

Energy Reduction: EZENITH & EcoLink

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INNOVATIVE PRODUCTS GLOBAL STRENGTH LOCAL SUPPORT EXHAUST MANAGEMENT EXPERTISE

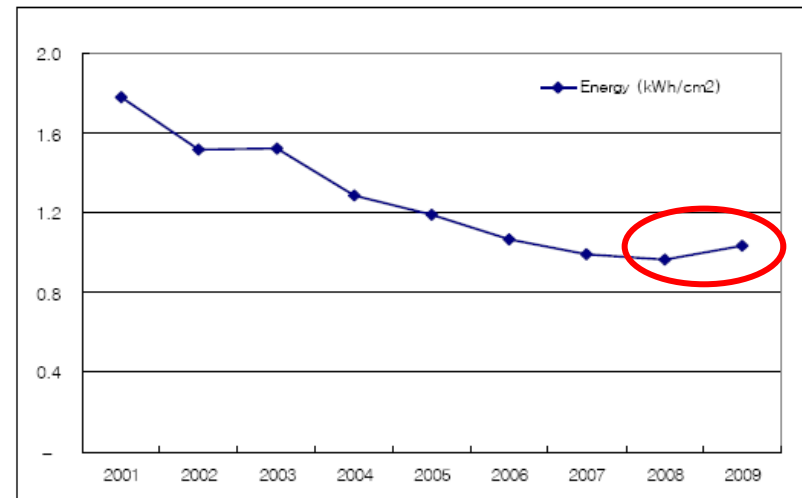
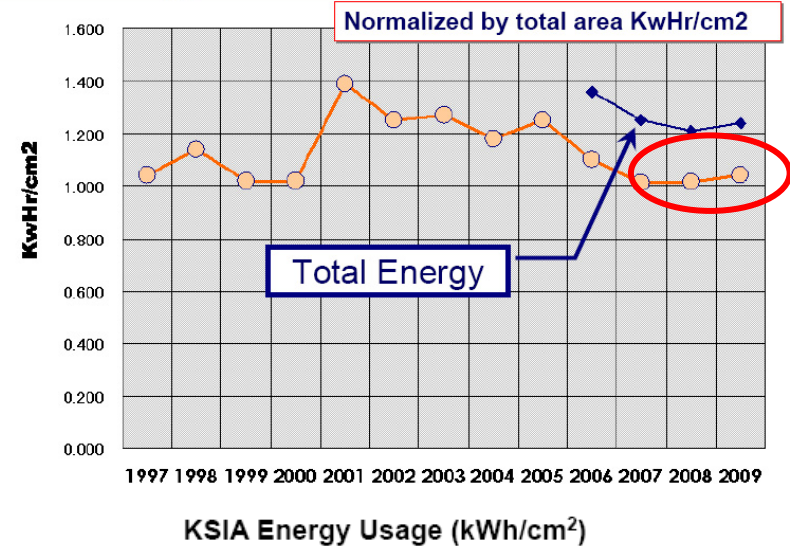
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Why is Energy Reduction Important?

- Industry has been reducing energy/cm² of wafer for several years
- Reduction is stalling/starting to increase
- Complexity of chips is increasing = more process steps
 - More steps = more energy
 - Responsible for energy upswing 2008-2009
- Industry looking to offset this by further energy reductions

JEITA-JSIA Energy Consumption of JEITA



How is Edwards Responding? During processing...

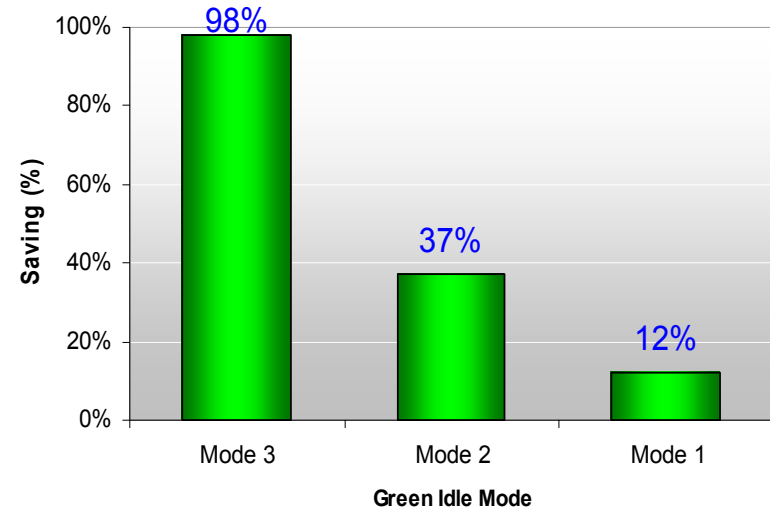
- New iXH range of vacuum pumps
 - Typically use ~10% less energy than previous models of similar capacity
- New Atlas range of exhaust abatement systems
 - Use up to 50% less fuel than previous range of products
- These savings are important because they happen during normal “processing” conditions



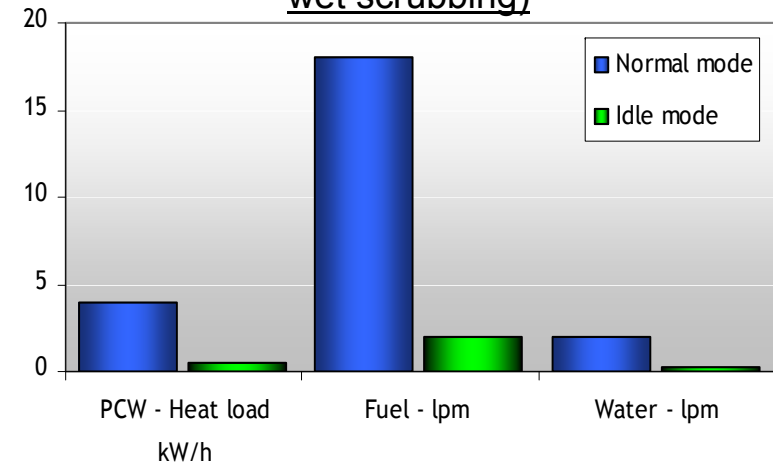
How is Edwards Responding? During tool standby...

- During tool standby, vacuum & abatement can go into standby
 - 12, 37 or 98% savings on pump power
 - 90% savings on abatement fuel consumption
 - Verified in customer field trials

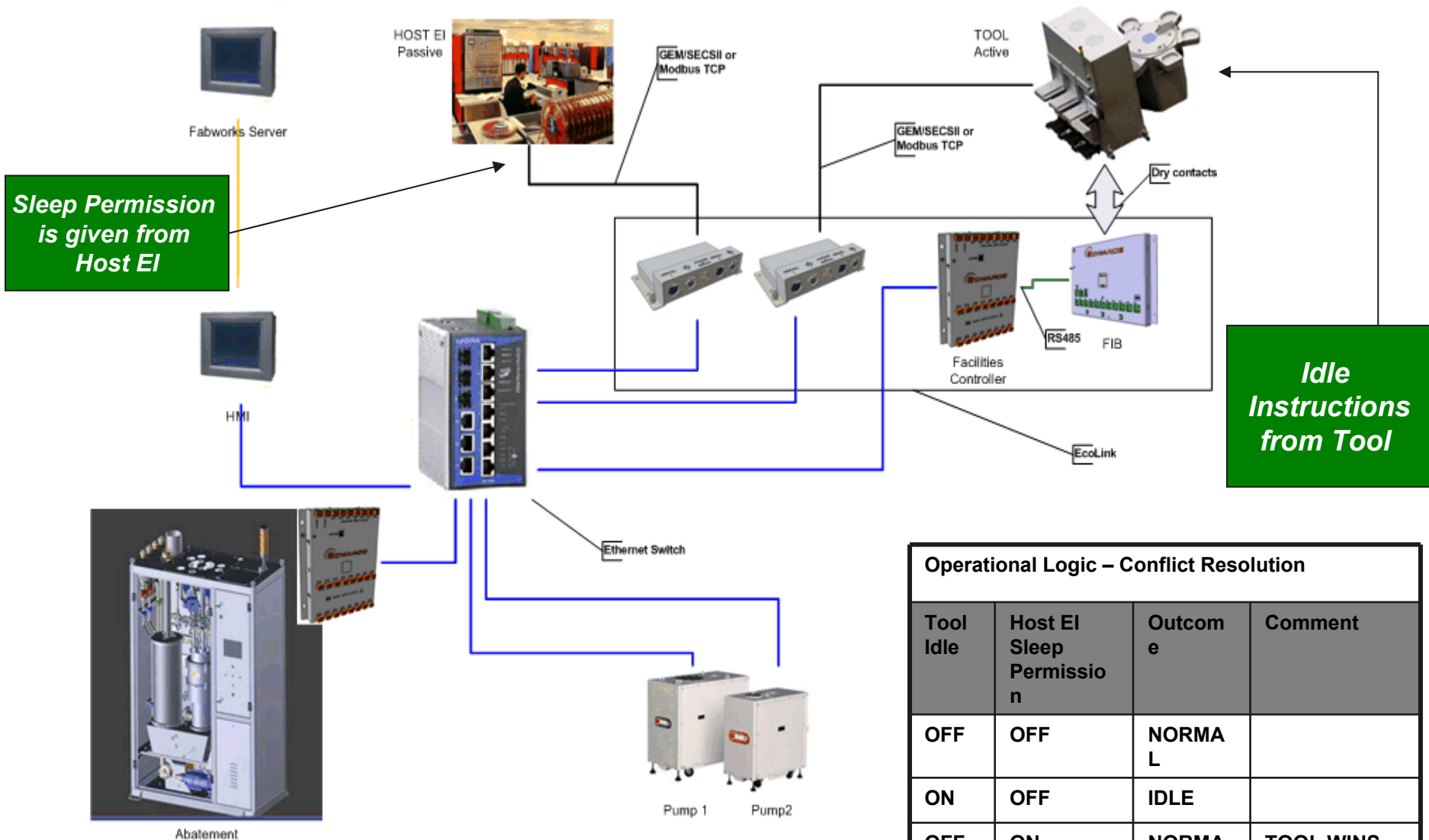
Percentage Power Savings for an iXH610



Atlas TCS (Combustion with integrated wet scrubbing)

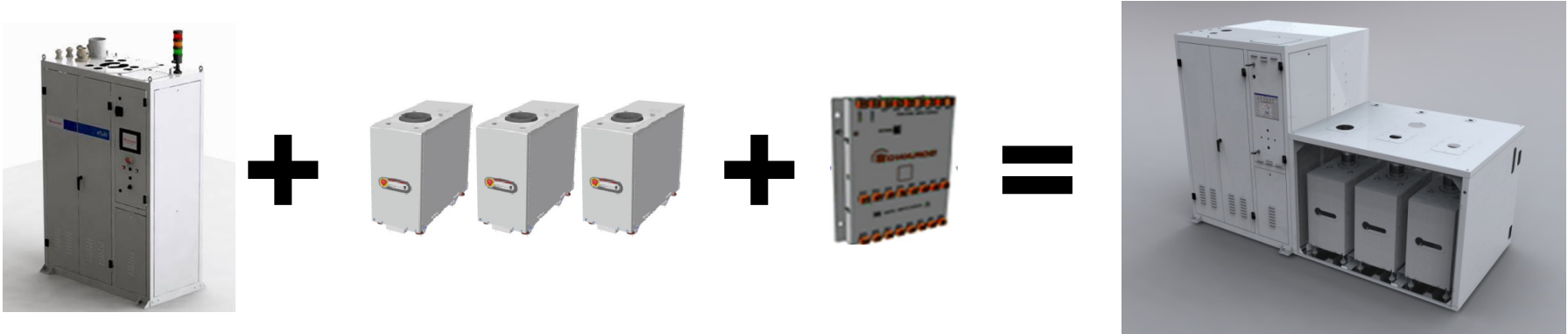


Green Modes enabled by EcoLink



Operational Logic – Conflict Resolution			
Tool Idle	Host EI Sleep Permission	Outcome	Comment
OFF	OFF	NORMAL	
ON	OFF	IDLE	
OFF	ON	NORMAL	TOOL WINS
ON	ON	SLEEP	

eZenith – Combining “Green” Vacuum & Abatement



- + Reduced utility consumption
- + Built-in “Green Modes” via EcoLink
- + Reduced footprint
- + Faster install
- + Reduced risk
- + Pre-tested
- + Flexible configuration
- + Clear responsibility
- + Service back-up

= Reduced cost