



# The Power of Data to Drive Sustainability

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# Why Sustainability is an Emerging Megatrend\*

- Launched by dramatic shifts in the marketplace which result in a general shift in thinking affecting entire countries, industries and organizations
- An inescapable strategic imperative that forces fundamental and persistent shifts in how companies think and compete
- Sustainability nears tipping point\*\*

\* *The Sustainability Imperative*, Harvard Business Review, May 2010, David Lubin, Dan Esty

\*\* MIT Sloan Management Review, Winter 2012, Vol.53 No. 2

# OSIsoft: What We Do



***The  
PI System***



COLLECT



HISTORIZE



FIND



ANALYZE



DELIVER



VISUALIZE

# Potroom Visibility with SMART

## Rodded Anodes

Anode Properties  
Raw Material Properties  
Rod History  
Stub Condition

## Power:

Current Price of Power  
Current LME  
Value of Ancillary Services  
Contract Utilization

## Operator Inputs

Observations  
Root Cause Analysis  
Event tracking

## Fluoride

Percent Fluoride  
Trace Elements

## Alumina %Fines Trace Elements

Flow times

## Emissions

Link Operations and Pot Control to Emission Levels

## Butts and Rods

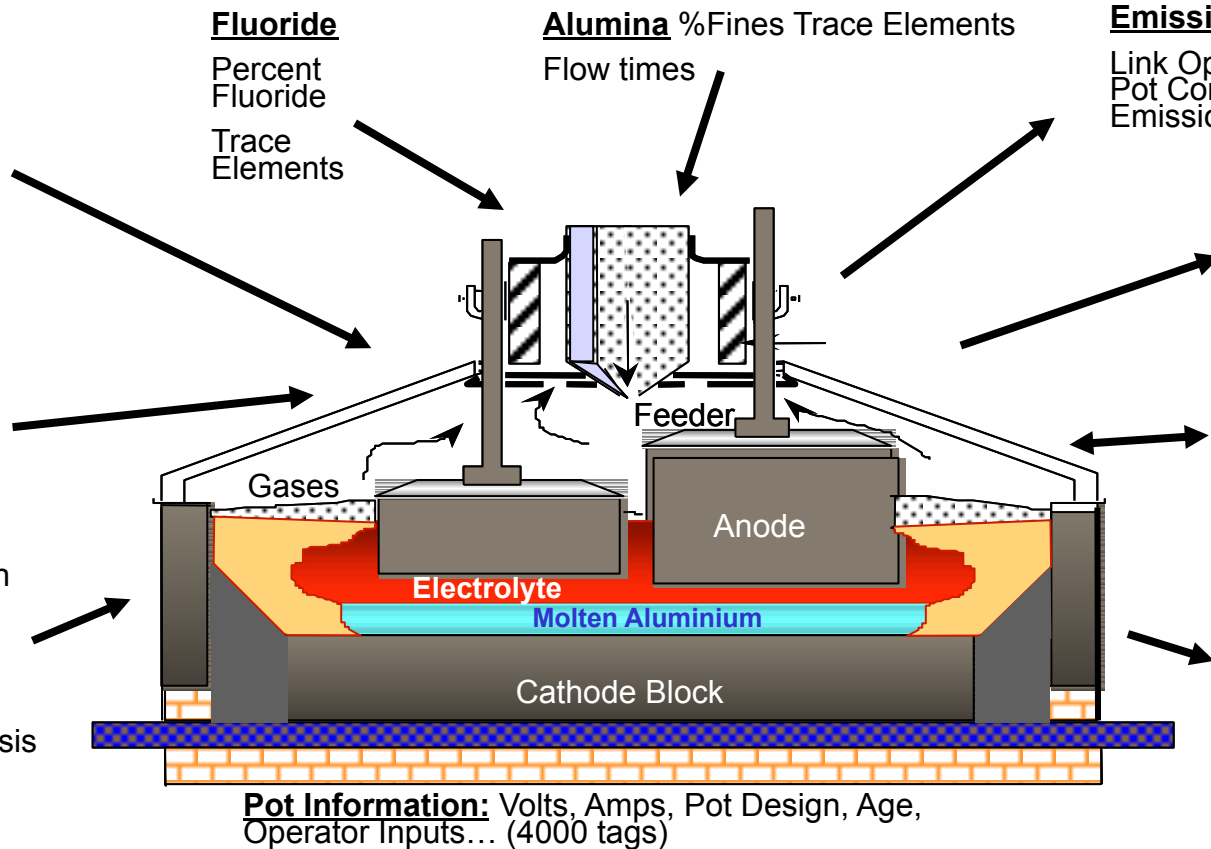
Size, Weight  
Shape  
Location in Pot  
Clean?

## Bath

Additions/Subtractions  
Composition

## Molten Metal

How much Bath?  
Metal Composition  
Amount  
Crucible ID  
When Needed in CH

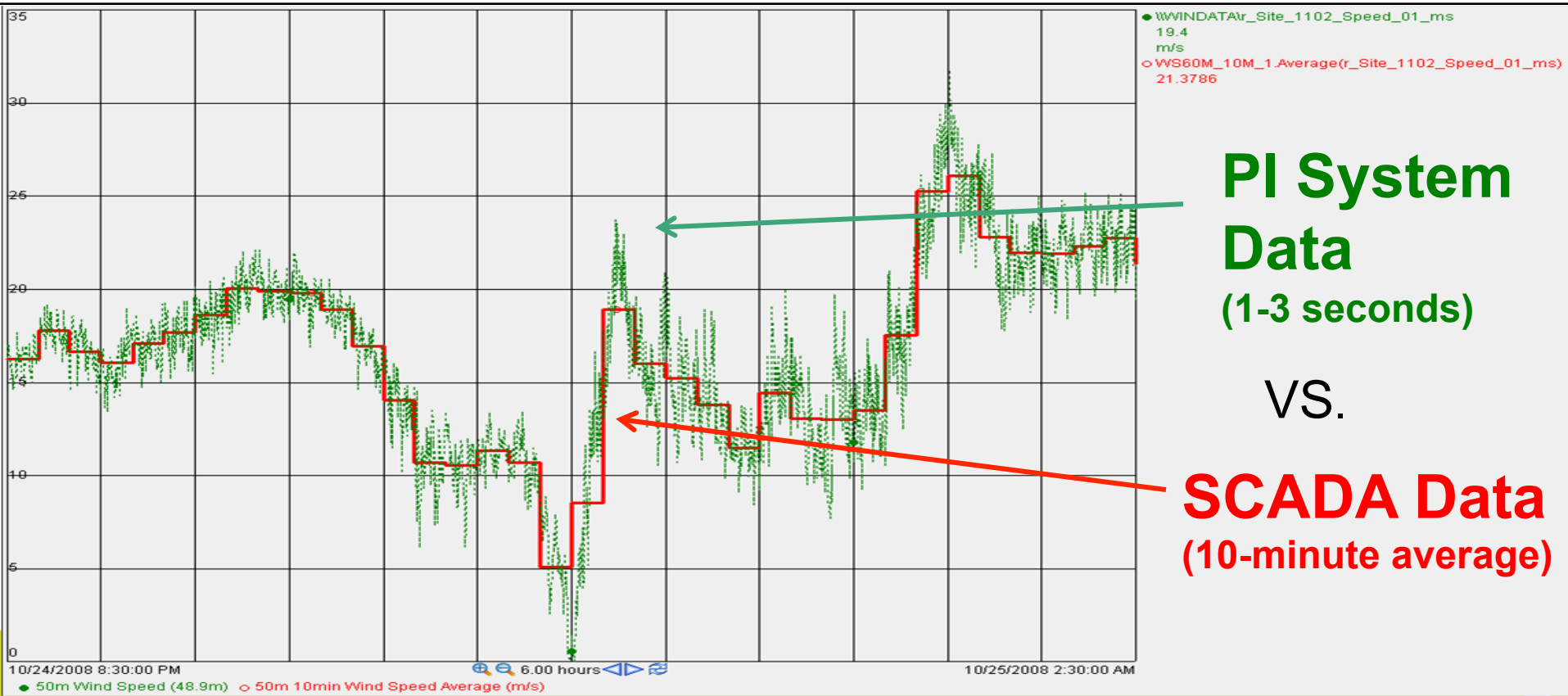


**Pot Information:** Volts, Amps, Pot Design, Age, Operator Inputs... (4000 tags)



# The Granularity of Real-time Data

10 Minute Averages = Missed Events



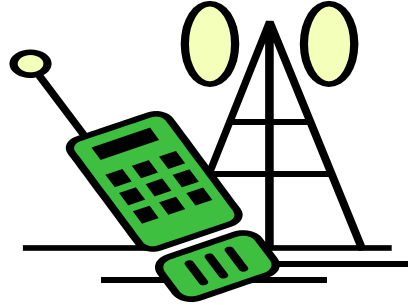
# The PI System – A Streaming Data & Events Infrastructure



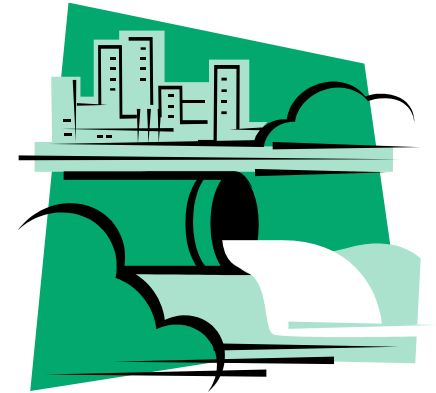
**Power**



**Transportation**



**Communication**



**Water**

# A Streaming Data & Events Infrastructure to Support a Multifaceted Sustainability Value Framework

## Finding Tomorrow's Opportunities

Tomorrow

Nurturing  
Internal  
Capabilities

Accelerate Innovation  
& Reposition

Crystallize the  
Growth Path

Engaging  
External  
Constituencies

Reduce Cost & Risk:  
Pollution Prevention

Enhance Reputation  
& Legitimacy of Product

Internal

External

Today

## Managing Today's Business

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