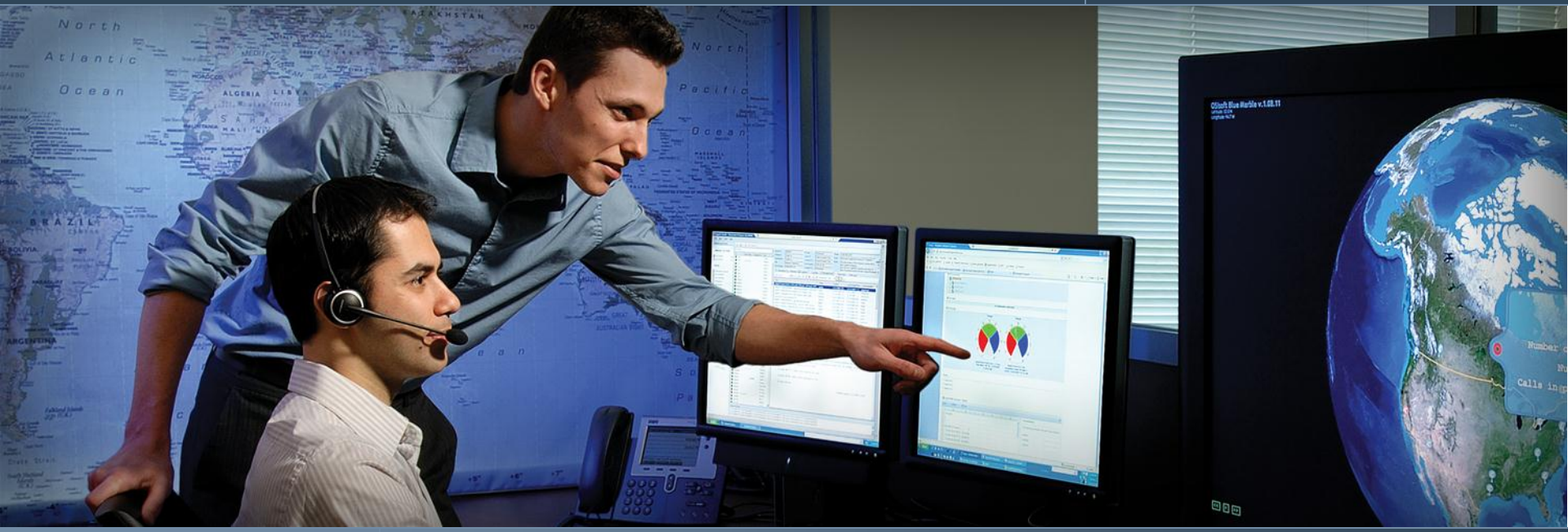


# Sustainability—It Is Just Good Business

Scott Mawhinney
Account Manager
OSIsoft, LLC

Empowering Business in Real Time

# Agenda

- OSIsoft Overview
- Sustainability – It is Just Good Business.

# OSIsoft Overview

## Mark Benninger, OSIsoft

# About OSIsoft

- Established in 1980
- Founder - J. Patrick Kennedy
- Private
- Headquarters - San Leandro, CA
- 720 + employees
- 200 + employees in product development
- PI System Installed base
  - 14,000 + systems (excluding OEMs)
  - 110 + countries
- Footprint in:
  - 40% of Fortune 1,000 process & manufacturing companies
  - 65% of Global 500 process & manufacturing companies

# Mission

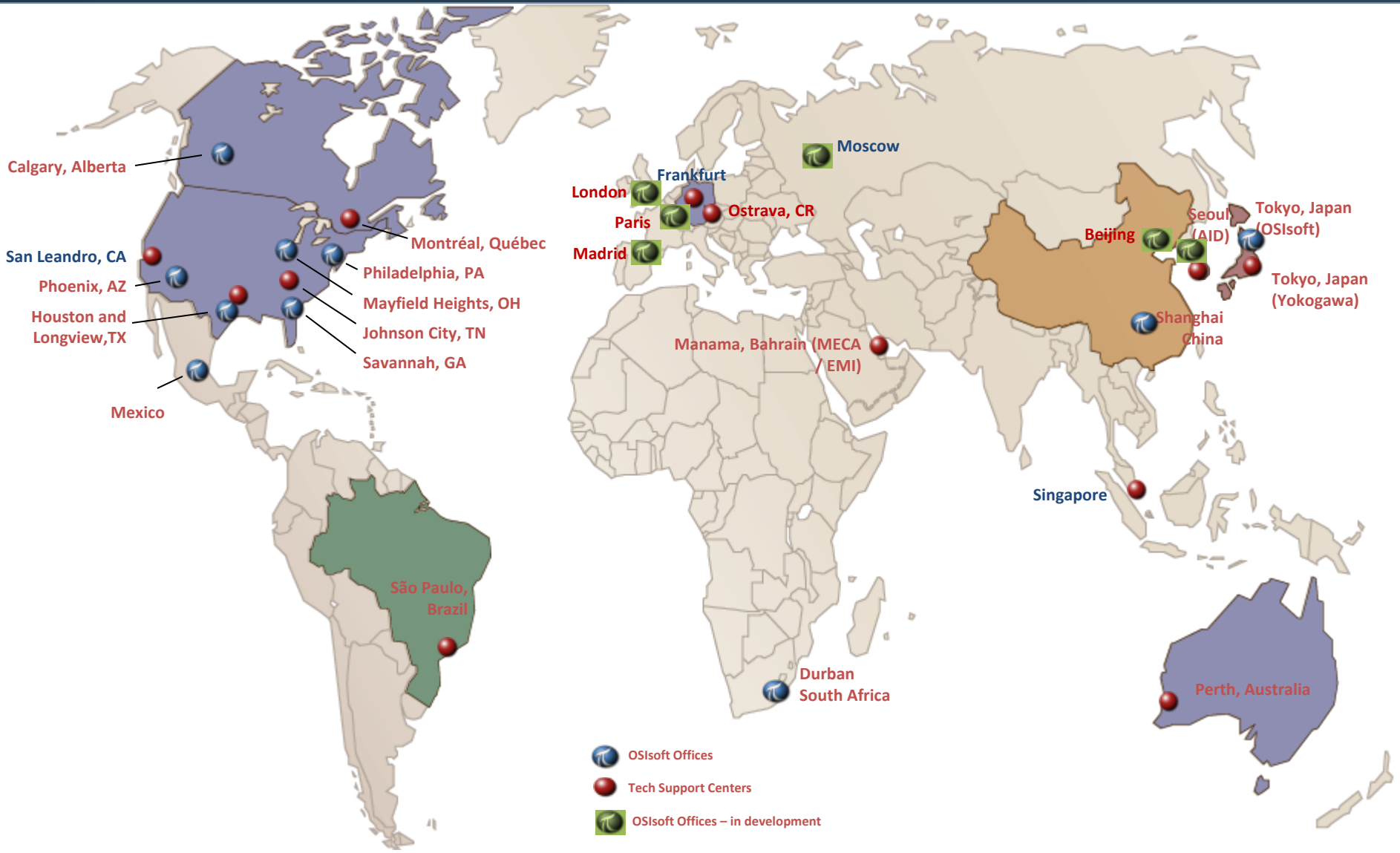
*"We are rewarded when we deliver superior value. This means delivering and implementing an infrastructure through which our customers can continuously improve their business performance"*

***Dr. J. Patrick Kennedy** CEO & Founder*

*"OSIsoft has released continuous upgrades for over 20 years and we have never had to repurchase PI software. Even though we have a 20 year old system, we currently run our PI System at its most updated version. I know of no other software company that has this kind of commitment to its products and its customers."*

**WEYERHAEUSER CORPORATION**

# 2010 – Global Presence






Empowering Business in Real Time

# Diverse Customer Base Across Industries




Empowering Business in Real Time

# OSIsoft Sustainability

## Scott Mawhinney, OSIsoft

# OSIsoft—Thriving for 30 Years

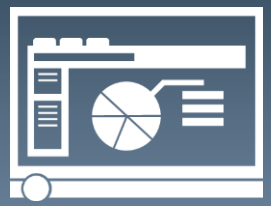
- Core competencies
  - Focus
  - Understanding proper technology to leverage
    - HP-> DEC -> Microsoft/Intel
    - Standards such as TCP/IP
  - Commitment to our customers
    - Customer Support!
- OSIsoft's energy and resource efficiency efforts
  - Significant move to remote installs—on site is rare today
  - Less shipment of products—download are preferred by many customers
  - Electronic books

# PI System – Overview

Connect

Manage

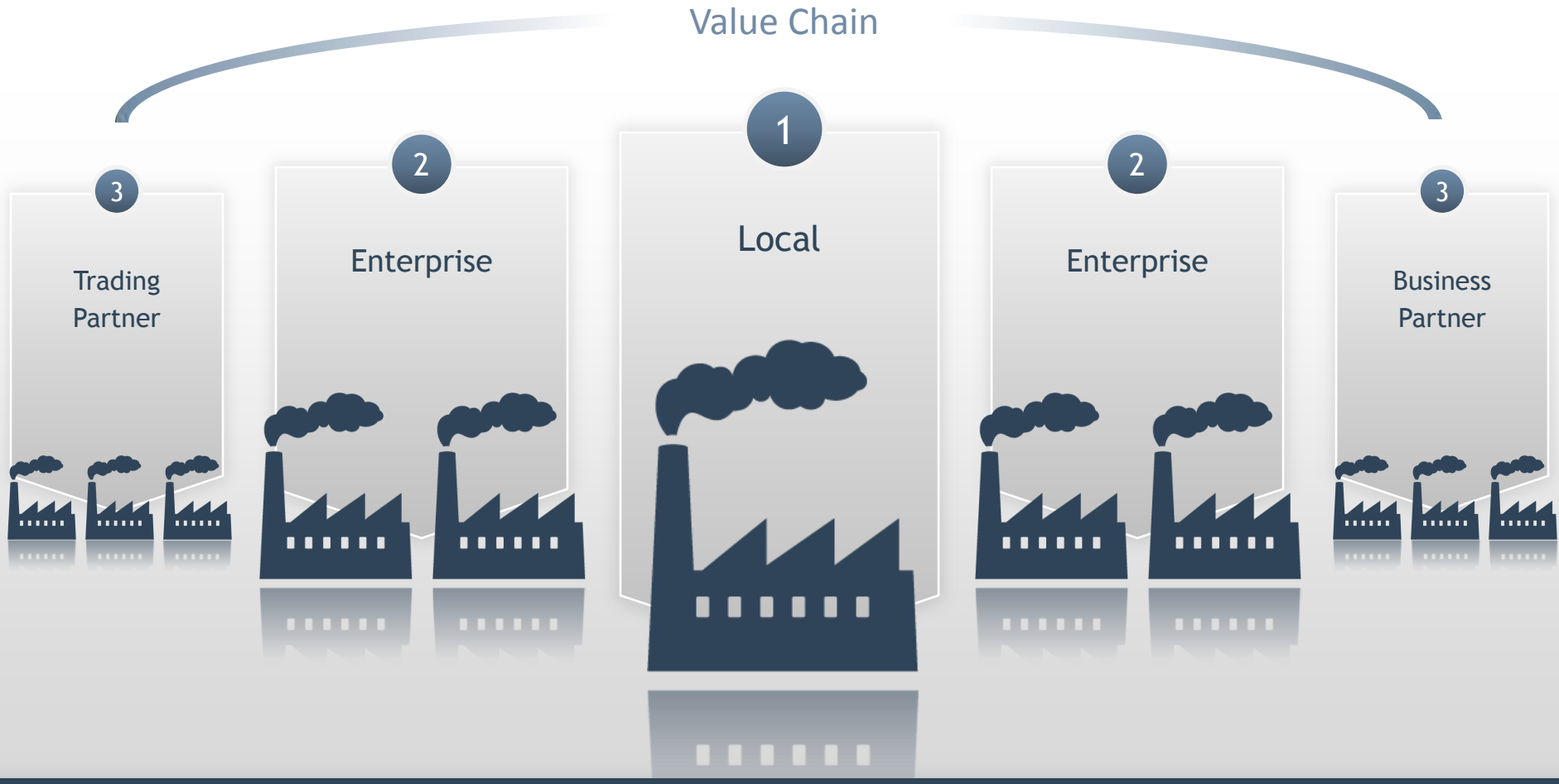
Analyze



Present

The OSIsoft PI System is the highly scalable and secure real-time and event infrastructure that connects people with the right operational and manufacturing information at the right time to analyze, collaborate, and act.

# Our Value Proposition




OSIsoft makes real-time data visible locally, across the enterprise, and throughout the value chain.



Value now. Value over time.

# The User Perspective

# What is Sustainability (Wiki version)

"A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the functions and viability of natural systems on which all life depends."

*Sustainable America: A New Consensus* (Washington: President's Council on Sustainable Development, 1996), p. iv.

(http://clinton2.nara.gov/PCSD/)

(http://clinton2.nara.gov/PCSD/Overview/index.html)

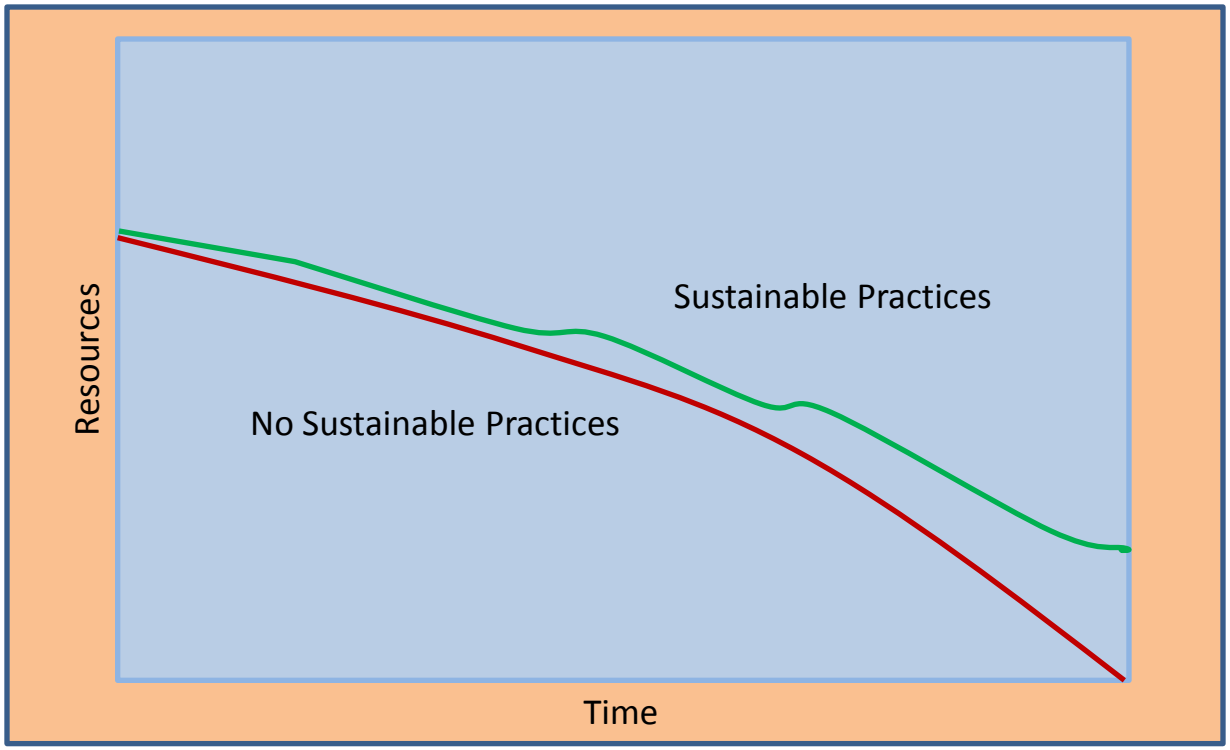
The United Nations' "World Commission on Environment and Development" definition of *sustainable development*: "...meet the needs of the present without compromising the ability of future generations to meet their own needs."

*Our Common Future (aka Brundtland Report)* (Oxford: Oxford University Press, 1987), p. 43.

(23 years old, still heavily referenced in UN documents)

# What is Sustainability?

- Meet current needs
- Growing Economy
- Without compromising the future
- Sustainability cannot exist without a strong, efficient industrial base



# Industry Roles in Sustainability


Utilities supply the electrical energy and water infrastructure society cannot function without


Oil and Gas supply the energy source for many uses

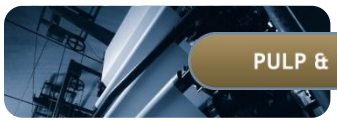
Very important in transportation


Strong light-weight polymers and fibers required for efficient transportation, renewable generation and many other structures


Extremely important for quality of life

Natural resources saved through disease prevention and cure


Fundamental to the modern infrastructure. Mechanical structures, electrical conductors, catalysts.




True renewable resource. Very important to packaging and communication.


Data and transactions for the information driven economy

# Industrial User Perspective




Empowering Business in Real Time

# Sustainability is Continuous Improvement

- Definition: “meet the current without sacrificing the future”
  - The future starts tomorrow and continues…
- Sustainability is not a project
- Must be in the DNA of any organization that wants to sustain
- Strong companies already have the required genes to sustain
  - Manage external disruptions
    - Natural
    - Economic
    - Political
    - Technology
  - Innovate
  - Continuously improve

# Sustainability is Continuous Improvement

- Internal:
  - Energy efficiency
  - Resource efficiency
  - Capital efficiency, avoidance or delay
  - Employee well being

- External:
  - Environmentally responsible
  - Socially responsible
  - Society well being
  - Trust

## Some Case Examples:

Kodak
IBM
Alcoa
Alyeska Pipeline

# Alcoa

- Aggressive, transparent Sustainability Program
- Some key concepts
  - Life cycle assessment
  - Product design
  - Economic value of products
- Industrial Demand Response
  - Provide reliability to the grid
  - Reduce energy costs

# Alcoa

- Faced recent hardships
  - Price collapse
  - Demand destruction
  - Credit crunch
- Extremely important part of sustainability value chain
  - Supplier of light-weight, strong materials

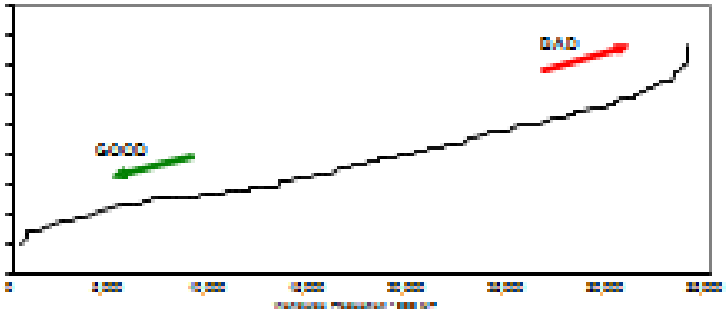
> "Throughout 2009, our industry and company experienced the most challenging economic environment that many of us can recall. Faced with a triple threat—aluminum prices crashing, broad demand destruction within our customer base, and a credit crunch that crippled our ability to initiate growth—we quickly executed our Cash Sustainability Program to strengthen our balance sheet, restore liquidity, and make Alcoa free-cash-flow neutral by the end of 2009."
>
> "I see an amazing future for Alcoa. Strong, lightweight, energy-saving and infinitely recyclable, our miracle metal will continue to contribute to the sustainable life and health of our planet and its people."
>
> Klaus Kleinfeld, Chairman & CEO

# Alcoa

- Commodity business
- Competitive advantage comes from production efficiency

## Aluminum Smelting Economics

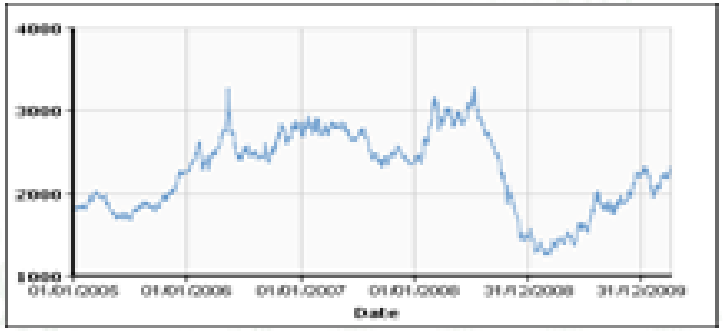
**Energy is 30-40% of Aluminum Production Costs….**




Worldwide Smelter Cash Production Costs

**Warrick Operations is**
**Alcoa's Largest Operating U.S. Smelter**

- **330,000 MT capacity/year**




**Competition in a Worldwide Commodities Market….**

Real Time Information — Currency of the New Decade



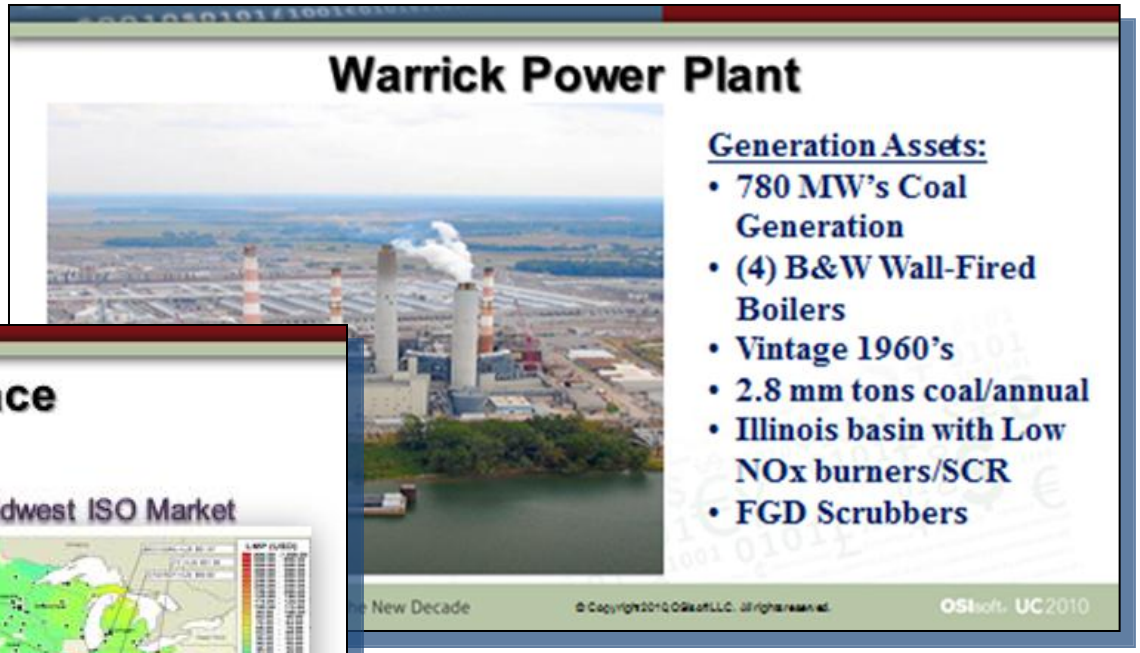
OSIsoft. UC 2010

# Alcoa

Video

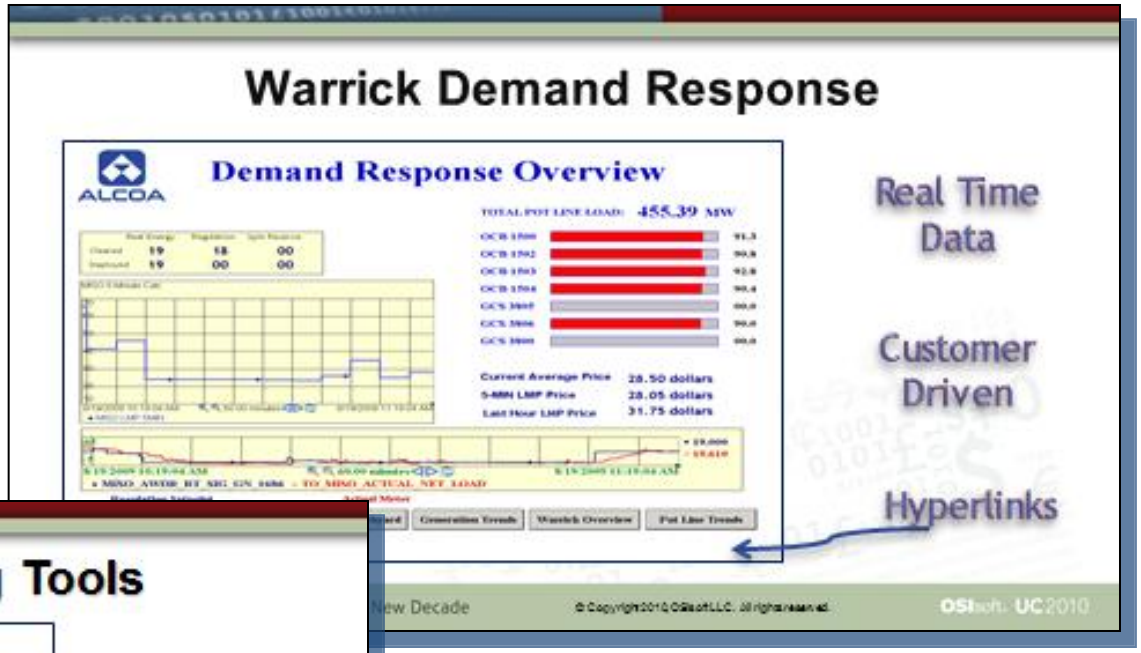
# Alcoa

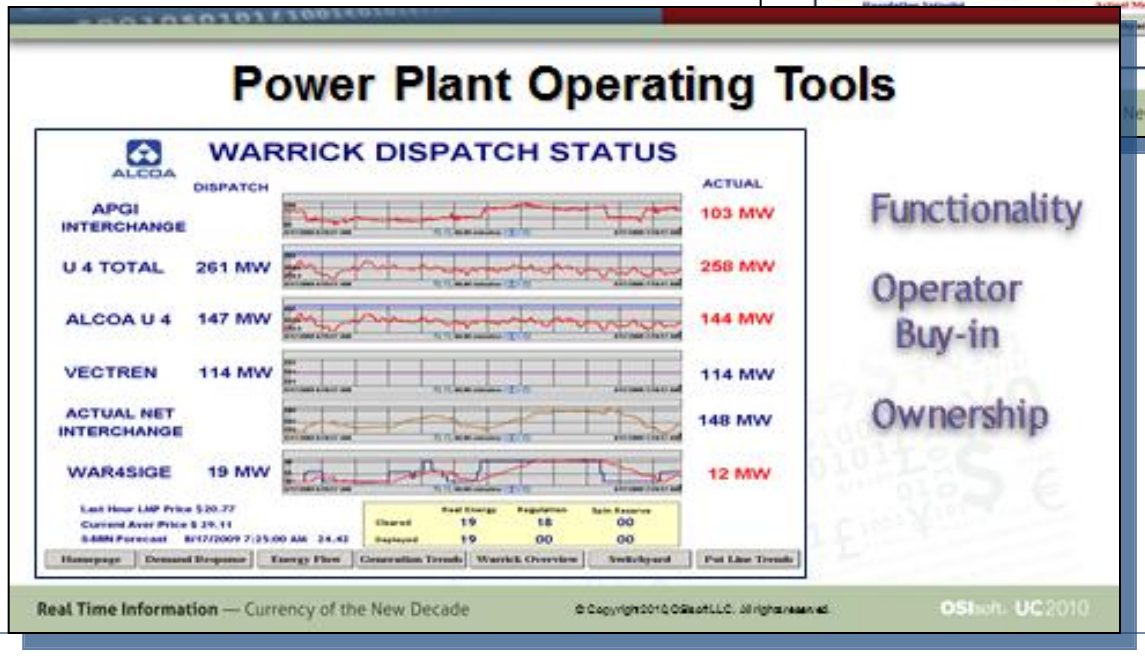
- 780 MW Generation
- FERC License—participate in markets as a generator



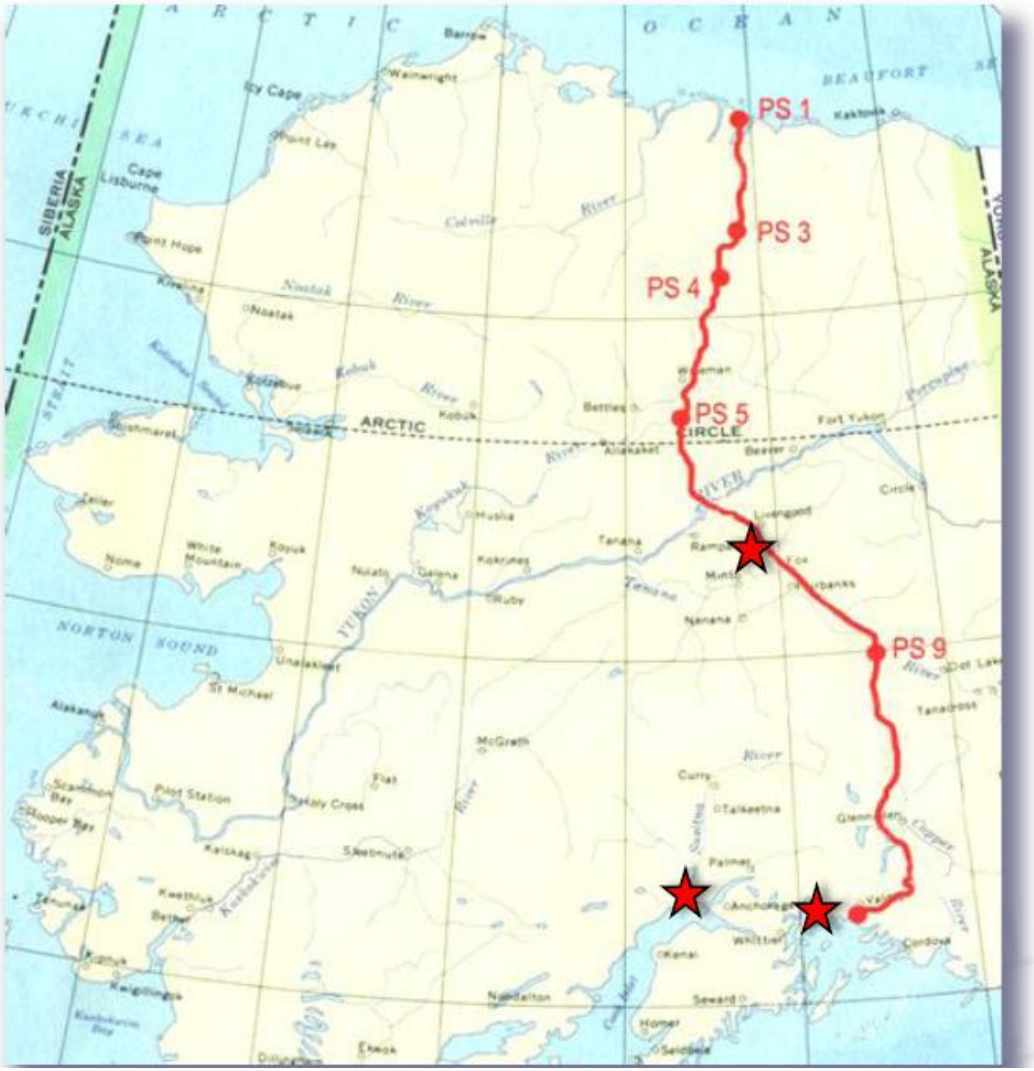

# Alcoa

- MISO (Grid operator)
  - Reliability
  - Generation capacity
  - Congestion mitigation
- Alcoa
  - Sell power
  - Purchase



# Alyeska Pipeline




Alyeska pipeline SERVICE COMPANY

- 800 miles long
- 48” diameter pipe
- 5 Pump Stations
- Marine Terminal
- 1.4 Million bpd operating capacity
- Logistics & Operations centers in Valdez, Anchorage, and Fairbanks

# Alyeska Pipeline

Video

# Alyeska Pipeline

- Mission
  - Ensure pipeline reliability and integrity using advanced maintenance strategies
- Goals
  - Proactive vs. reactive maintenance
  - Optimize available resources
  - Discover new & better ways to operate
- Challenges
  - Difficult operating environment
  - Complexities of modernization
  - Attrition of SME's
  - Pressure to reduce operating costs
  - Increasing scrutiny and regulation

# Alyeska Pipeline

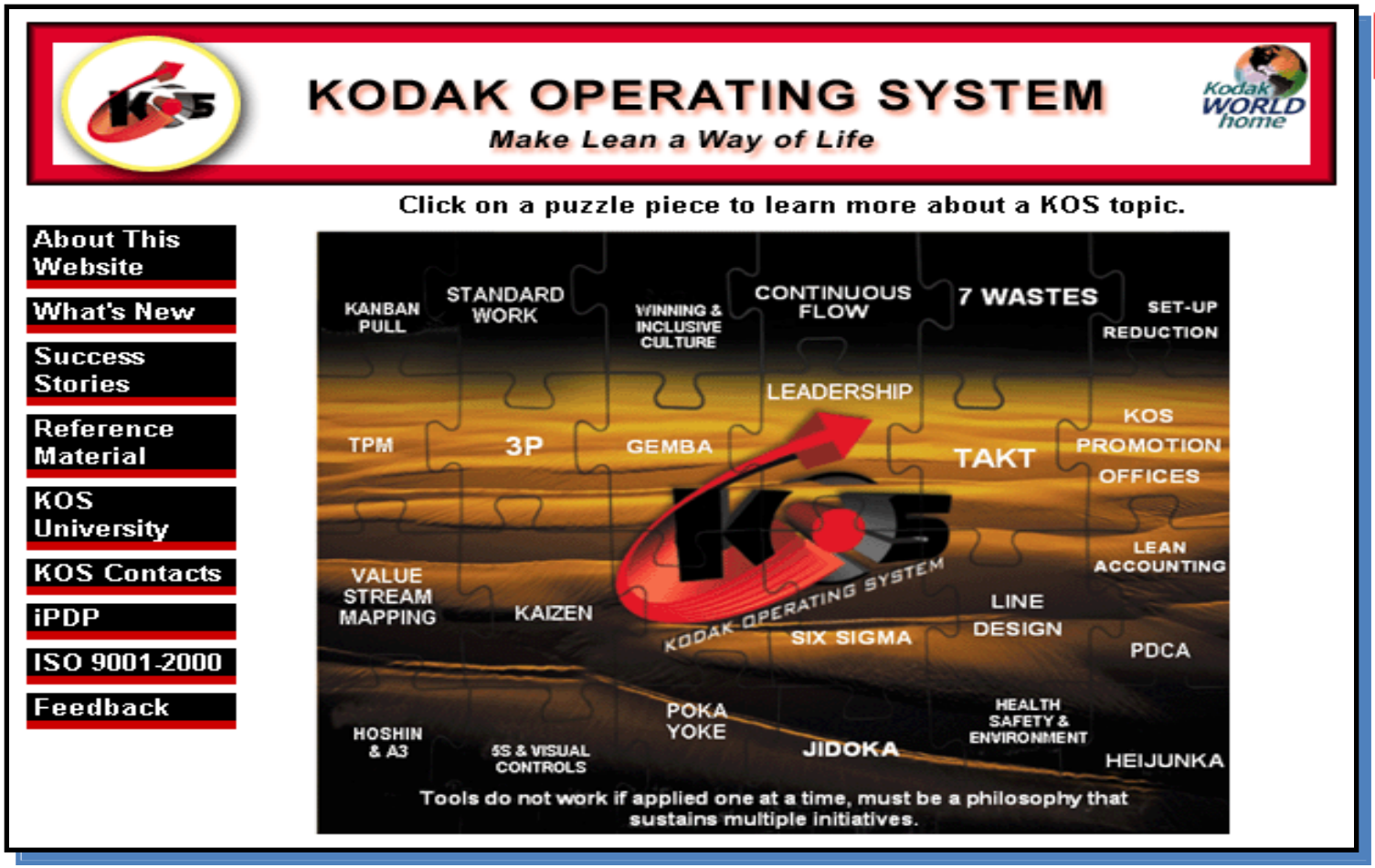
| EDRC BENEFIT | ANNUAL SAVINGS |
|---|---|
| Regulatory Calendar-based PM Automation | |
| DOT Valve Strokes – Reduced Field Man-Hours | $400,000 |
| Function Testing of Valves – Reduced Field Man-Hours | $100,000 |
| DOT Relief Valve Testing | $50,000 |
| Tank Level PM's | $35,000 |
| Continuous CBM and PBM Algorithms | |
| Unplanned Downtime Avoidance | $350,000 |
| Device Deviation Monitoring – Reduced Field Man Hrs | $150,000 |
| **FIRST YEAR ANNUAL SAVINGS** | **$1,085,000** |

# Kodak Case Study - Energy

- Fuel and purchased power are significant cost at Kodak Park (Rochester, NY, USA)
  - Engaged everyone in conservation efforts
  - PI system: 100K tags, 150 Webpart users, 250+ SAP iView pages, 30 interfaces
  - Now correlate production volume to energy
- "There was no 'Big Bang." Rather, there were 1,000 little bangs
  - Established a culture of continuous process improvement
  - Everyone can see the data via browser

http://videostar.osisoft.com/uc2010/Sustainable_Seminar/video/SSS_UC2010_Opening_Kodak_Breeze.wmv

# Kodak Case Study - Kodak Operating System




Kodak

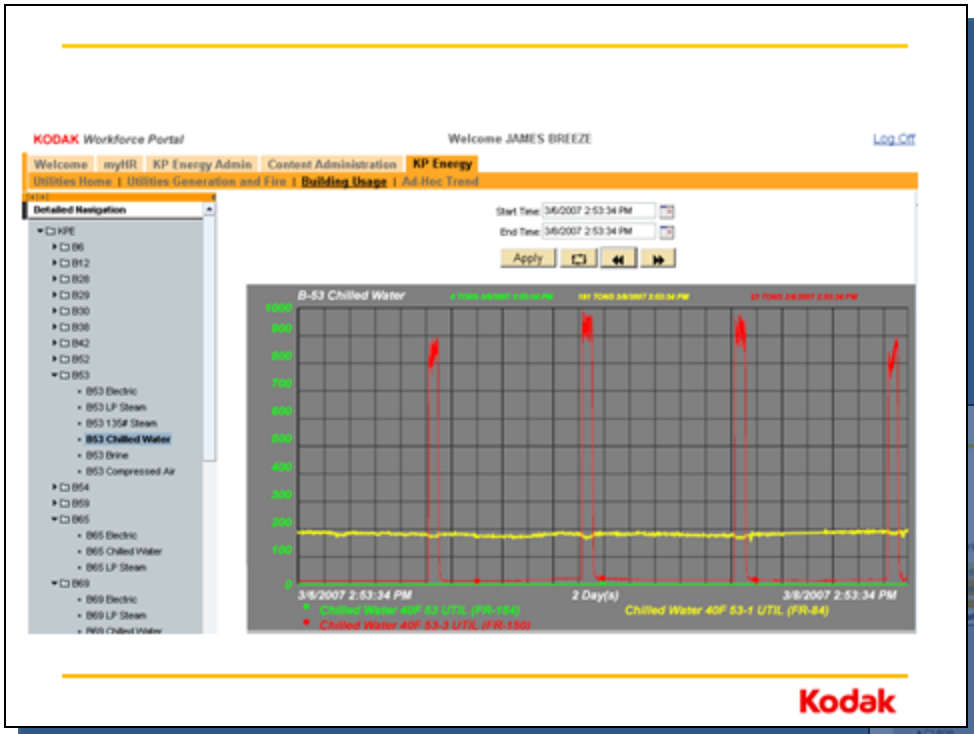
Energy Kaizen: 3-5 days, 6-8 people, action rather than analysis

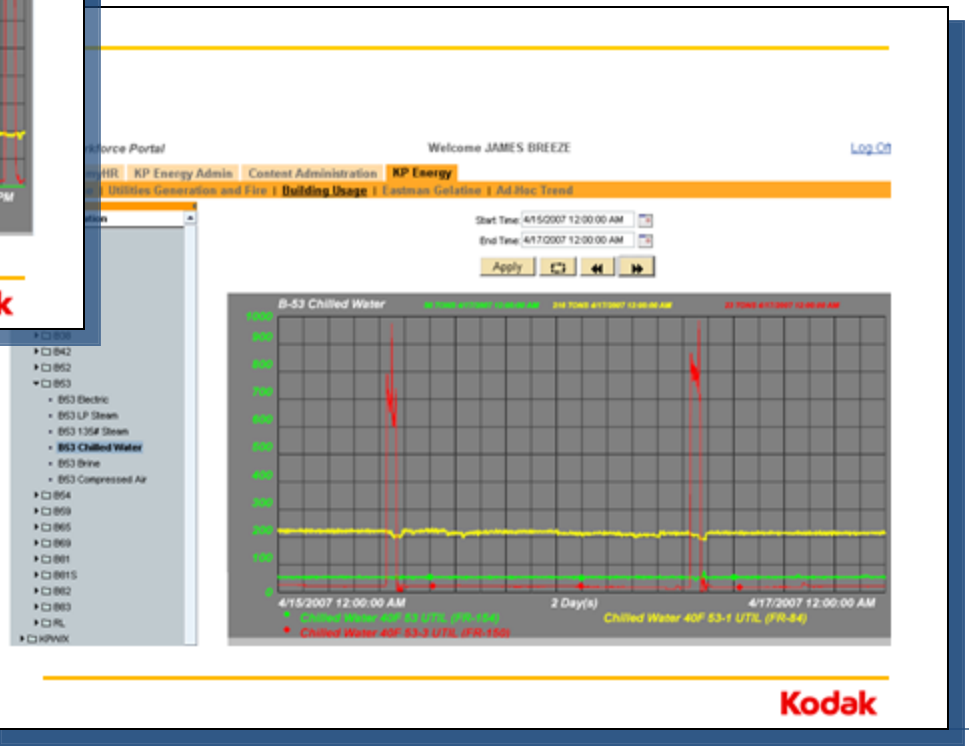
Energy Gemba: shorter focused Kaizen; observe abnormality take immediate action

# Kodak Case Study

Video

# Kodak Case Study - Energy




Carbon recovery regeneration

- Load on steam and chilled water system
- Awareness allowed optimization and move to off peak times

# Kodak Case Study - Energy

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Kodak

zed water

## Summary of Results

Generation side findings

- Plant loading optimization
- Boiler fan optimization
- Exhaust head improvements
- Better management of self generation vs. purchased power

The Energy Information System (EIS) has been an essential tool to help us reach our Goal of:

**"One Powerhouse for Eastman Business Park"**

(10:41:53 March 28, 2007)

- Collectively the "annual" savings rate in 2007 was $27 Million
- Today the "annual" savings has grown to more than $30 Million
- The cumulative savings is now in excess of $100 Million

(>50% Savings From Ongoing Operations)

Kodak

# Kodak Case Study - Water

- K
- P
- E

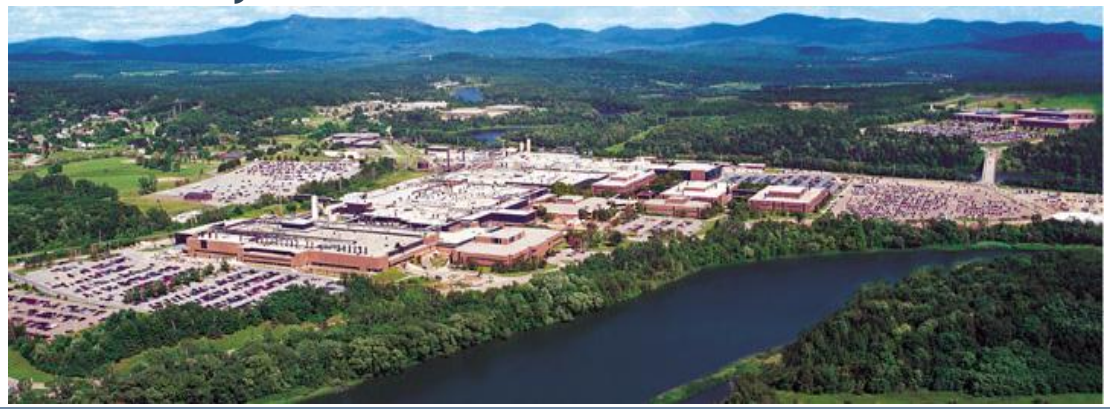
sts

## Water Reduction Results

- 2009 Kodak Water Reduction was 16.5%
- 1,087,000,000 Gallons (or 1,087,000 K Gallons) saved in 2009
- 1st Quarter of 2010 – an additional savings of 450 Million gallons from the 2008 Baseline
- Roughly 1.5 Billion Gallons saved in the last 15 Months
- This is enough water to fill approximately 250 average backyard swimming pools each and every day !!!
- $0.00 In Capital Spent
- These Water Savings are calculated for only the last 15 months and are totally independent of the site's energy reductions

# IBM Case Study

- IBM Burlington (Vermont, USA) is a large semiconductor manufacturing site
  - consumes 3.2 million gallons per day of water and 446 million kilowatt hrs of electricity annually
  - 3.5 million square feet of manufacturing space
- Challenge
  - Reduce water consumption to reduce cost
  - Less water means less energy, chemicals, maintenance and labor
  - Will also minimize environmental impacts
  - Leverage data acquisition, storage and visualization tools to monitor water usage and improve efficiency



# IBM Case Study

Video

# Some Closing Thoughts

# A.T. Kearney Study

- They studied the performance of sustainability-focused companies during financial crisis of 2008/2009
  - Some continued to focus on long-term health vs. just short term survival
  - Difficult to have this discipline
- Results
  - Stock market performance was 15% higher for these companies vs. their peers

"Create value for shareholders and society"

# Sustainability

- Sustainability is about your company's long term survival
  - Not just carbon, Green House Gas (GHG) or other "green" initiatives
- Corporate initiative
  - engage in a culture of continuous improvement
  - improve compliance, public perception, and profitability
- Increase profits
  - Manage economic, social and environmental risks and opportunities
- Gain and Sustain the Trust of the general public
- Sustainability needs your company to sustain, to thrive
- This is just good business


# Thank you



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