



IFMA's **FACILITYFUSION**

2019

Conference & Expo

April 8-10

Atlanta Marriott Marquis
Atlanta, Georgia, USA

FORGING
VISIONARY
LEADERSHIP

IoT and Your Elevator



Presenter Introduction

Mike Schiappa, Associate Director

- Education: Electrical Engineer and MBA degree
- Elevator industry professional since 1994
- Designing & deploying connected products since 1999
- Support field operations within Americas
- Manage Remote Elevator Monitoring, Otis Elite Service and Otis ROLE (mechanic help desk)
- IoT development since 2016

CEUs & CFM® Maintenance Activities

You are eligible to receive Continuing Education Units and Certified Facility Manager® maintenance activity credit for attending sessions at IFMA's Facility Fusion.

To receive CEU points, you must add the US\$20 processing fee to your registration. (Full Event PLUS! registration includes the CEU processing fee.)

To Receive 1 CFM Maintenance Activity (6 required for recertification)

- Record your attendance for the three-day conference on your CFM Recertification Form in CAMP. Documentation is not required for credit since Credentials Staff can verify your attendance.
- At re-certification time, submit your completed CFM Recertification Form.

Managing CEUs:

- Log into the **Attendee Service Center**: https://events.ifma.org/facilityfusion/2019/registration_update.cfm Your log-in information was sent to you when you registered for the conference.
- Click "Start CEU Process" on the left-hand side.
- Click "Start" next to the session you attended.
- Complete the session evaluation.
- Click "Start Test" next to the session.
After passing the test, your certificate will be available for download.

**If you wish to receive CEUs or LUs for other organizations, you must contact those organizations for instructions on reporting credit hours.

Review Session Learning Objectives

- IoT and your elevators: turning data into outcomes
- Predictive maintenance: reducing downtime
- Health monitoring & machine learning
- How elevator data can help facility managers

Your Feedback is Valued!

Please take the time to **Evaluate Sessions**

Log into the Attendee Service Center

https://events.ifma.org/facilityfusion/2019/registration_update.cfm



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OTIS SIGNATURE SERVICE

IoT and Your Elevator

April 2019

OTIS

 **United
Technologies**





The Signature Service value



CULTURE OF COMMITMENT

We stand for quality & safety and we're investing for the future



PERSONALIZED EXPERIENCE

We put you and your passengers at the center of everything we do



TRANSPARENT COMMUNICATION

We share real-time information in a way that's tailored to you



INTELLIGENT PRODUCTS

We turn data into action for greater uptime and reliability

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Serving a world in motion

In 1861, Charles Otis handwrote his first elevator service contract and signed his name to it.

Today, we are expanding his commitment with investments in our employee, customer and passenger experience.

We're combining our deep expertise with new digital solutions to deliver personalized service every step of the way.

Our name is Otis — **and service is our signature.**



moving

2

billion people a day

(2 MILLION UNITS UNDER CONTRACT)



~ 200

COUNTRIES AND TERRITORIES



33,000 TRAINED MECHANICS





Our digital service ecosystem

INVESTING IN A PERSONALIZED CUSTOMER EXPERIENCE



PERSONAL COMMITMENT

to personalized service that makes the most of our innovation and delivers uptime for you



MOBILE TOOLS

put information in our hands and yours to deliver more efficient, informed and real-time service



GLOBAL SERVICE SYSTEM

connects our teams to 360° account information for a personalized and informed experience



CONNECTED IoT SYSTEMS

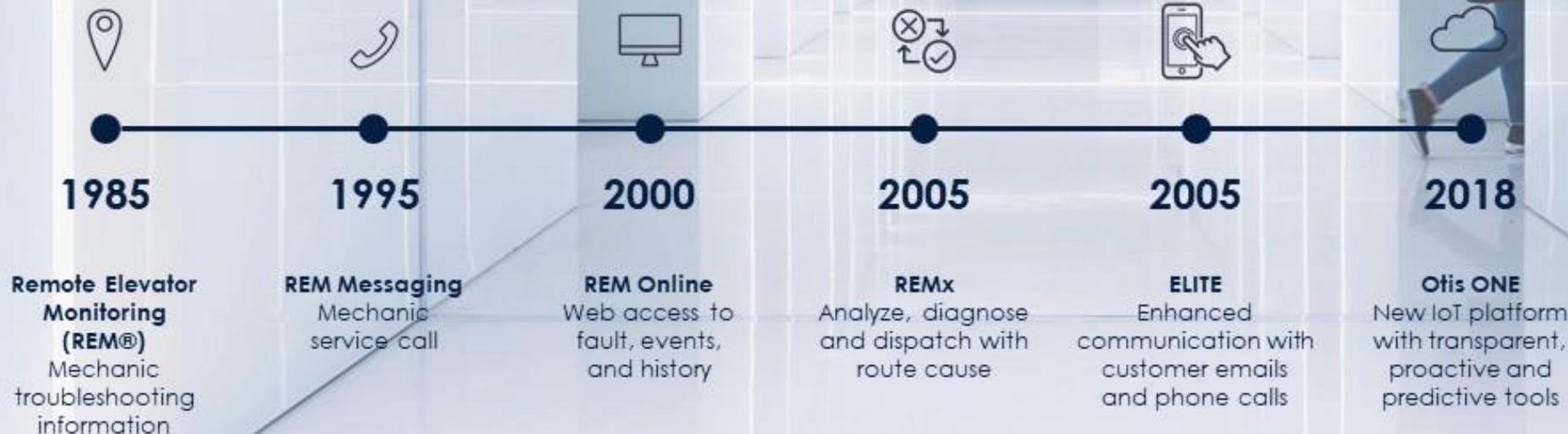
enable intelligent and proactive service to address maintenance before you see an issue



IoT CONNECTED SYSTEMS

New IoT platform

30+ YEARS OF CONTINUOUS INNOVATION



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Turning data into outcomes



Advanced monitoring

GATHER

REAL
TIME



Cloud



Gateway

SECURE TRANSFER

REAL
TIME



Big data analytics



Sophisticated algorithms

INSIGHT

REAL
TIME

TRANSPARENT
view of service

PROACTIVE
real-time
communications

PREDICTIVE
insights reduce
shutdowns

OUTCOMES

OTIS



IoT CONNECTED SYSTEMS

Personalizing your service experience

Transparent

WE PROVIDE VISIBILITY

- **Relevant updates** about your service ensures your contract is being met
- **Customizable views** and preferences tailor communications to meet your needs



Customer Portal & app



Campus View



Transparent scorecard

Proactive

WE IMPROVE RESPONSE

- **Real-time elevator status** allows us to inform you when there's a problem
- **Additional insights for mechanics** enables quicker repairs & improved first-time fix



Active monitoring



Informed repairs



Trapped passenger indication

Predictive

WE AVOID SHUTDOWNS

- **Predictive models** assign elevator health scores & highlight potential problems before symptoms arise
- **Preemptive maintenance & upgrades** help avoid unexpected shutdowns



Big Data Analytics



Predictive maintenance



Upgrade Planner

Software-enabled service



Software updates



New predictive models

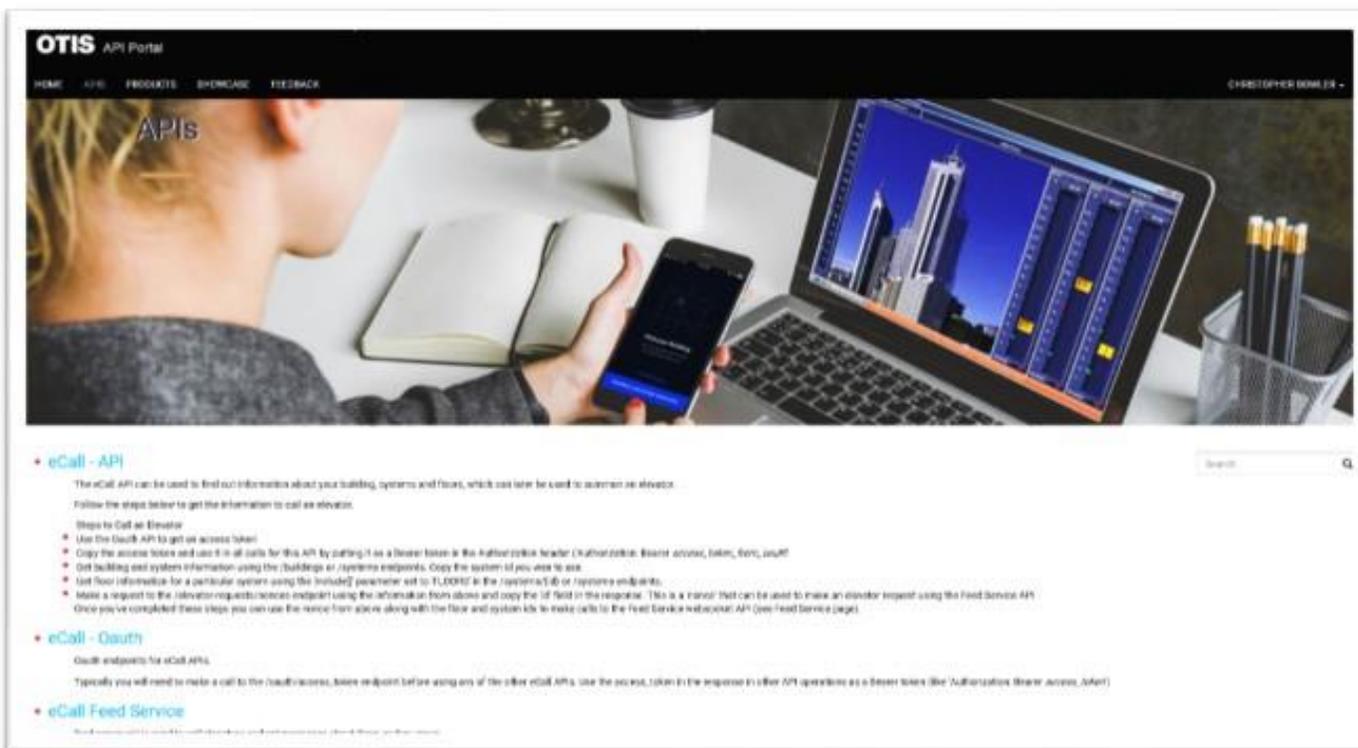


Sensor add-ons





API developer portal capabilities



Real-time use cases

- Share work orders between back-end systems
- Create purchase orders and pay invoices
- Share maintenance information
- Elevator status and event monitoring



IoT CONNECTED SYSTEMS

Revolutionizing connectivity

POWERING PROACTIVE & PREDICTIVE MAINTENANCE

Leading innovator of Remote Elevator
Monitoring (REM)

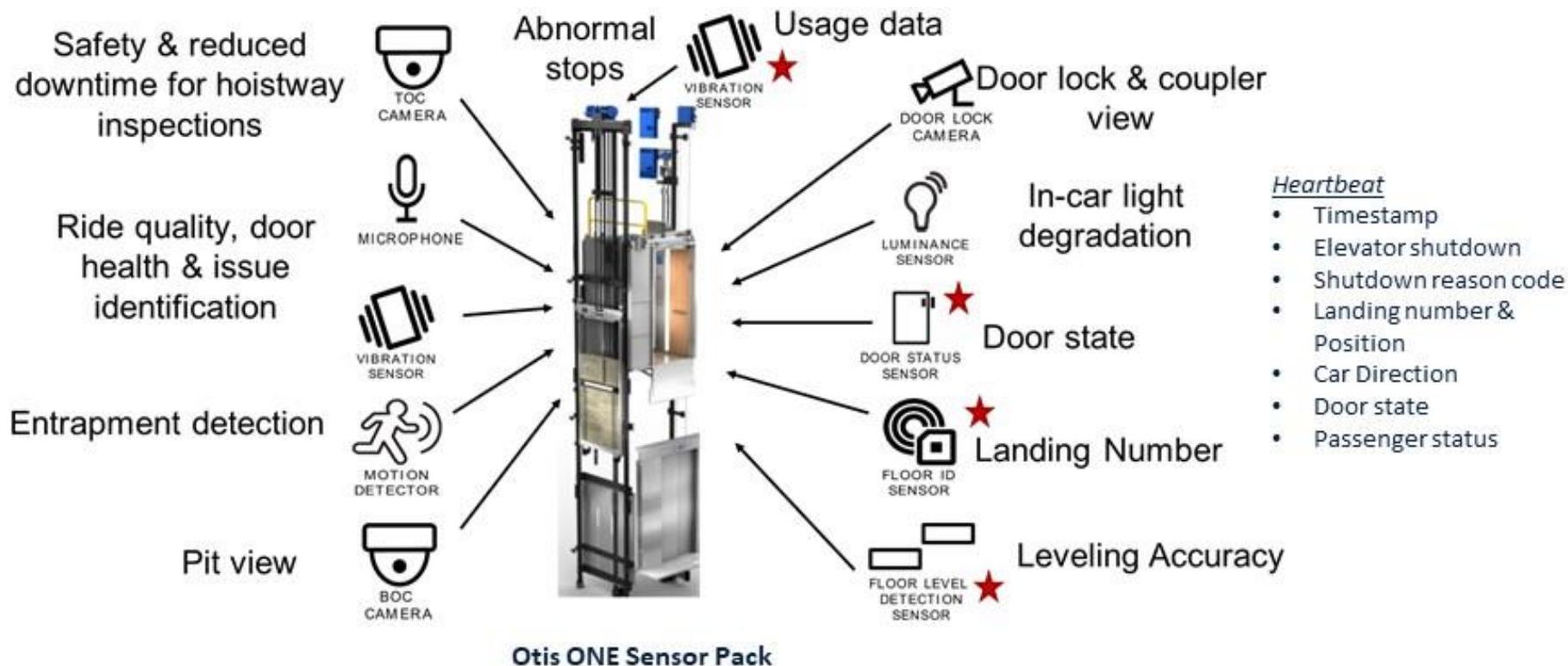
Over 300,000 connected elevators
worldwide

Driving the future of connectivity through
predictive maintenance





Sensors for elevators





IoT CONNECTED SYSTEMS

COMPREHENSIVE HEALTH MONITORING

Collecting data from 330,000 connected units

Machine learning to predict and identify which parts may need servicing and when

All results in more proactive service and increased uptime for you



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IoT CONNECTED SYSTEMS

Otis ONE

CAMPUS VIEW

Map Satellite

Customer Name	: JONES LANG LASALLE AMERICAS, X	
Building Name	: RONLER ACRES PARKING #2	
Total Otis ONE Units	: 2	
Out of Service	0	In Service: 2
Breakdown:	0	Healthy: 2
Open Service Requests:	0	Needs Attention: 0
Shutdown:	0	Trending Sick: 0
		Special Mode: 0
		Open Service Requests: 0



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IoT CONNECTED SYSTEMS

Otis ONE

LOCATION IN BUILDING





OTIS Campus View

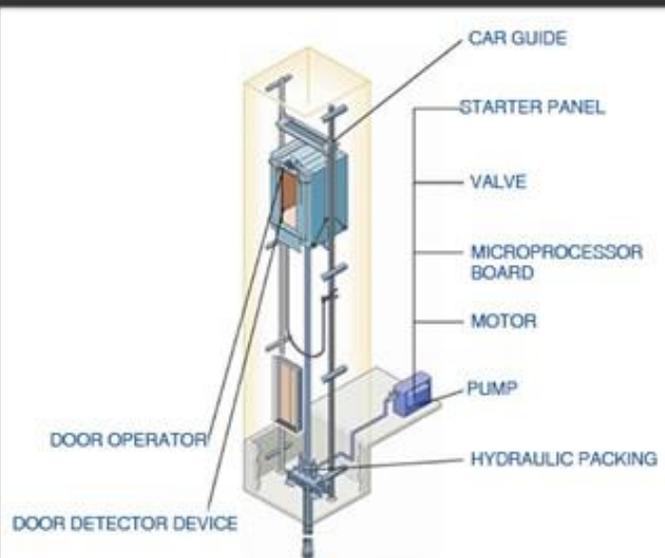


Building Name : JWS Hospital

Contract Type : Full / Premium Coverage

Unit Name : Lobby B elevator 3

Last Fit Lift Report : 7 Aug 2018



Current Door Health



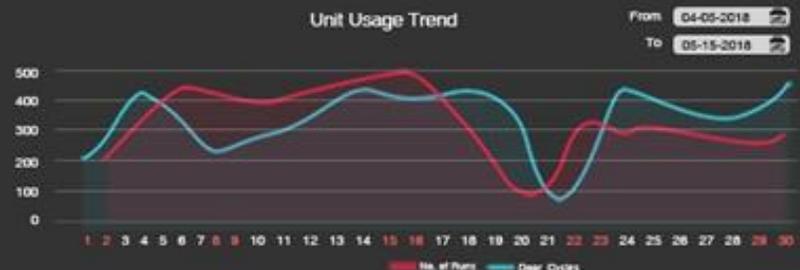
30 Day Door Health Trend



30 Day Uptime



Unit Usage Trend



(YTD) Closed Service Requests

Scheduled Maintenance

4

Last Maintenance Visit
23 Jan 2018

Otis ONE Service Request

2

Last Service Call
5 Mar 2018

Customer Service Request

1



Otis ONE Vs Customer Generated Service Request



Customer Service Request Trend





OTIS ONE Expert Portal

North America > JWS Facility > Lobby 2B

661341, Lobby 2B

041 d : 23 h : m

Platform Type : Das ONE
Product Family : Gen2
Product Technology : GECB

Drive Type : Ultra
Controller Type : Traction
REM Type : REMG

Customer : JWS Hospital
Building Address : Lobby B, JWS Hospital 6th
Avenue, New York

Branch : NPW389
Route # : NPW01

REM & Event Log

Lift State : ●
Last Alarm : 12 Dec 2018
Time : 12:00:05
Description : Alert (178) :
Wait to
Timeout

Door Health



Uptime & Heartbeat



Performance Data

30 Day Runs : 3,451
30 Day Door Cycles : 4,512
30 Day Door Reversals : 45

Service Data

12 Month Callback : 14
Last Maintained : 12-Aug-18
Last Repaired : 03-May-17

Start Date [calendar icon] End Date [calendar icon] GO

Occurred Time	Description	Acknowledge Time	Event Buffer	Time Stamp	Event ID	Node	Fault Text	Floor #	Landing #
12-Dec-2018 10:00:05	Alert (178) : Wait to run Timeout	12-Dec-2018 12:05:15	Y	12-Dec-2018 10:00:05	5185	FDOOR	Lorem Ipsum	12	12
09-Dec-2018 2:00:05	Alert (178) : Wait to run Timeout	09-Dec-2018 12:05:15	Y	12-Dec-2018 10:00:05	5185	FDOOR	Lorem Ipsum	12	12
01-Dec-2018 12:00:05	Alert (178) : Wait to run Timeout	01-Dec-2018 12:05:15	Y						

Alarm Details

Templentity : 1
AlarmId : 295
AlarmConfigPropertyId : 2012
AlarmConfigPropertyValue : 10

Event Buffer

Alarm Floor Number : 4
Travelling Direction : Down
Door Zone Indicator : TRUE
Commercial Validity : TRUE

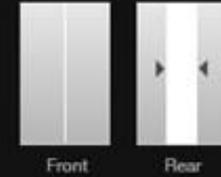
NA

02

00:00:25

NOR

02:04:05



Select Action

OK

Date

Action

Date	Action
03-Dec-2018	Modified Maintainance Schedule
03-Dec-2018	Resolved Remotely



OTIS ONE Expert Portal

North America > JWS Facility > Lobby 2B

661341, Lobby 2B

041 d : 23 h : 51 m

Platform Type : Das ONE
Product Family : Gen2
Product Technology : GECB

Drive Type : Ultra
Controller Type : Traction
REM Type : REMG

Customer : JWS Hospital
Building Address : Lobby B, JWS Hospital 6th
Avenue, New York

Branch : NPW389
Route # : NPW01

REM & Event Log

Lift State : ●
Last Alarm : 12 Dec 2018
Time : 12:00:05
Description : Alert (178) :
Wait to
Timeout

Door Health



Current Score

Uptime & Heartbeat



30 day uptime

Performance Data

30 Day Runs : 3,451
30 Day Door Cycles : 4,512
30 Day Door Reversals : 45

Service Data

12 Month Callback : 14
Last Maintained : 12-Aug-18
Last Repaired : 03-May-17

Current Door Health Score Details

Prediction Date :
Model :
Days since Performance Collection :
Days since last callback :
Days since last maintenance :
Days since last repair :

Feature Contribution

Feature	Contribution	Unhealthy	Landing
perf_INOP8-Safety Chain Failures Idle	0.0294	02	0.0294
alarm_1004	0.0326	12	0.0326
perf_INOP8-Safety Chain Failures Idle	0.0294	05	0.0301
alarm_1004	0.0326		

Unhealthy Landing

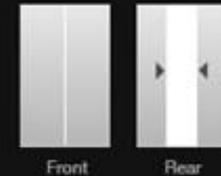


02

00:00:25

NOR

02:04:05



Front

Rear

Select Action

OK

Date

Action

03-Dec-2018

Modified Maintenance Schedule

03-Dec-2018

Resolved Remotely

NA



OTIS ONE Expert Portal

North America > JWS Facility > Lobby 2B

661341, Lobby 2B

041 d : 23 h : 51 m

Platform Type : Das ONE
Product Family : Gen2
Product Technology : GECB

Drive Type : Ultra
Controller Type : Traction
REM Type : REMG

Customer : JWS Hospital
Building Address : Lobby B, JWS Hospital 6th
Avenue, New York

Branch : NPW389
Route # : NPW01

REM & Event Log

Lift State : ●
Last Alarm : 12 Dec 2018
Time : 12:00:05
Description : Alert (178) :
Wait to
Timeout

Door Health



Uptime & Heartbeat



Performance Data

30 Day Runs : 3,451
30 Day Door Cycles : 4,512
30 Day Door Reversals : 45

Service Data

12 Month Callback : 14
Last Maintained : 12-Aug-18
Last Repaired : 03-May-17

02
00:00:25

NOR
02:04:05

Front Rear



OP Mode Trend

Start Date [calendar] End Date [calendar] GO [arrow] [download]



NAV	02:21:54	OLD	02:21:54
ODR	01:19:23	ISC	01:19:23
OTC	01:19:23	ATT	01:19:23
ORR	00:12:33	DBF	00:12:33
		EFP	00:21:02

Timeline - August 2018



NA

Select Action [dropdown] OK [button]

Date	Action
03-Dec-2018	Modified Maintenance Schedule
03-Dec-2018	Resolved Remotely





OTIS ONE Expert Portal

North America > JWS Facility > Lobby 2B

661341, Lobby 2B

041 d : 23 h : 51 m

Platform Type : Das ONE
Product Family : Gen2
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Drive Type : Ultra
Controller Type : Traction
REM Type : REMB

Customer : JWS Hospital
Building Address : Lobby B, JWS Hospital 6th
Avenue, New York

Branch : NPW389
Route # : NPW01

REM & Event Log

Lift State : ●

Description : Alert (178)
Wait to
Timeout

Door Health

93%

Current Score

Uptime & Heartbeat

95%

30 day uptime

CPIB Link : ●
Lift Link : ●

Performance Data

30 Day Runs : 3,451
30 Day Door Cycles : 4,512
30 Day Door Reversals : 45

Service Data

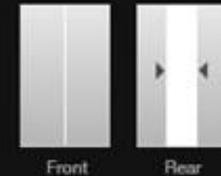
12 Month Callback : 14
Last Maintained : 12-Aug-18
Last Repaired : 03-May-17

02

00:00:25

NOR

02:04:05



Front

Rear

Select Action

OK

Performance Trend



NA

Runs Door Cycles Door Reversals



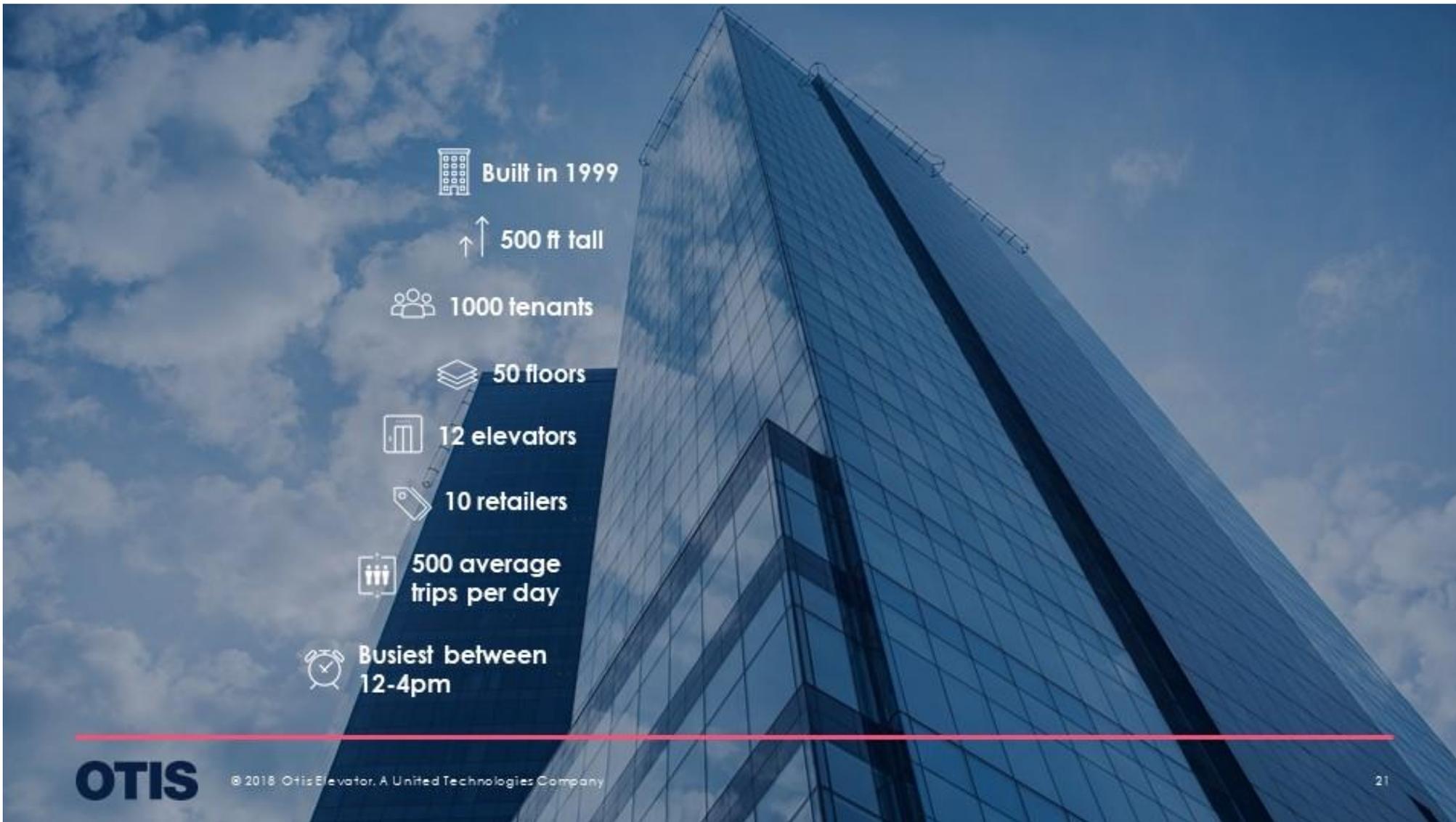
What if you could unlock more value?

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Built in 1999



500 ft tall



1000 tenants



50 floors



12 elevators



10 retailers



500 average
trips per day



Busiest between
12-4pm

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Unlock value for the facility manager

PRIORITIES:

- ACTIVE MONITORING
- MAXIMIZING UPTIME
- MINIMIZING DISRUPTION
- REDUCING WAIT TIMES

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Empower your facility manager

- SCHEDULE DELIVERIES AND MOVES
- ANTICIPATE HVAC NEEDS
- STAFF SECURITY

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**Signature
Service**

