



# Increase Uptime Using Fiber Monitoring at the Edge

Presented by **Kathy Otterson**  
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# Fiber Optics Cable Integrity is Key for IT Digital Transformation

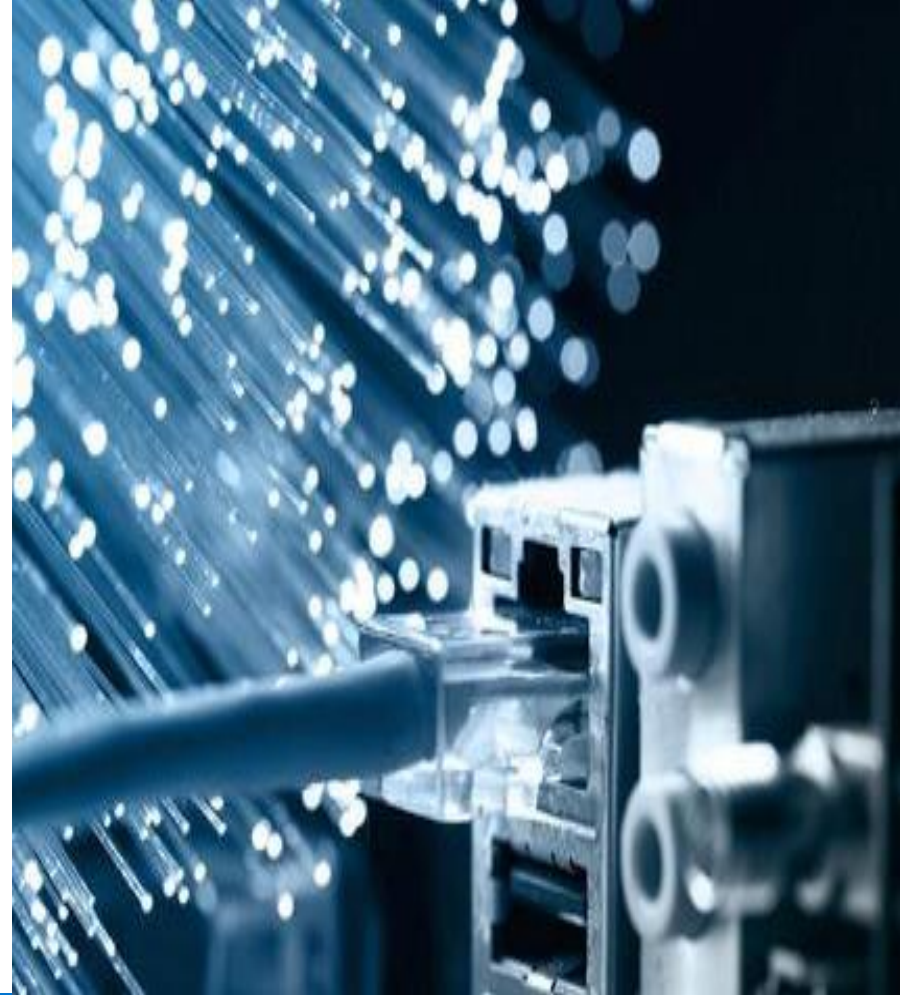
99%

International data is through Fiber

25%

Outages happen due to Fiber cuts

*Based on data from Federal Communications Commission, FBI, CNN, WSJ*



# Agenda

- About Lit San Leandro
- Business Challenge
- Need for Real time Fiber Monitoring
- Field-Intelligence as a Service
- Results

# Agenda

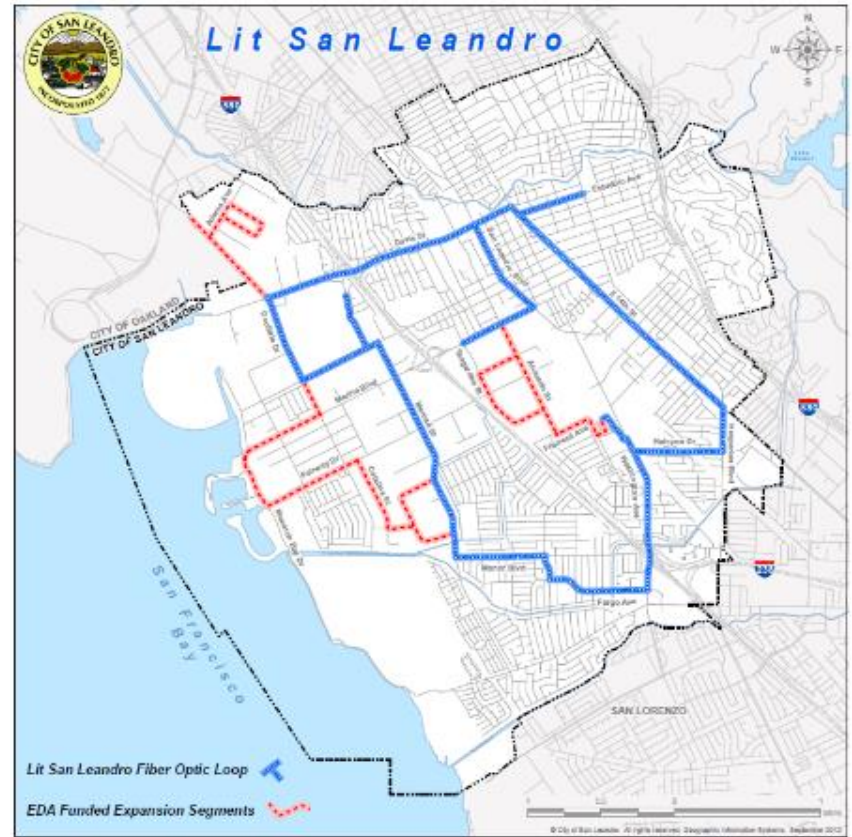
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# Who are we and what we do



Network owner/operator in  
San Leandro, CA

Offer fiber optics to traditionally  
underserved locations in the city



# Enabling Digital transformation for OSISoft

## Transforming Communication Infrastructure

- Move business IT assets to data center
- Move operational IT assets to Azure





**CHALLENGE:**  
Fiber cuts disrupt communications  
Manual identification of fiber cuts is expensive and time consuming



# What's needed: Real-Time Monitoring of Fiber Integrity



**24/7 Monitoring**



**Instant Notification**



**Improve customer service**

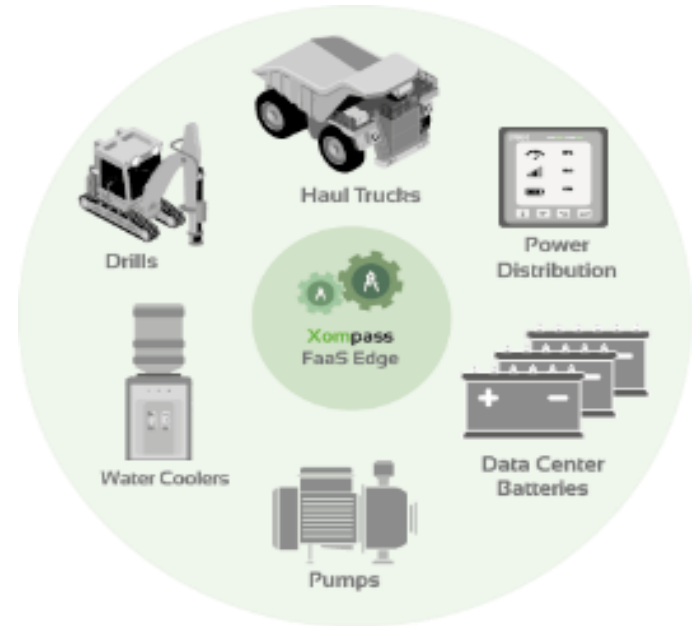


# Agenda

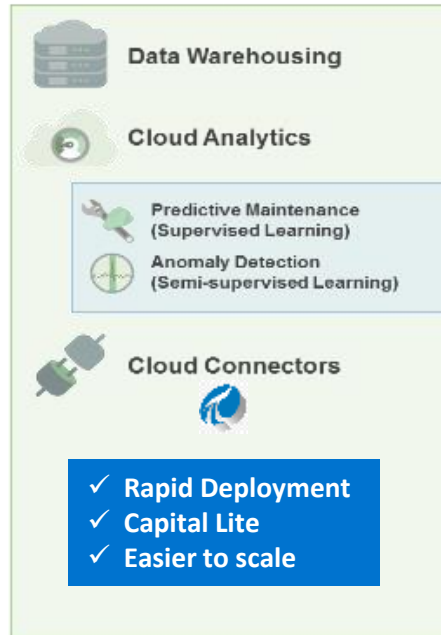
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# What is Xompass and what is their business?

- Pulls data from field assets
- Applies logic and runs applications on local gateways
- Packages/formats data
- Moves data to/from:
  - On-premise historians/db's  
(e.g. OSIsoft PI)
  - Cloud based storage/analytics  
(e.g. Microsoft Azure)
- Pushes actioned data back down to field assets



# Xompass Field Intelligence as a Service



# Field Intelligence as a Service Architecture

Xompass FaaS Cloud

Users



Data Network



Optical Switch



Splitter



Dark Fibers

Live Fiber

# Mining Industry Deployment of Xompass FaaS

**Asset  
Performance  
Management in  
the Mining  
Industry**

**MinehaulTruck 10** X

	COMPONENT	RELIABILITY
System Reliability: 97% <b>OK</b>	Engine	: 99.9% 5022h
	Hopper	: 99.9% 7723h
	Torque Converter	: 99.8% 1866h
	Left Break	: 98.6% 9212h
	Right Break	: 98.9% 3827h
	Transmission	: 99.9% 8105h
	Differential	: 99.9% 4362h

The main image shows a 3D simulation of a mining site with several vehicles. Each vehicle is accompanied by a green circular icon containing the text "OK", indicating that all assets are in a healthy status. A large yellow dump truck is visible in the foreground on the right.

# Agenda

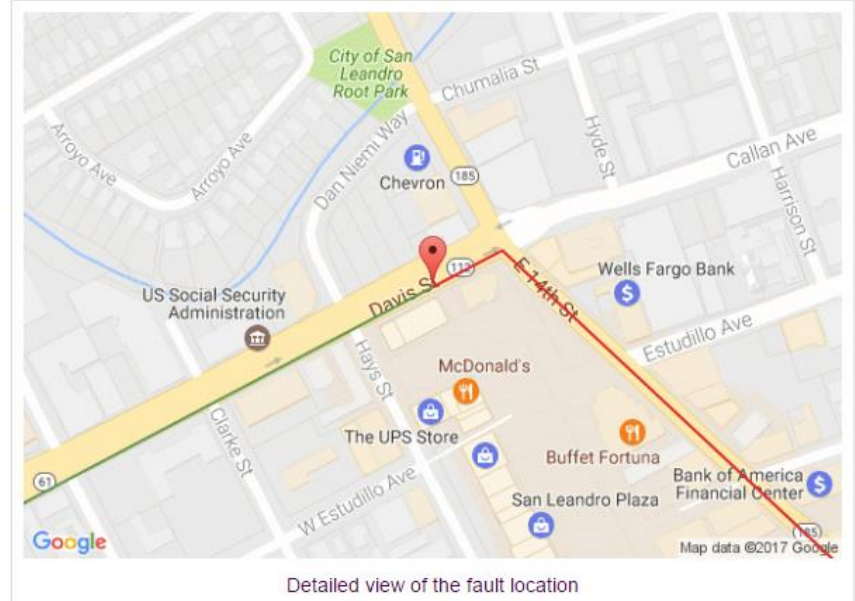
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**RESULT:**

**Notification of fiber break instantly, in context, on any device**

# Solution Drives Communication Infrastructure Uptime



## Warning: Cut Detected in Ring One

19:29 Thursday 26 January 2017

Detection in M2Optics Port 5 > ALM Unit P5 Strand 119 > LENGTH = **0.373 [mi]**

Approximate location of event: [245-263 Davis St, San Leandro, CA 94577, USA \(lat: 37.725486, lon: -122.157353\)](https://www.google.com/maps/place/245+263+Davis+St,+San+Leandro,+CA+94577,+USA/@37.725486,-122.157353,15z)

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# Results

- Rapid deployment, lower up front capital, subscription based billing
- Low TCO and Easy to Scale
- Reduce time to react which reduces unavoidable downtime
- Achieving my goal of Increase customer service



**24/7 Monitoring**



**Instant Notification**



**Improve customer service**



# Minimize outages and increase customer service with proactive network monitoring

## COMPANY and GOAL

Lit San Leandro provides high speed internet access hundreds of businesses city-wide and wanted to **minimize downtime** to improve customer service.



## CHALLENGE

Manual Identification of Fiber breaks are expensive and time consuming

- Wait for contractor or construction crew to call
- Wait for irate customers experiencing downtime call to complain

## SOLUTION

Fiber monitoring using PI as a service with Xompass

- Fast to deploy
- Subscription model
- Software as a Service deployment means low TCO

## RESULTS

Instant notification of fiber breaks means increased customer service

- Reduce time to fix problem by 4 to 6 hours
- \$ per minute down savings for our customers

# Contact Information

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감사합니다

谢谢

Danke

Merci

Gracias

**Thank You**

ありがとう

Спасибо

Obrigado

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