Helping Patients Heal. Helping Hospitals Prosper.

Johnson Controls Healthcare Environment Optimization™



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Consider the Operations of your Operating Theatres



Today's Operating Theatre

- Currently Operating Theatres run HVAC full 24x7x365 days a year
- OTs consume 5x times the energy of a traditional patient room (Average 20 Air Changes per Hour)
- Operating Theatres have a average utilization rate of less than 25%
- Hospitals are wasting an average of $7,500 an OT per year!



Think Your OT is Optimized? Think again.

Manual Pushbuttons (occupancy switch)

Simple, but requires adding to the workload of the clinicians and may cause a distraction from patient care needs.

Time Clocks (Ambulatory Centers)

Time frames may be set too conservatively and a procedure/plan is required for emergency OT cases.

Occupancy Sensors

Generate some utility savings, however not optimized (e.g., janitorial staff , security and medical equipment teams can trigger sensors.)

These options do not provide robust documentation services, enhance clinical workflows, or improve patient care.

Introducing Healthcare Environment Optimization

Johnson Controls Healthcare Environment Optimization™ (HEO) takes efficiency in the OT to the next level.

The hospital's building automation system reacts in real-time to the clinical occupied/unoccupied status of the OT - documenting environment conditions, saving energy, and improving clinical outcomes.



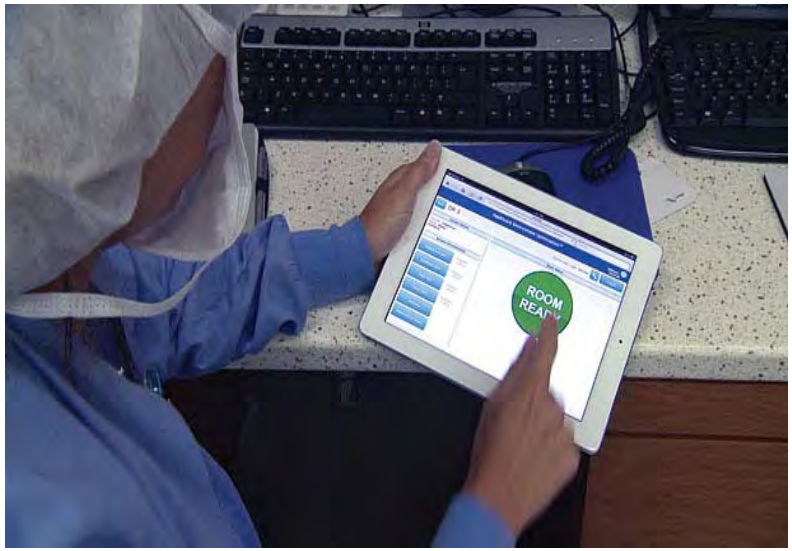
HEO translates & routes data to determine HVAC system mode:

- **Surgery Mode**.
  - HVAC system achieves the designed number of air changes every hour.
- **Standby Mode.**
  - HVAC system reduced to 25 percent of occupied values.

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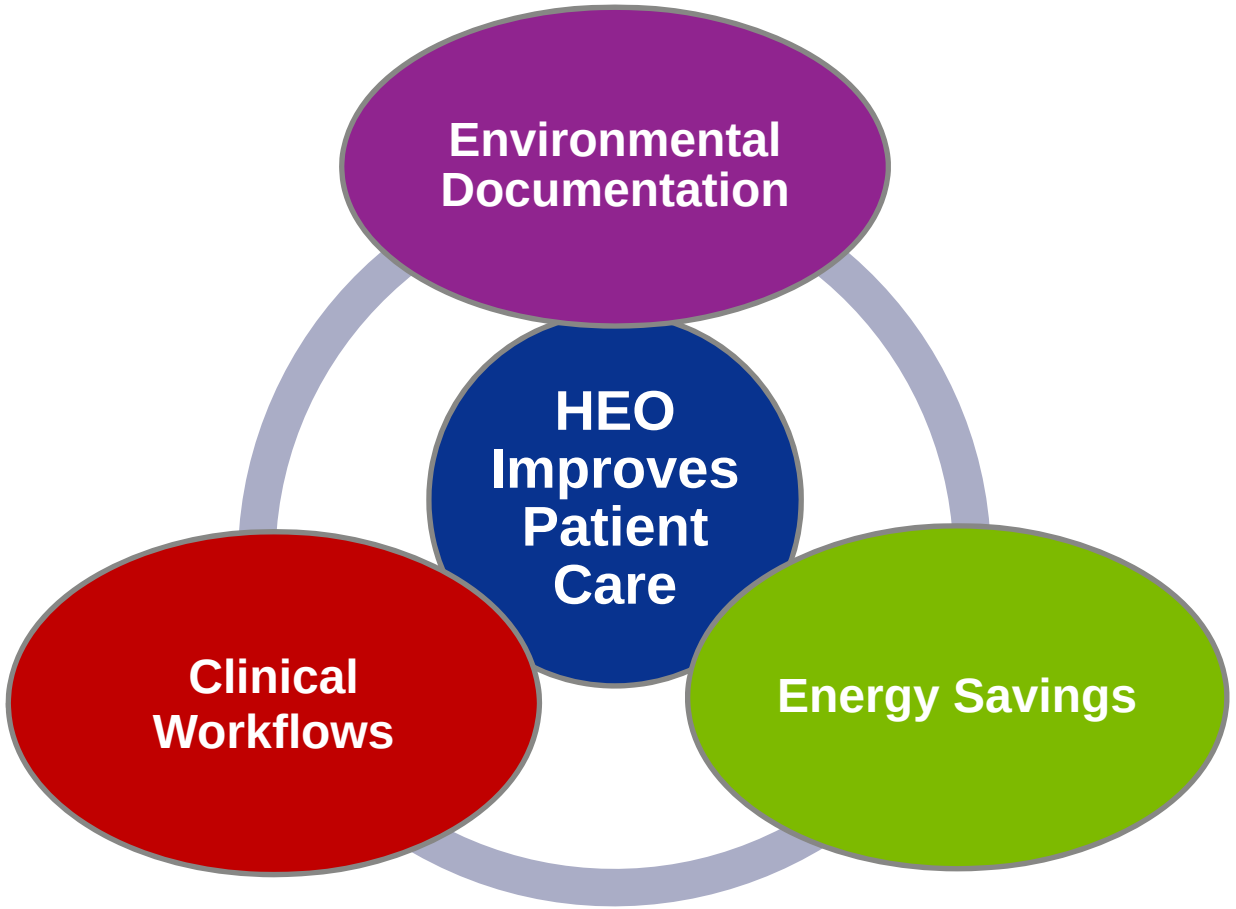
New Way of OT Control (With HEO)

- Proactive OT HVAC Control through Metasys
- Reduces Conditioning Air Flow when Space is not in Use (Standby Mode)
- **Does not** change temperature and/or humidity settings
- 75% Reduction in Airflow (Allowed Per ASHRAE standards)
- An average of $7,500/OT per Year in Energy Savings



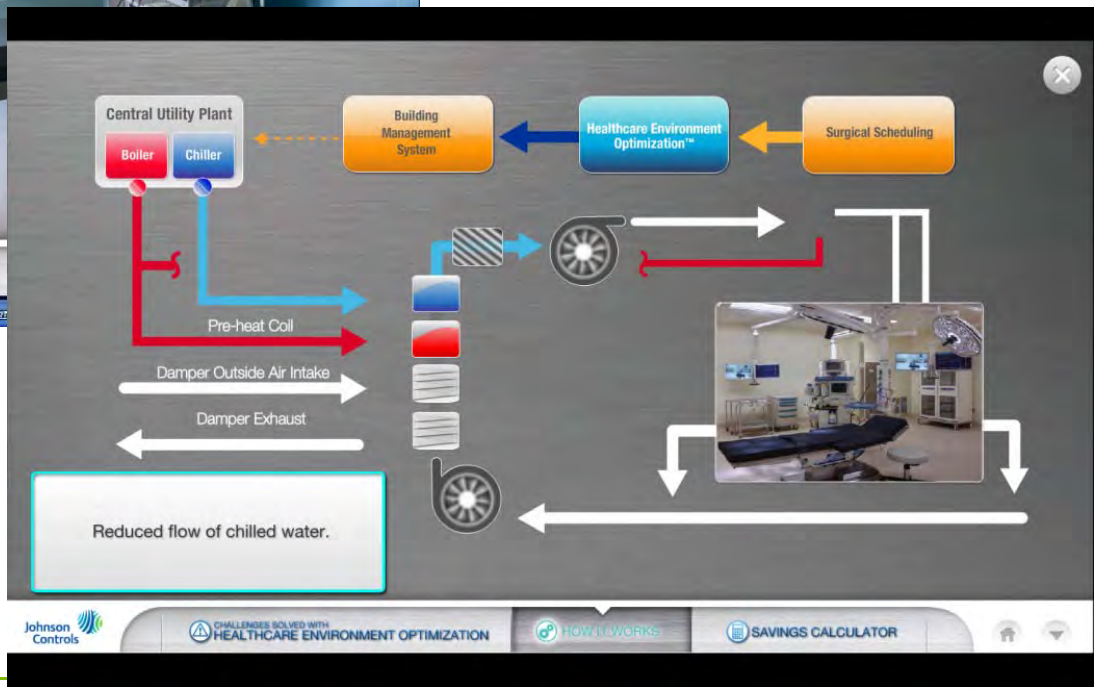
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Understanding The Benefits of HEO



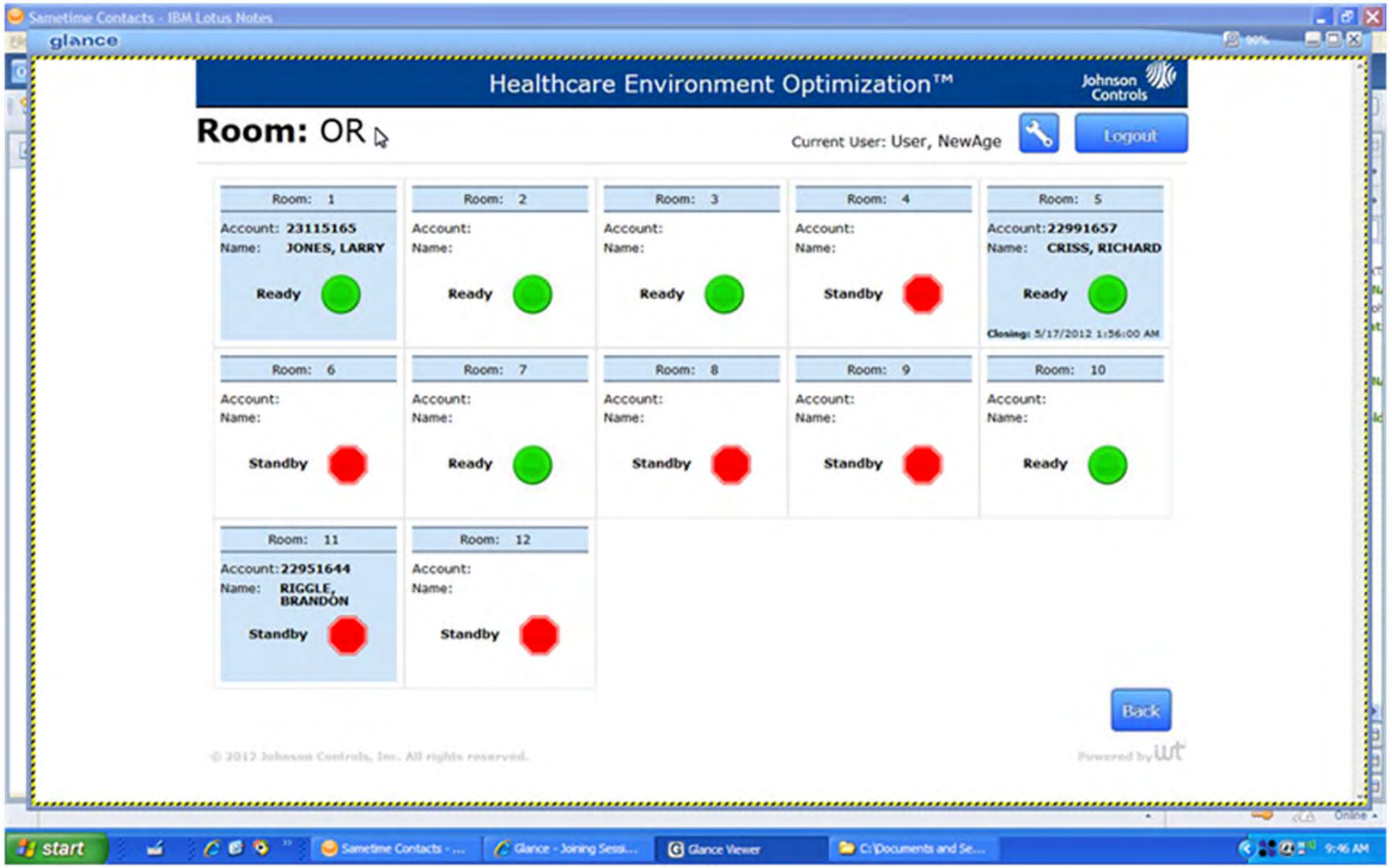
Let’s go inside the OT





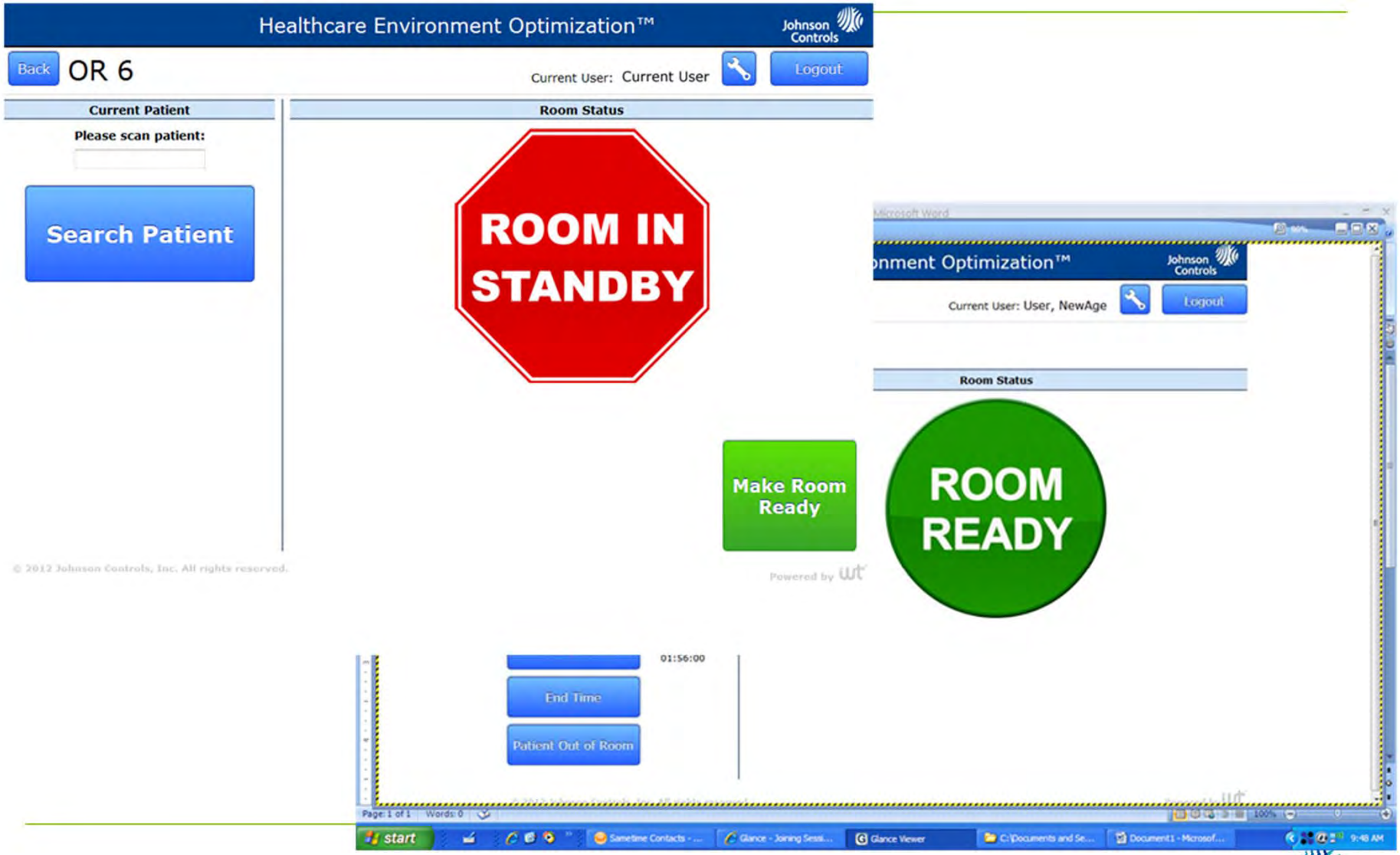
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HEO in Action – Union Hospital, Terre Haute, IN



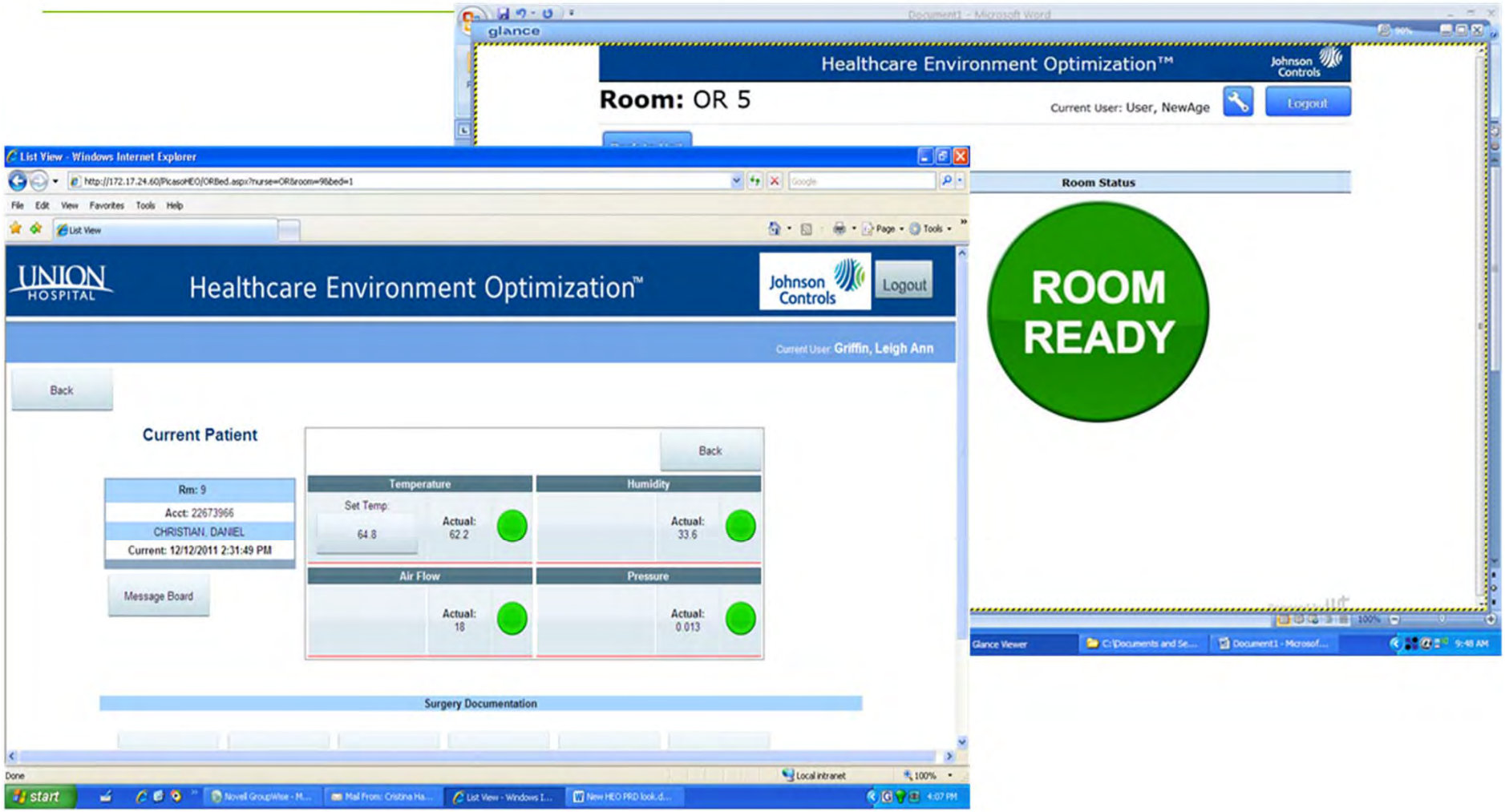
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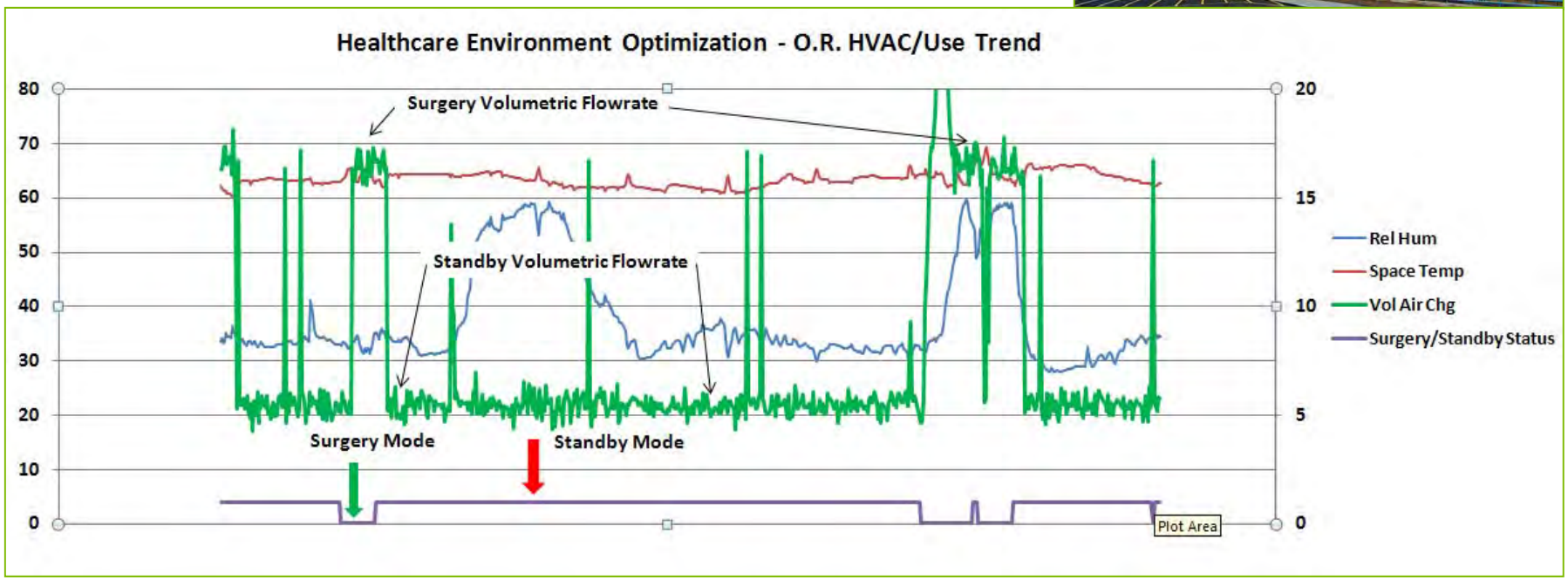
HEO in Action – Union Hospital, Terre Haute, IN



HEO in Action – Union Hospital, Terre Haute, IN

- Live site for HEO
- New five-story facility
- 12 operating rooms

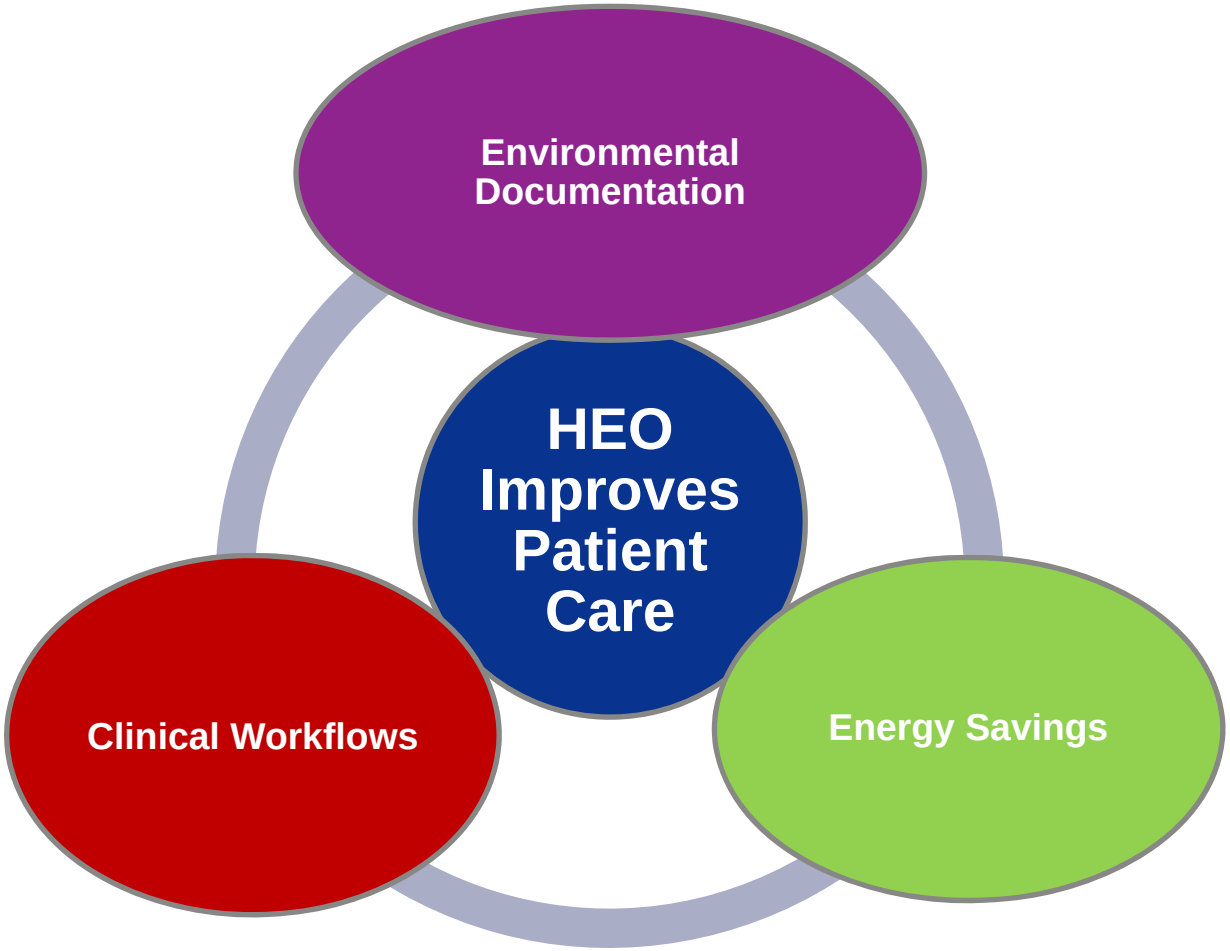




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Thank You

Brendon Buckley
Building Wide Systems Integration Director, North America
Johnson Controls, Inc.