INDUSTRIAL WIRELESS IS HERE:
Wireless Network for Secure Industrial Applications

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Technology Description

- **Need:**
  - A low cost, reliable and secure wireless sensor network for industrial applications that offers significantly improved monitoring and control, reduced energy consumption, and reduced environmental emissions.

- **Core Technology:**
  - Highly robust radio communications
  - Scalable latency-controlled multi-hop mesh network
  - Secure wireless communications with convenient key management
  - Very long battery life

Wireless sensors will become the obvious choice for industrial process monitoring and non-critical control
## Technology Significance

<table>
<thead>
<tr>
<th>Industries</th>
<th>Wireless Applications</th>
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<tbody>
<tr>
<td></td>
<td>people / asset tracking</td>
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<tr>
<td>Petrochemical refining</td>
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<td>Pulp and paper manufacturing</td>
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<td>Continuous process industries</td>
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<td>Power generation and distribution</td>
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<td>Pharma industries</td>
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<td>Aluminum</td>
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<td>Chemicals</td>
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<td>Glass</td>
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<td>Metal casting</td>
<td>X</td>
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<tr>
<td>Mining</td>
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<td>Steel</td>
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*Wireless has cross-cutting applicability*
Energy Savings

How will energy be saved?
- Improved industrial process control leading to improved product quality and fewer process upsets
- Monitoring of steam traps in industrial processes
- Monitoring steam injection devices used in oil production
- Monitoring electric motors used in industrial processes
- Faster introduction of new sensor and analytical technology
- Condition-based diagnostics and maintenance resulting in fewer unexpected shutdowns
- Ability to deploy temporary sensing to solve in efficient control problems

How much energy will be saved?

Customer conversation paraphrase – ‘performance of Honeywell’s sensors in the harsh environment of the steel mill and around the furnace has been excellent for monitoring temperatures and for monitoring pressures in the filtering bag house, saving energy and increasing production by optimizing the maintenance schedule’
Current Status

- Major technical risk items and challenges have been addressed in the architecture – scalability, security, battery life, reliability, latency-control, etc.
- All components of the architecture implemented and system integration completed – robust FHSS low-power wireless, low-power sensing, system-wide wireless security, highly scalable mesh.
- Field trials underway at 2 industrial sites.
Next Steps

- **Commercialization:**

  Release of Honeywell’s second generation of wireless-enabled solutions very soon. Second-generation multi-functional wireless mesh network supports wireless-enabled applications within a single wireless network to optimize plant productivity and reliability, improve safety and security, and ensure regulatory compliance. Supporting existing XYR 5000 and future wireless transmitters, this network delivers a global solution with robust security, predictable power management and multi-speed monitoring.