Real Time Environmental Condition Monitoring using PI Coresight

Presented by **Arsenio Sanchez**
Jaleidy Hernandez

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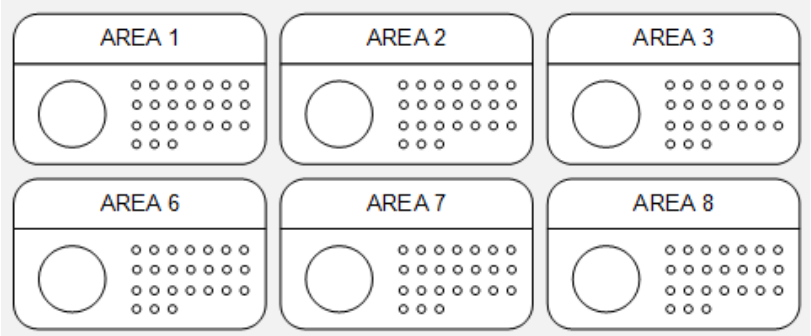
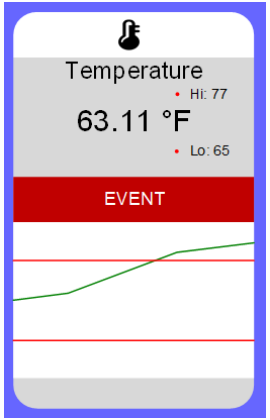
Agenda

- About us
- The Problem
- The Solution and Evolution
- Screenshots
- Next Steps
- Summary





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About us

- Company: Janssen Pharmaceuticals
- Location: Gurabo, Puerto Rico
- Industry: Pharmaceutical manufacturing
  - Solids (Immediate Release, Extended Release)
  - Parenteral
- Size: 540,000 sq ft.
- Operations: 7x24

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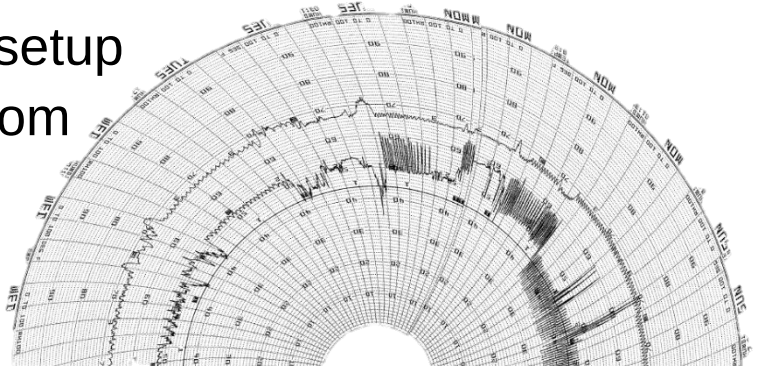
Problem

- Critical manufacturing rooms depend on chart recorders to monitor temperature and humidity
- Unable to monitor in real-time
- Not easy to read, subject to interpretation
- Require calibration every 3 months
- Unable to generate reports
- People dependent for reading and chart setup
- No visibility outside the manufacturing room
- Regulatory agencies required dynamic monitoring of environmental conditions



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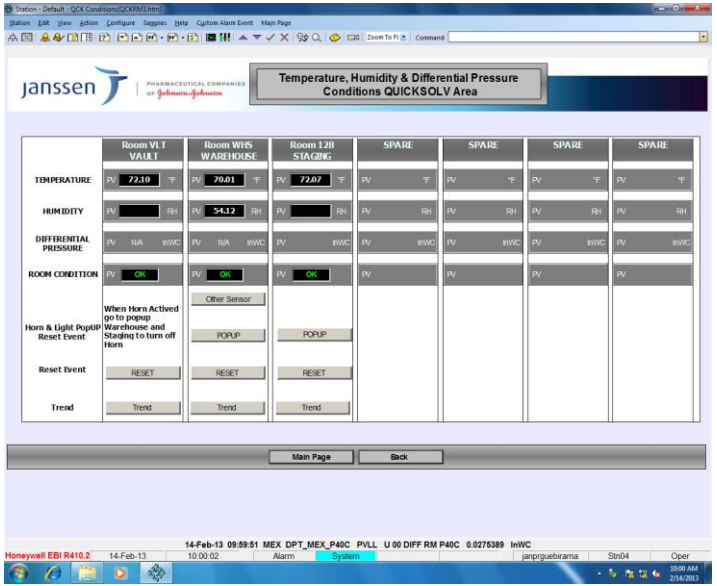
Solution – Part 1

- Implement Honeywell Enterprise Buildings Integrator (EBI), replace chart recorders with sensors and store data in EBI
- **Pros**
  - Data stored on electronic form
  - Eliminates chart recorders
  - Less margin for readings errors
- **Cons**
  - Data stored for just 30 days
  - Limited visualization capabilities
  - Expensive license cost for clients
  - Visible only from isolated network



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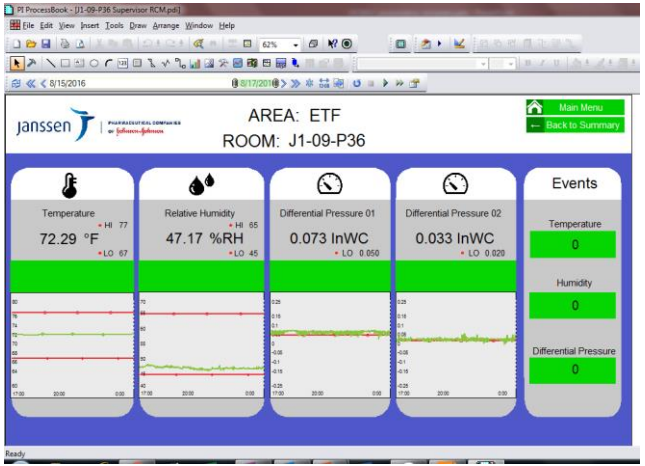
Solution – Part 2

- Integrate EBI to PI Server, develop visualization using PI ProcessBook and deploy visualization to 200+ desktops
- **Pros**
  - Increase retention of data (virtually unlimited)
  - Expand the visualization possibilities
  - Zero license cost (EA customer)
  - Visibility from any desktop
  - GMP compliant reports
- **Cons**
  - Visualization difficult to maintain
  - Not compatible with mobile devices



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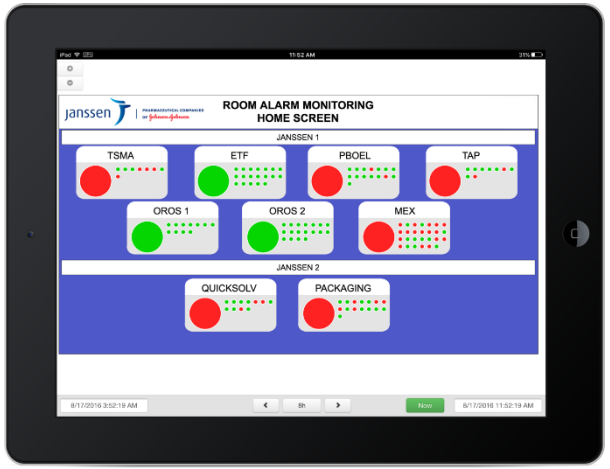
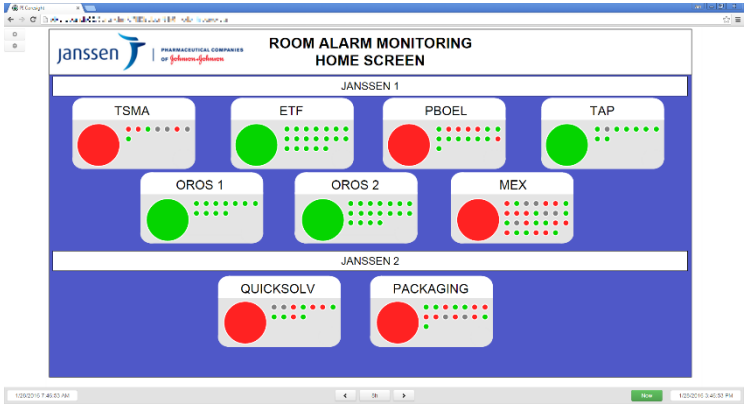
Solution – The Evolution

- Deploy PI Coresight and migrate visualization to web environment
- **Pros**
  - Visualization easy to migrate, maintain and deploy
  - Fully compatible with mobile devices
  - Enhanced experience for the users
  - Very fast performance
  - Monitoring center reduced unplanned downtime to <1%
- **Cons**
  - PI Coresight server dependency





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Additional benefits

- Significant improvement of batch review process and investigations
- Extremely positive adoption from users
- Reduction in down time due to conditions
- Reduction of investigations due to unplanned downtimes
- Increased response from facilities team
- Visualization leverage globally (Johnson & Johnson SPIRIT Program)

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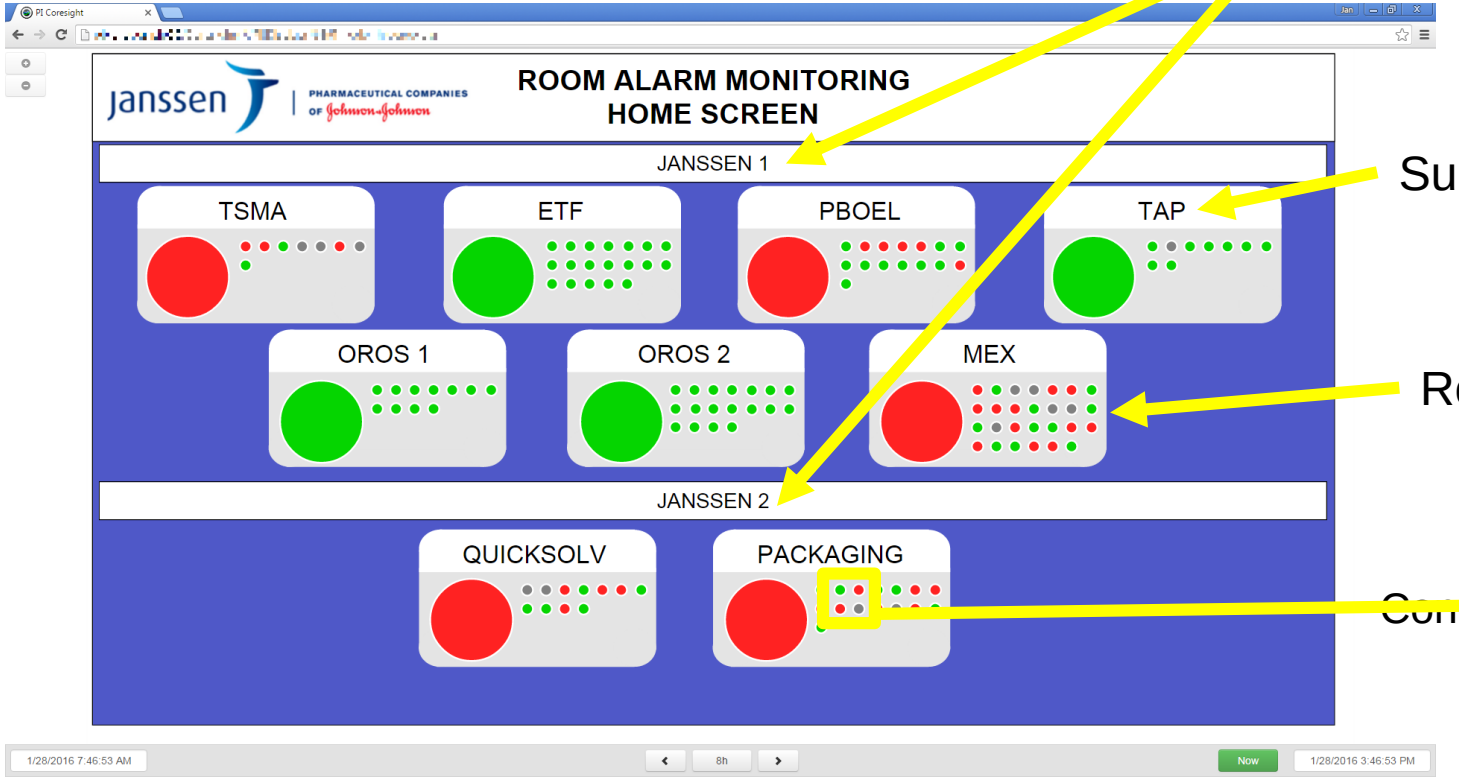
Sample Screens – Home Screen



Summary by Location

Summary by Area

Rooms in Area

Conditional Awareness

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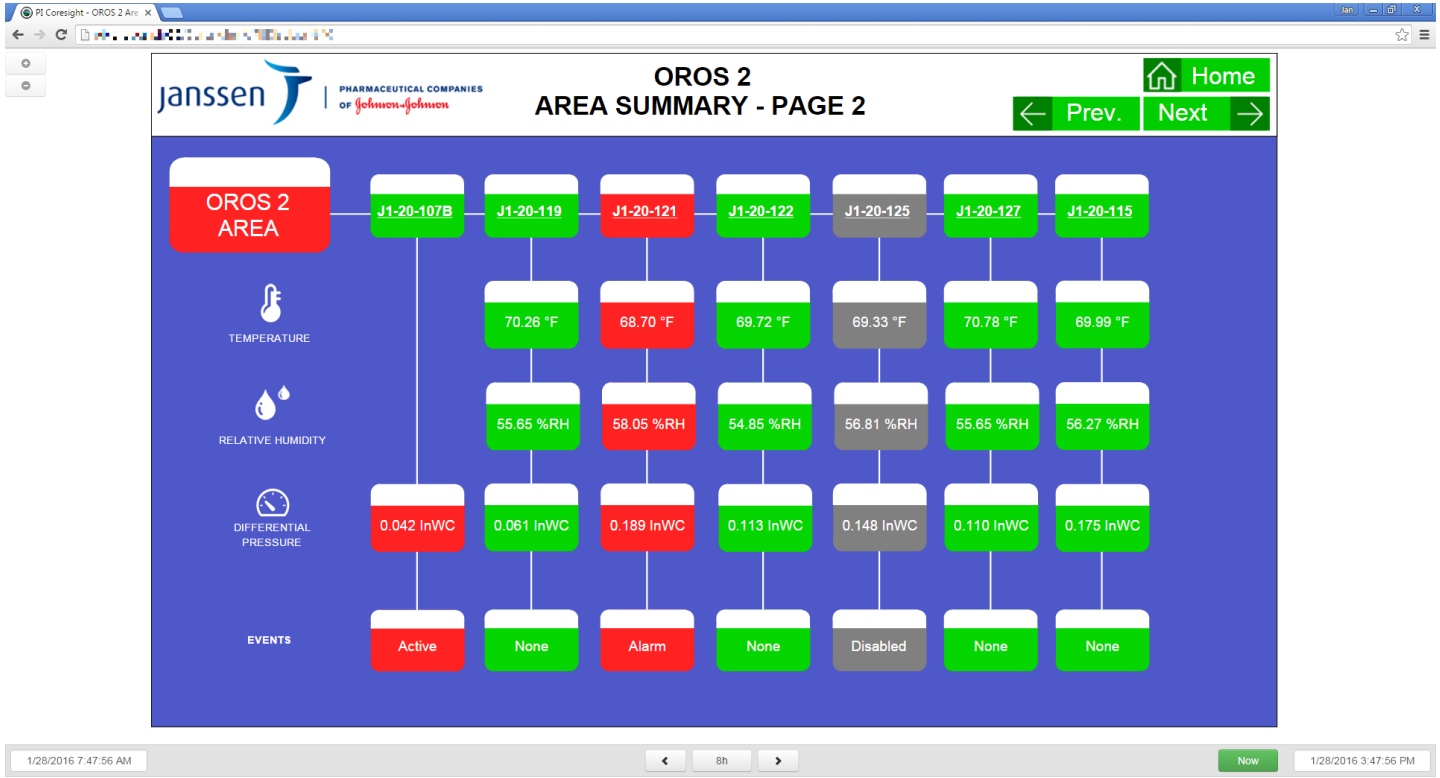
Additional Screens – Area Summary



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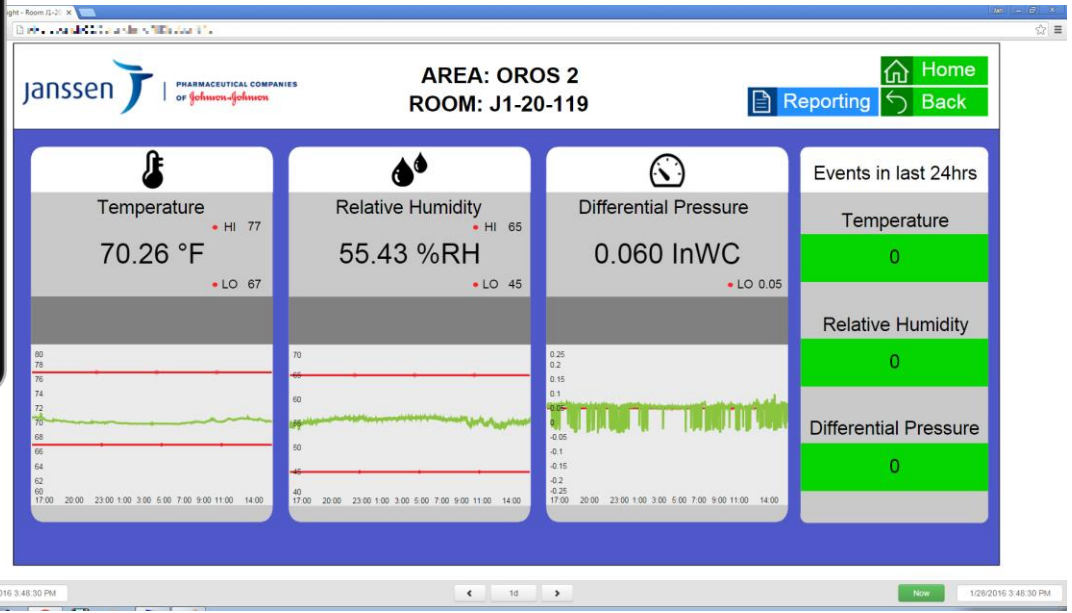
Additional Screens – Room Details and History



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Next Steps

- Integration with MES for room parameters verification prior to start manufacturing process
- Addition of 73 rooms, currently 132 rooms already
- Define alerts using PI Notifications
- Combine Event Frames with room environmental conditions for batch review and release
- Upgrade to PI Coresight 2016

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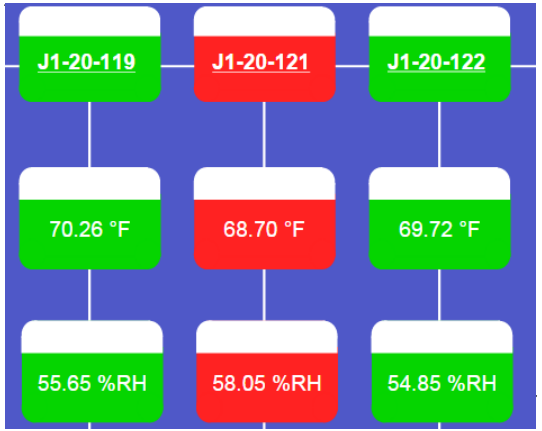
Real Time Environmental Condition Monitoring using PI Coresight

COMPANY and GOAL

Janssen wanted to have **real-time** monitoring, **easy to read** visualization and reports for the environmental conditions of manufacturing rooms.



CHALLENGE

Obsolete chart recorders prevented easy access to data in real time

- Difficult to read
- People dependent
- No real-time monitoring
- No reports
- No visualization

SOLUTION

Removing chart recorders, collecting the data into PI Server and creation of easy to read user-friendly visualization in PI Coresight

- Chart recorders replaced with modern sensors
- Visualization prepared in PI Process Book and migrated to PI Coresight

RESULTS

Data can now be accessed by operators, utilities and management from any location and any device

- Reduced unplanned down time to <1%
- Repurpose utility personnel by creation of a monitoring center
- Reduced number of events related to environmental conditions

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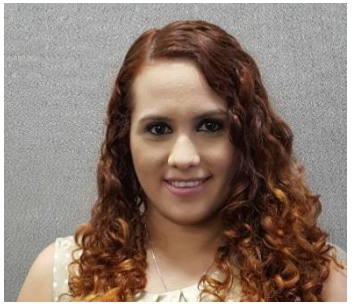

Special thanks to:
JnJ: *Francesco Mina (ES), Christian Cuevas (ES), Kevin Crean (ES SPIRIT), Thukaram Pandurangan (ES SPIRIT), Carl Van Laer (IT), Jose O. Diaz (Engineering), Miguel Valdez (Engineering)*
JC Automation: *Juan Senquiz, Luis Melendez, Jan Duclerc, Manuel Menendez*

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Danke

Gracias

Merci

Thank You

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Спасибо

Obrigado

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