

# WIRELESS UTILITY MONITORING, CONTROL AND RESPONSE SYSTEM FOR EFFICIENT ENERGY UTILIZATION

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## Current Solutions

- Drive-by
- Dedicated wireless networks
- Replacement modules
- New meters
- Major companies: ITRON, CellNet, Elster

## Problems with Current Solutions

- Not complete solutions; meter reading only
- Requires dedicated, proprietary wireless network
- Not cost effective (minimal market penetration)

## Our Technology

- Complete solution:
  - Wireless meter reading
  - Appliance health / efficiency monitoring
  - Remote energy control
- Cost-effective
- Integrated, complete solution
- Retrofits 95% of existing utility meters

## System Architecture

- ZigBee based; not proprietary
- Uses existing broadband infrastructure
- Scalable, flexible, redundant

## Benefits to Utility Companies

- Cost-effective
- Integrated system, complete solution for gas, electricity, and water
- Retrofits 95% of existing utility meters
- Utilities can offer enhanced/additional services
  - System health monitoring
  - Remote energy control
  - Potential problem notification

## Benefits to Homeowners

- Awareness of energy usage  $\Rightarrow$  address losses (insulation, etc.)
- Notification of problems (broken furnace, leak)
- Peace of mind
- Safety: remotely shut gas/electricity off, e.g., during fire
- Savings: keeps appliance well maintained

## Societal Benefits

- Reduced energy usage
- Reduced environmental impact
- Enhanced energy awareness
- Minimize leaks, theft, losses
- Data for future utility planning

