# Operations & Maintenance: New BFF's in the Paper & Pulp Industry

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# Pixelle's Three Challenges

- Increase Uptime
- More data into PI System
- Ops vs. Maintenance: Mend the Fence

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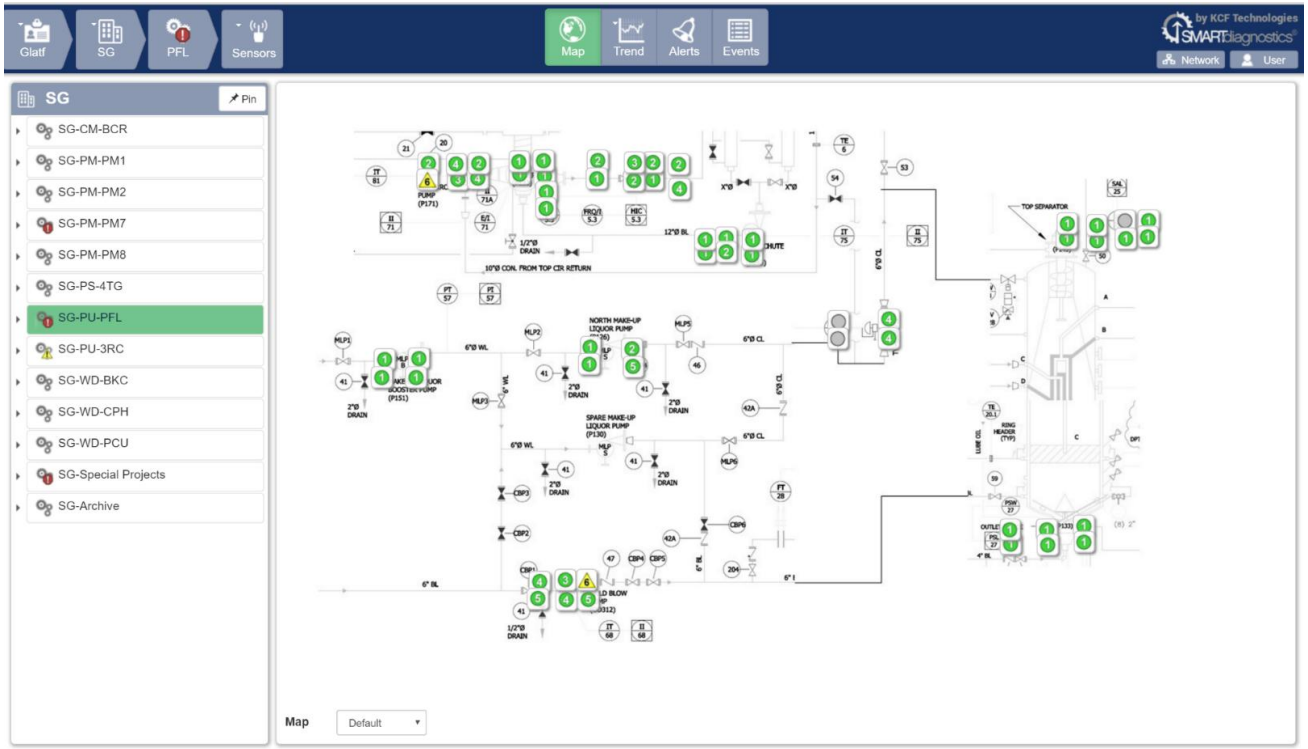
# Ideal Candidate: Kamyr Pulp Digester




- ✓ Complex system
- ✓ Difficult to access
- ✓ Potential profit killer

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# The Problem: Pulp Digester Clogging

- Needs to run smoothly 24/7
- Clogs in the system are (formerly) invisible
- Clogs = Major Cleanup, Poor Quality, and $1 Million down the drain

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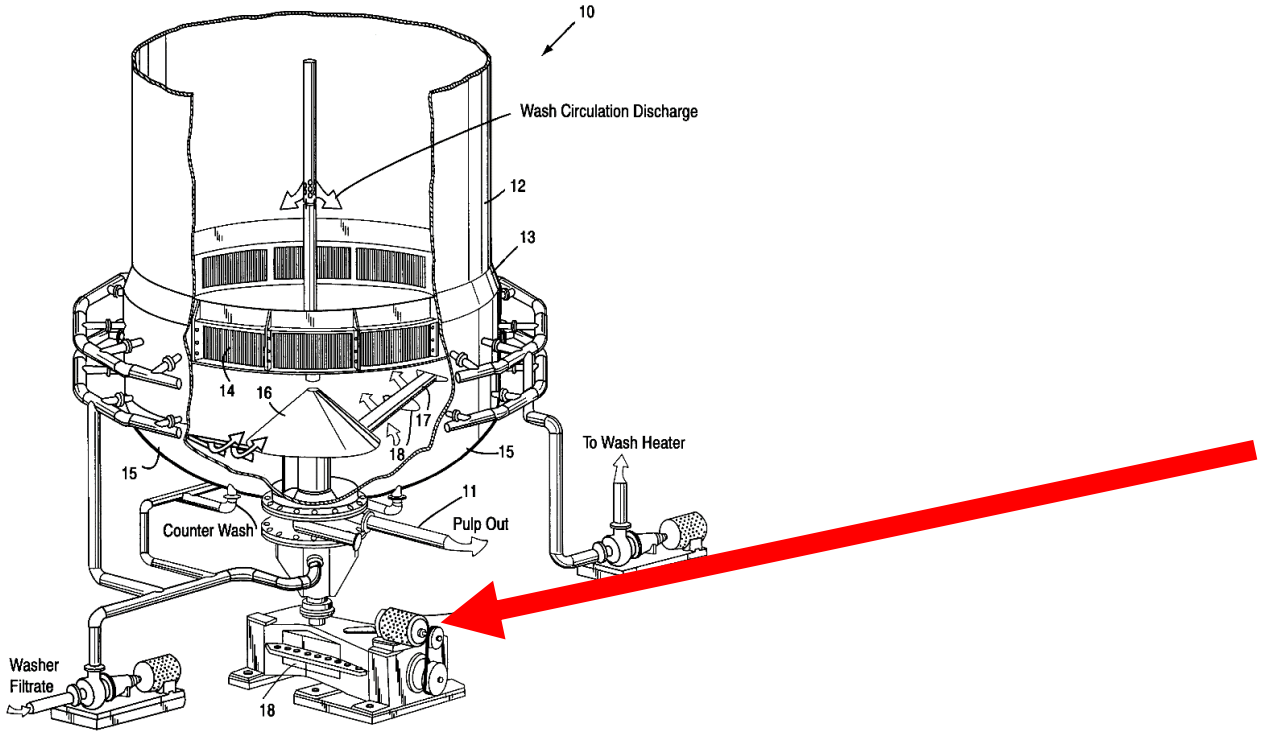
# The Problem: Pulp Digester Clogging

Even minor clogs can cause quality issues that are difficult to track and resolve.

# One Sensor on One Motor? Not Enough





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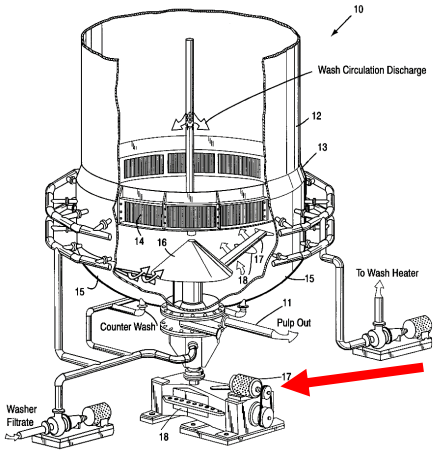
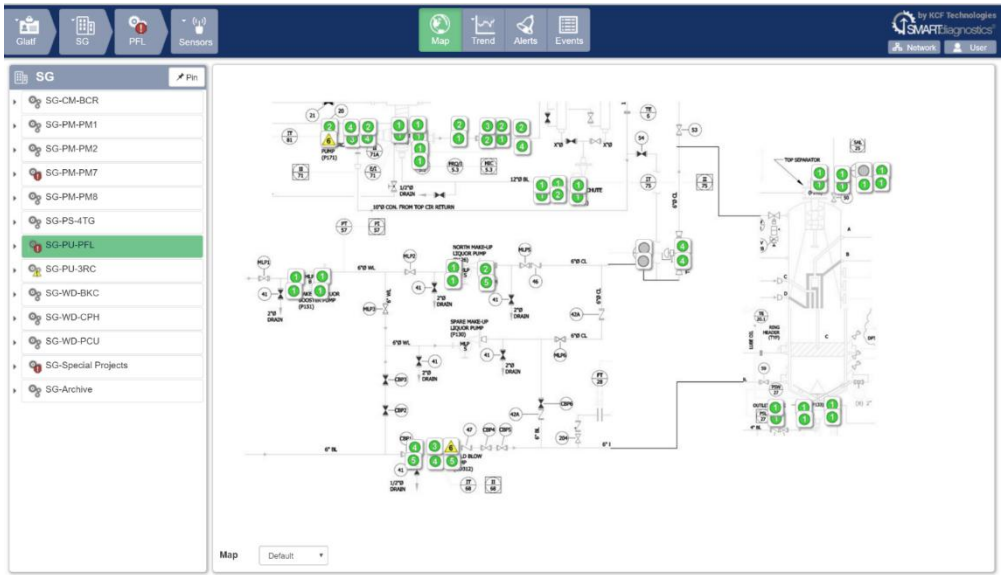
# This…




- ✓ **One Point**
- ✓ **One Indicator (Current Draw)**
- ✓ **Too Late**

# vs.

# This...




- ✓ **58 Points**
- ✓ **24/7 Vibration Monitoring**
- ✓ **Plenty of Notice**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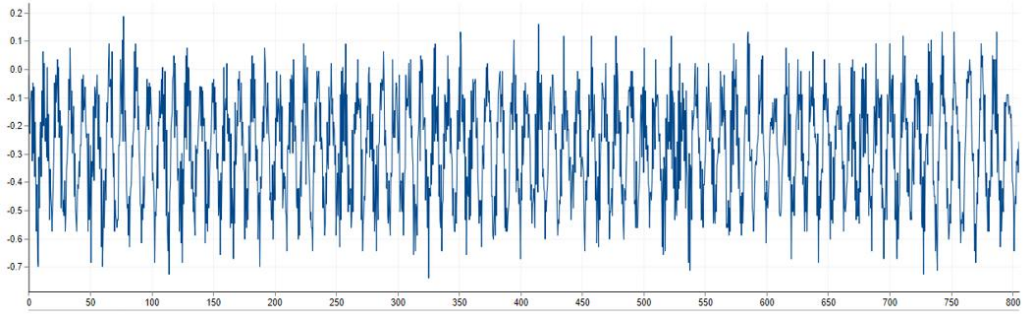
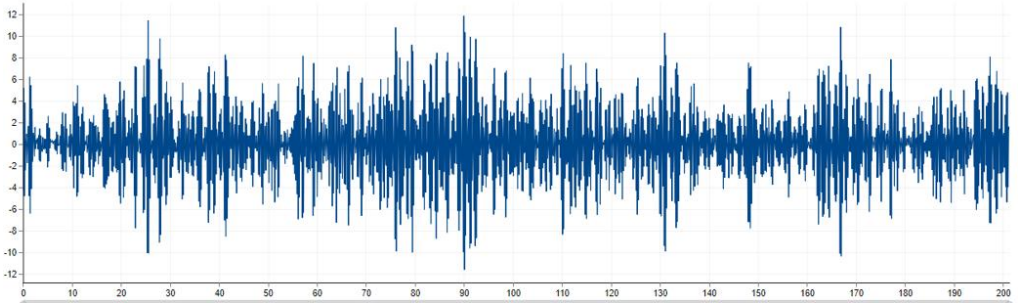
# But Is Operations Happy?

- “Hey Ops Team, Now you get to monitor 58 vibration sensors!”
- Peak Vibration Alarms: Chicken Little?
- Operations Team cannot monitor and interpret vibration signatures.
- The answer is within reach, but Operations needs help.




Bad Motor Bearing




Pump Cavitation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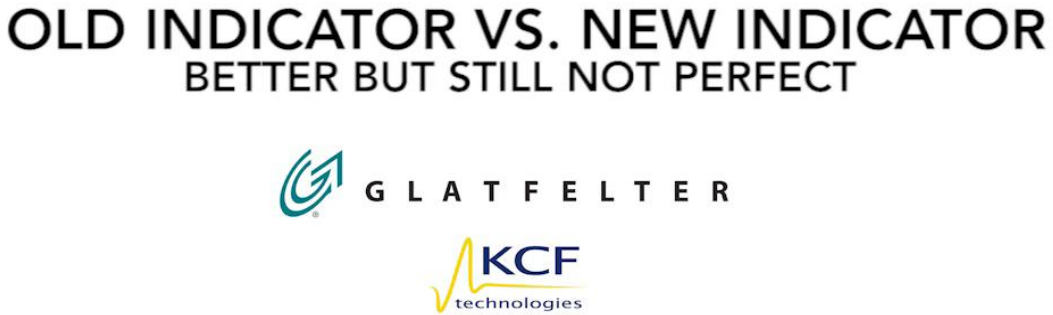
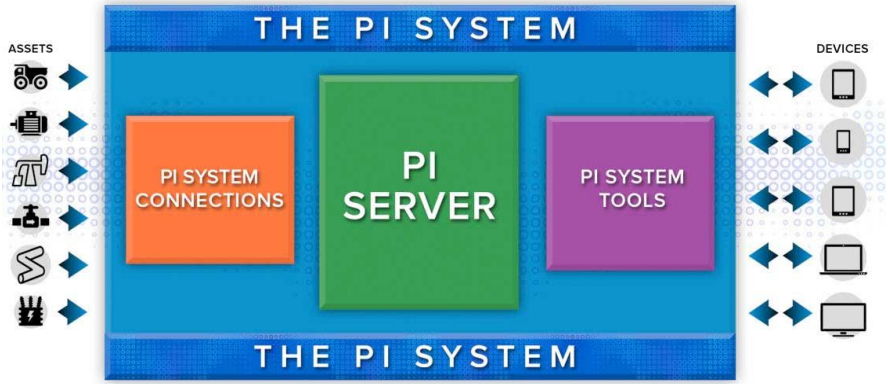
# But Is Operations Happy?

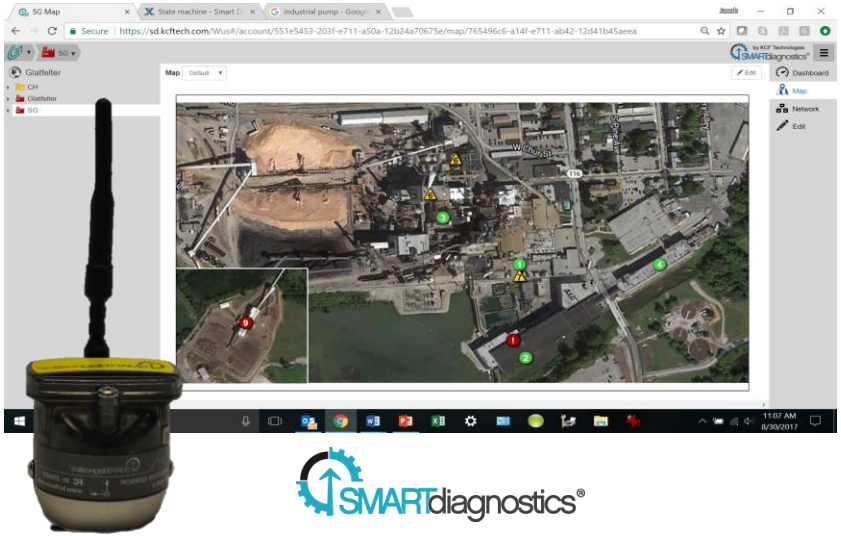



We needed a solution that was real-time, dependable, and automatic to move us from being reactionary to predictive.

# The Operations/Maintenance Peace Accord




"Hey, Jimmy, We're seeing an alarm in PI for the pulp digester. Can you check in out?"




"Yep, Your gearbox is showing a clog. Adjust the mixture immediately!"
Or…
"Nope, nothing pressing. Just a bearing that we'll fix at the next planned shutdown."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# The Solution: Integrate SmartDiagnostic Continuous Vibration Monitoring with the PI System

- Vibration data and alarms that SmartDiagnostics generates are fed directly into Pixelle's PI System.
- The Operations team has been using PI System for nearly 20 years and knows its value.
- Ops is able to rapidly and efficiently respond to these indications.

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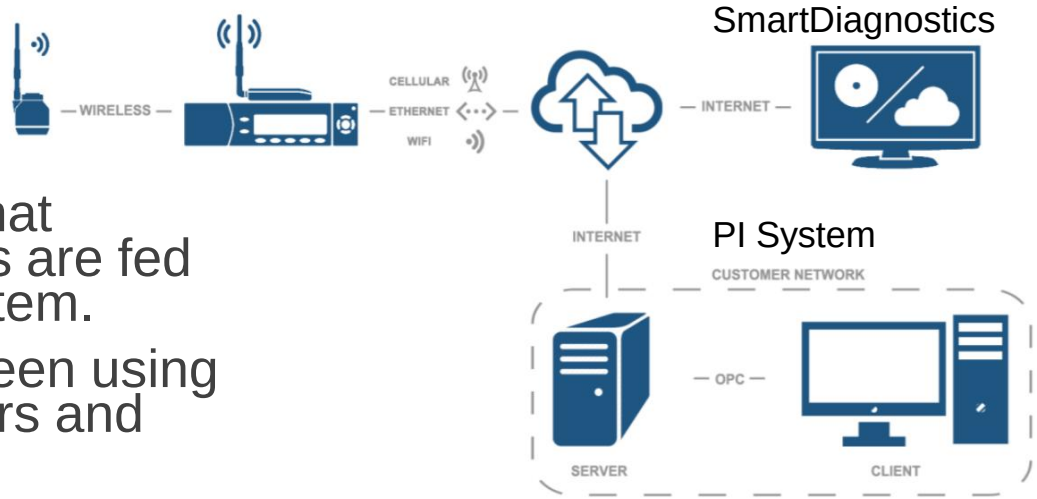
# The Solution: Integrate SmartDiagnostics® Continuous Vibration Monitoring with the PI System

THE SOLUTION

Additionally, being able to compare process data alongside with vibration data, we have context and insight into the correlation between that data

# The Solution: Integrate SmartDiagnostic Continuous Vibration Monitoring with the PI System

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# The SmartDiagnostics Predictive Vibration Monitoring Solution Connects to the PI System Using the PI Interface for OPC DA

- OPC DA
- OPC tags are configured from within the SmartDiagnostics® software.
- OPC Server Requirements Windows Server 2008 R2 or newer Minimum 2GB RAM .NET Framework 4.5.1 An existing SmartDiagnostics® cloud account or local installation

~3500 Machine health tags at Spring Grove plant


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# Business Impact: Real-Time Tool Avoids Million Dollar Catastrophes

Wireless vibration technology combined with Analytics and Notifications reduces downtime and addresses anomalies that have plagued our industry for decades.

IN CONCLUSION

GLATFELTER

KCF technologies


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# Business Impact: Real-Time Tool Avoids Million Dollar Catastrophes

## IN CONCLUSION

GLATFELTER

KCF technologies

Combining KCF's wireless vibration technology with PI System's Analytics and Notifications allows our company to reduce or eliminate downtime and even gain efficiencies over anomalies that have plagued our industry for decades.


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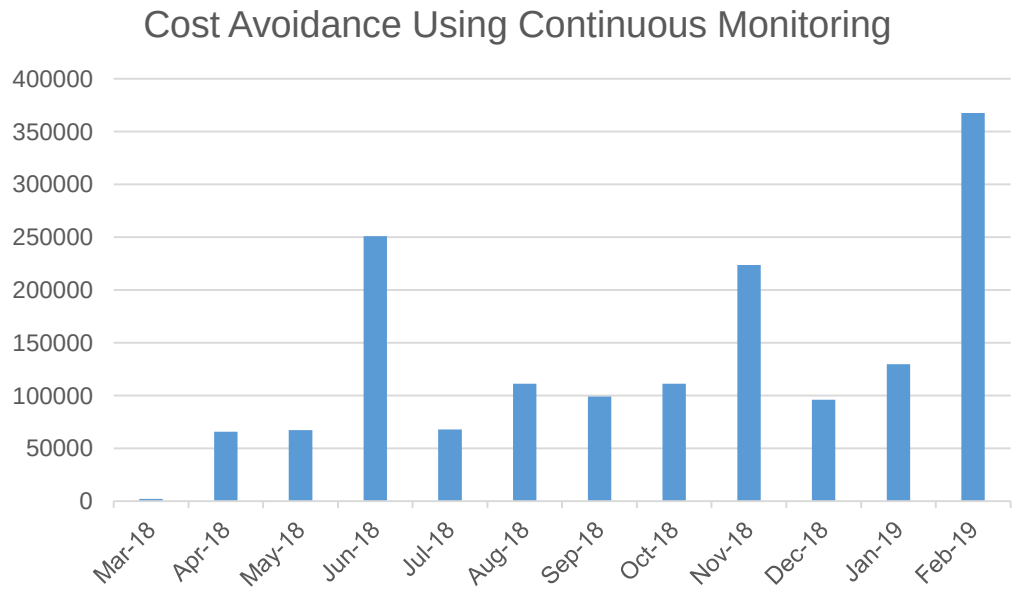
# Business Impact: Real-Time Tool Avoids Million Dollar Catastrophes

**PI System + SmartDiagnostics**

- **8 paper mills fully integrated**
- **Total Investment: $310K**
- **Total Savings within the last year: $3.4M**





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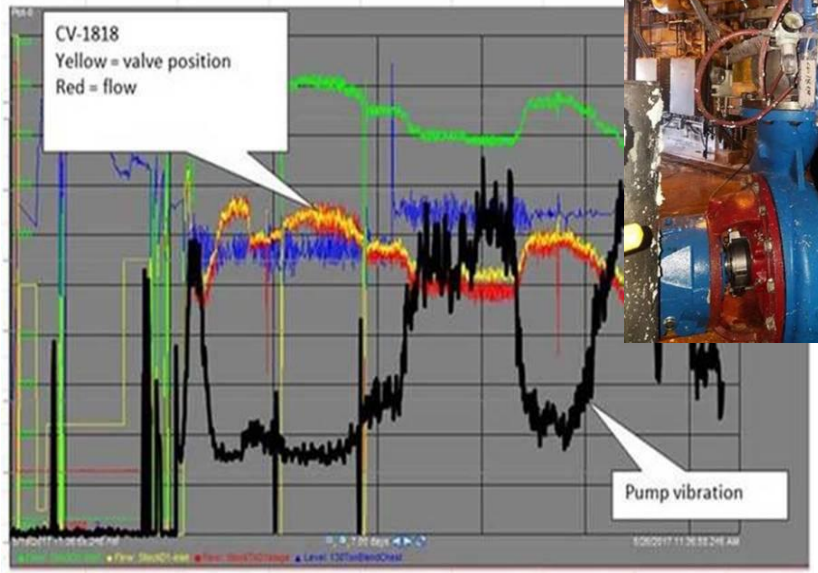
# Promoting a Culture Shift to Bring Operations and Maintenance Together

Operations and Maintenance are now working together to solve  difficult or “invisible” problems like pump cavitation.



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# Lessons Learned

- **Continuous Vibration Monitoring: Don’t ask Ops Team to do it alone**
- **Celebrate the Shared Success**
- **Maintenance + Operations Rowing in the Same Direction = 10X+ ROI**
- **Real-Time Machine Health Monitoring is a Game Changer**


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# Machinery Health Monitoring Avoids Downtime and Increases Machine Life

pixelle SPECIALTY SOLUTIONS™

KCF technologies

## CHALLENGE

Enable the Operations team to identify and correct conditions that lead to catastrophic failure and premature machine wear out

- Operations has the ability to impact maintenance and reliability through controlling key variables, but they often don't have the information necessary to make the needed adjustment

## SOLUTION

Key machinery health information from Glatfelter's SmartDiagnostics wireless monitoring system was integrated into the PI Screens using the PI Interface for OPC DA

- Wireless machinery monitoring is an easy way to continuously monitor critical aspects of machine behavior that indicate conditions of excessive wear or precursors to catastrophe

## RESULTS

Pixelle's PA mill documented nearlv $700K in savings over a ten month period.

- The mill avoided six downtime incidents over a ten month period


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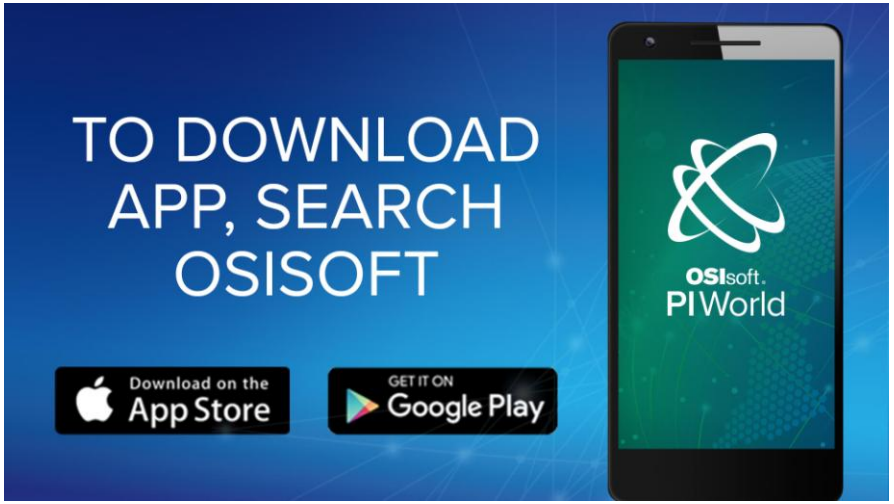
# Questions?

Please wait for the **microphone**

State your **name & company**

# Please remember





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