

# Industrial Wireless Standard

ISA100.11a

Industrial Wireless Standard for Process Automation

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# Why Go Wireless?

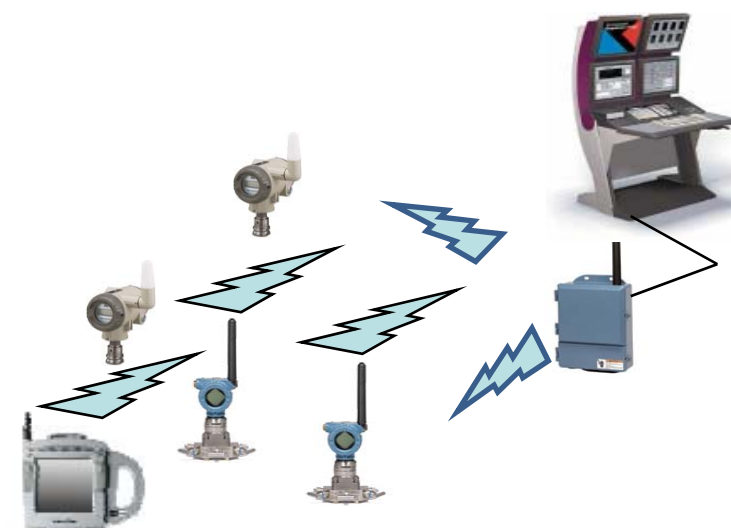
- Not a new Technology in Oil and Gas
  - Widely used in SCADA to monitor remote fields, pipelines, etc.
- A great deal of interest in deployment of wireless technology in Process Industry environment: In-Plant/Near-Plant Applications
- Wireless technologies have addressed many of the challenges and concerns
- Users are now looking to wireless technology as a valuable tool for solving automation challenges in many areas of their operations



# Benefits

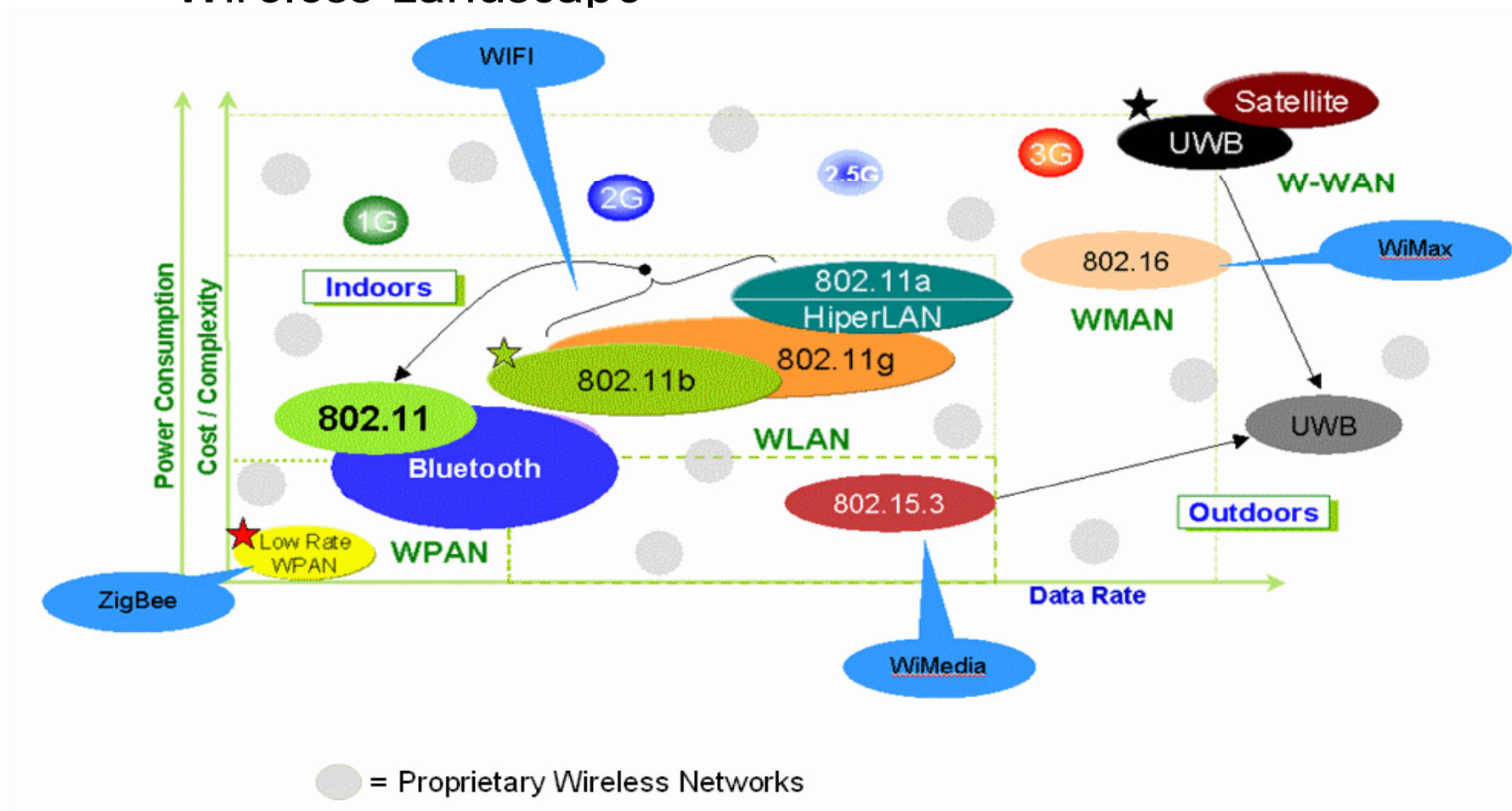
- Lower cost of data acquisition
  - Can monitor points which previously cannot be done due to high cost or technical limitation
- Additional data acquisition - additional real-time data
  - Improve production
  - Improve efficiency and quality
  - Improve reliability
  - Improve safety
- Scalability
- Flexibility
- Mobility

**NO WIRES!!!**



# Issues and Challenges

- Wireless Landscape



## *Issues and Challenges*

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- Lack of Universal Wireless Standards have slowed adoption of wireless options
  - Open vs. Proprietary
  - Multiple wireless infrastructure
  - Co-existence
  - Inter-operability
  - Security
  - Life Cycle Cost of Ownership
- A Universal Wireless Standard addressing the In-Plant and Near-Plant automation for the Process Industries is required

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## *ISA100.11a Wireless Standard*

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The 1<sup>st</sup> from a Family of Wireless Standards

- Define all specifications including security and management of wireless devices serving application classes 1 through 5 for fixed, portable and moving devices.
- Focus of application to address performance needs for periodic monitoring and process control where latencies in the order of 100 ms can be tolerated with optional behaviour for shorter latency



## *ISA100.11a Wireless Standard*

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The Standard will address:

- Low energy consumption devices, with the ability to scale to address large installations
- Wireless infrastructure, interfaces with legacy infrastructure and applications, security, and network management requirements in a functionally scalable manner
- Robustness in the presence of interference found in harsh industrial environments and with legacy systems
- Co-existence with other wireless devices anticipated in the industrial work space
- Inter-operability of ISA100 devices

# Timeline

Principles of Operation	August 2007
Preliminary Draft	December 2007
Draft Standard	March 2008
WG letter Ballots Start	April 2008
Comment Resolution periods	
Committee Letter Ballot Start	September 2008
Comment Resolution period	
Approved ISA100.11a Standard	Q2 2009?



# *ISA100 Committee*

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## Wireless Systems For Industrial Automation

- The ISA100 committee is part of ISA
- Formed in 2005 to establish standards and related information that will define procedures for implementing wireless systems in the automation and control environment with a focus on the field level.
- The committee is made up of:
  - Over 200 automation professionals
  - From nearly 100+ companies around the world
  - Representing end users, wireless suppliers, DCS suppliers, instrument suppliers, PLC suppliers, technology suppliers, system integrators, research firms, consultants, government agencies, and consortiums



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## *Implementation of Wireless in Petronas*

Examples of the wireless implementation:

- Wireless transmitters to overcome faulty homerun cables in gas terminal
  - On-going project to install wireless transmitters for remote well head monitoring
  - Wireless tank monitoring in a refinery
  - Wireless CCTVs in a refinery
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- Proprietary Wireless Systems
  - Pre-standard
  - Monitoring applications



## *Future Directions*

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- End Users Dilemma
  - Multiple Wireless Standards targeting the same Sector
    - ISA100.11a
    - WirelessHart (IEC/PAS 62591)
- End Users want a single Wireless Standard for Process Industry – A Universal Wireless Standard
- ISA formed Wireless Convergence sub-committee ISA100.12 in May 2008
- Wider implementation expected when universal standard is in place

**THANK YOU**