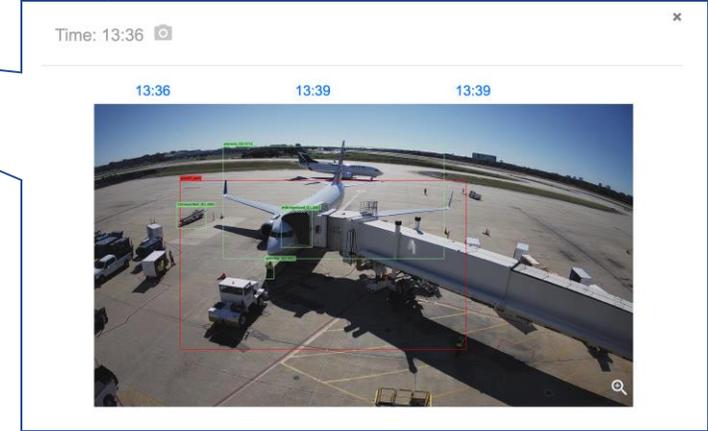
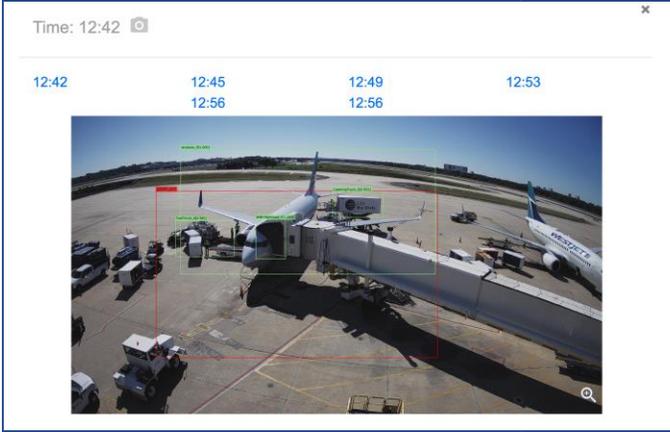
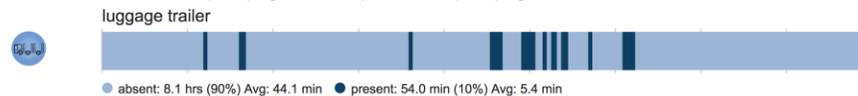
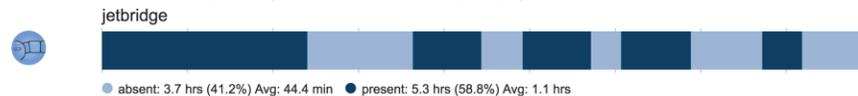
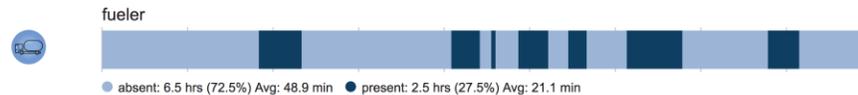
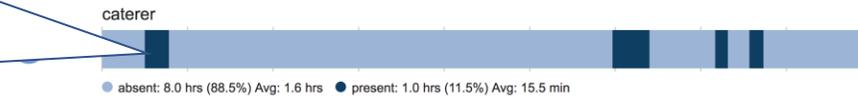
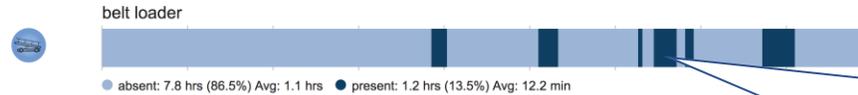
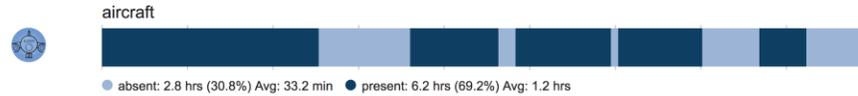
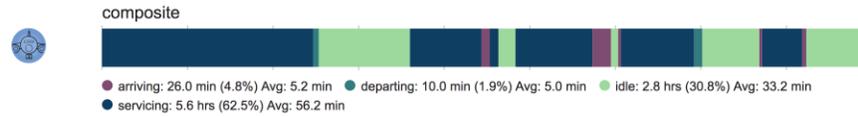
Europe/London

Activate Live Mode

Stand 14  
Stand 27

## Gate 210

Average Cycle Time: 1.2 hrs (+0%)





# NEW SOLUTION JET BRIDGE MONITORING

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# Jet Bridge Monitoring

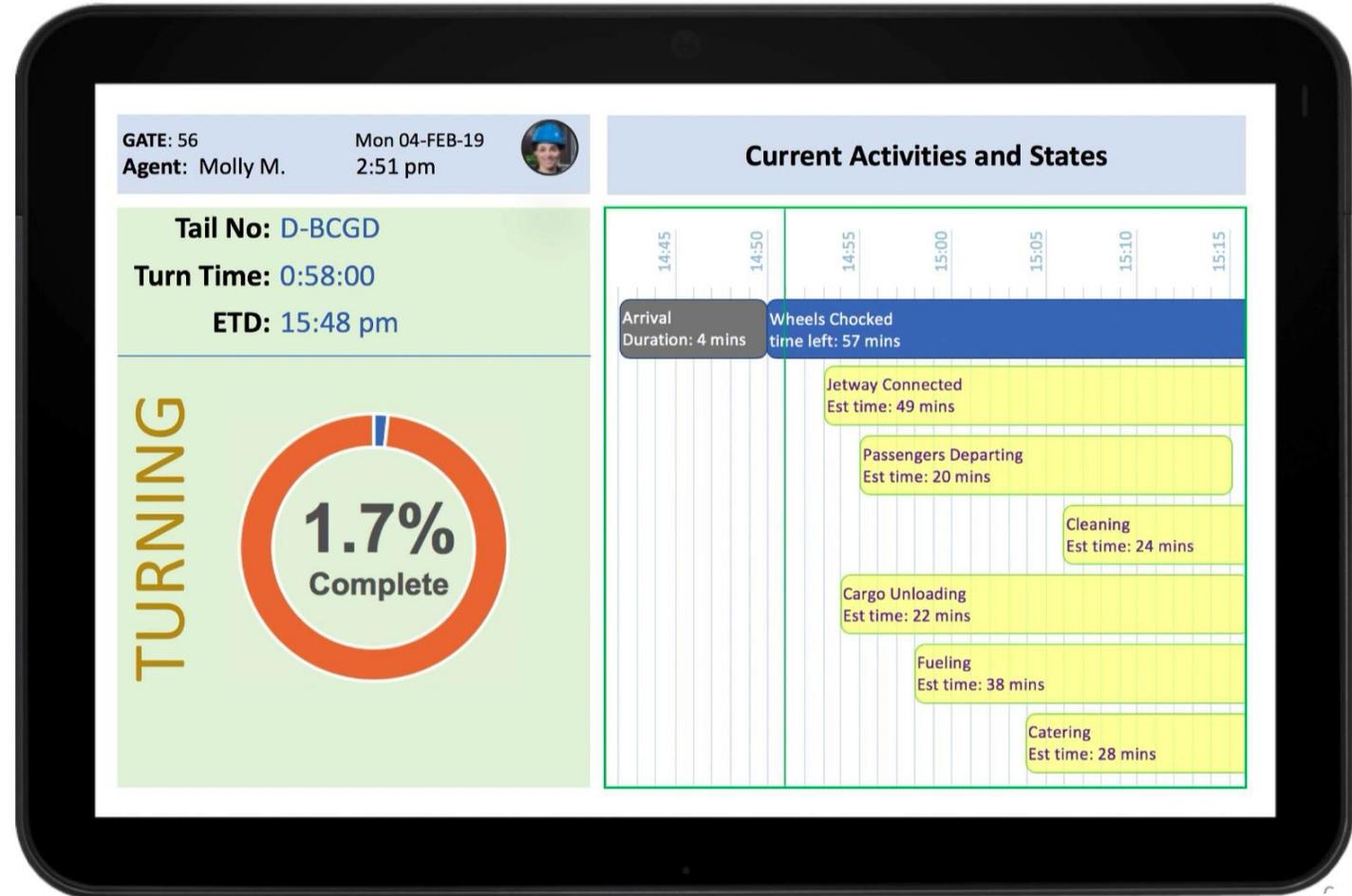
- Identify time it takes to get the door open
- Identify time first/last passenger disembarked
- Determine when cabin cleaning team completed their servicing
- Identify the first/last passenger boarding the plane
- Determine time the last gate checked bag is taken off the jet bridge
- Identify when the door was closed
- Deliver up-to-the-minute reporting to enable increased operational efficiencies
- Alert on issues & exceptions
- Provide data to implement process improvement



Secure footage from existing or new jet bridge cameras

# Jet Bridge Monitoring – Questions Answered

- How long did it take to deploy the jet bridge?
- When did the first / last passenger disembark the plane?
- Is the cabin cleaning team going to complete on time?
- When did the first / last passenger board the plane?
- Have all the gate checked bags been loaded?
- Did the plane depart on time?
- What caused each delay?



# Jet Bridge Monitoring Key Benefits

- **Reduced delays and costs**
  - Identifying issues early in the gate turn whether it is on the ground or in the jet bridge enables delays to be reduced
  - Reduction in the number and duration of delays eliminates significant costs to the airlines
  - Keeping gates on schedule helps both airlines and airports reduce cascading delays with other flights and the first and subsequent airports
- **Improved customer experience**
  - Gate agents can focus on customers & not capturing data
  - Identifying issues early allows for counter measures to reduce delays and keep customers happy by delivering them to their destinations on time
- **Enhanced safety**
  - Combined with our gate turn monitoring solution, the solution will identify any issues with non-compliant assets so that action can be taken before accidents happen

# atollogy.com

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