

GreenTech Connect Forum

# Low Power Wi-Fi

# The Solution to OpenHAN/ OpenSG

Vijay Parmar, CEO

*Getting Connected with Wi-Fi*



August 3, 2009

# Corporate Profile



- **Founded in September 2006**
- **Investors:**
  - Intel Capital (Funded spin-off from Intel)
  - New Venture Partners
  - Opus Capital
  - OVP Venture Partners
  - Sigma Partners
  - Camp Ventures

## EXECUTIVE TEAM

**Vijay Parmar**, President & CEO

**Lewis Adams**, CTO

**Pankaj Vyas**, VP, Software & Systems

**Eric Taborek**, VP, Worldwide Sales

**Bernard Aboussouan**, VP, Marketing

**Haike Dong** VP, Operations

- Leader in Low Power Wi-Fi semiconductor
- Headquartered in Silicon Valley, Los Gatos, California
- R&D office in Bangalore, India
- Secured \$20 million series B funding in Dec. 2007

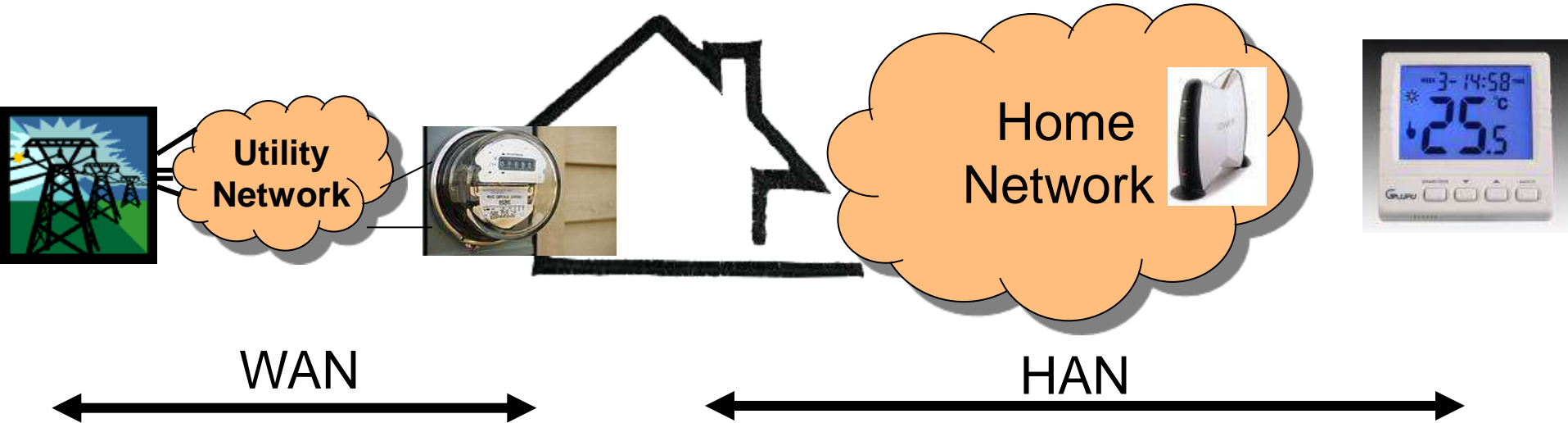


**GainSpan is a semiconductor company providing the *lowest power* Wi-Fi solution available on the market today enabling battery powered or energy harvesting based sensor applications.**

- **A highly integrated SoC solution that runs reliably for up to 10 years on a single AA battery**
- **Embedded software stack including RTOS, IP stack, security**



# The Opportunity



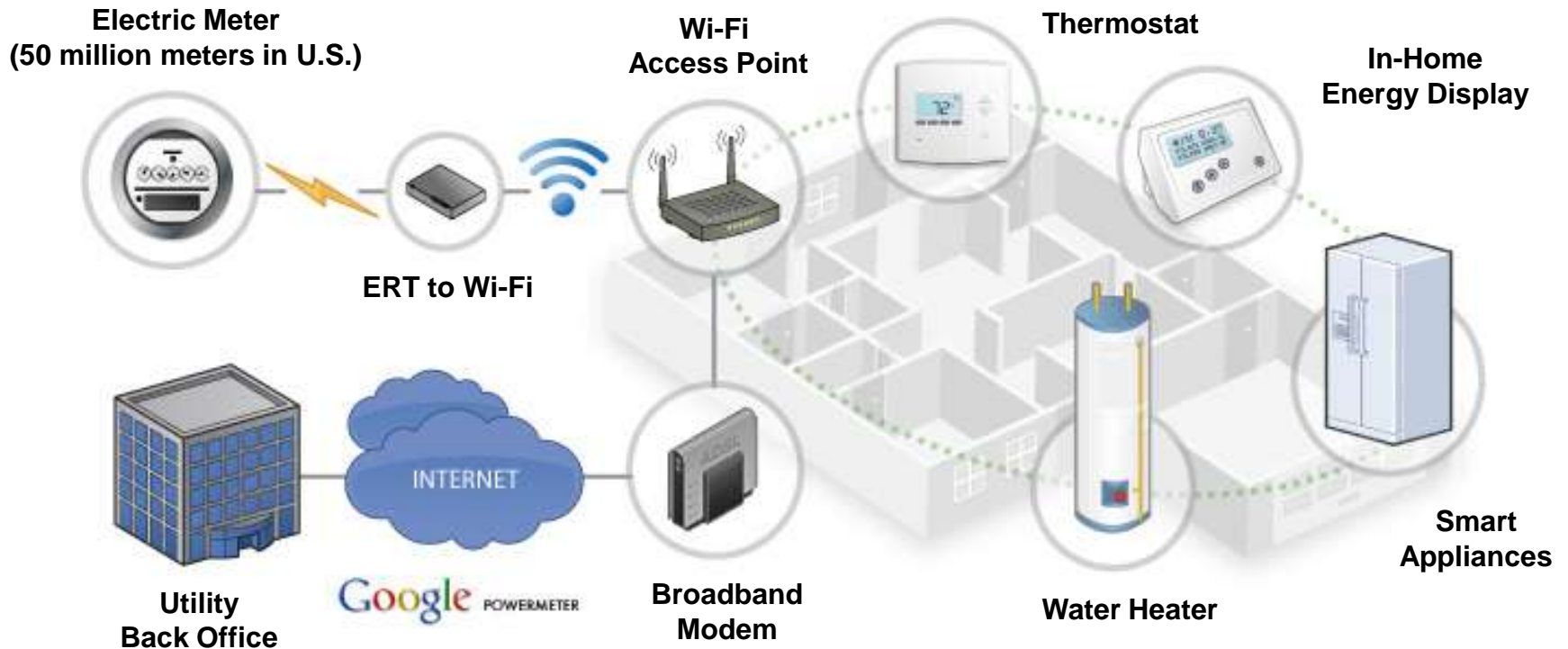
- Increasing & large investment in Smart Grid
- American Recovery & Reinvestment Act stimulus grants
- Major investment in HAN technology (e.g. Tendril, iControl, Microsoft Hohm, Google PowerMeter, Verizon, AT&T,...)
- Requirements for Smart Grid to be IP based creating a discontinuity/ opportunity
  - Zigbee planning to evolve to support IP protocol

Seamlessly works with largest  
wireless LAN ... Wi-Fi



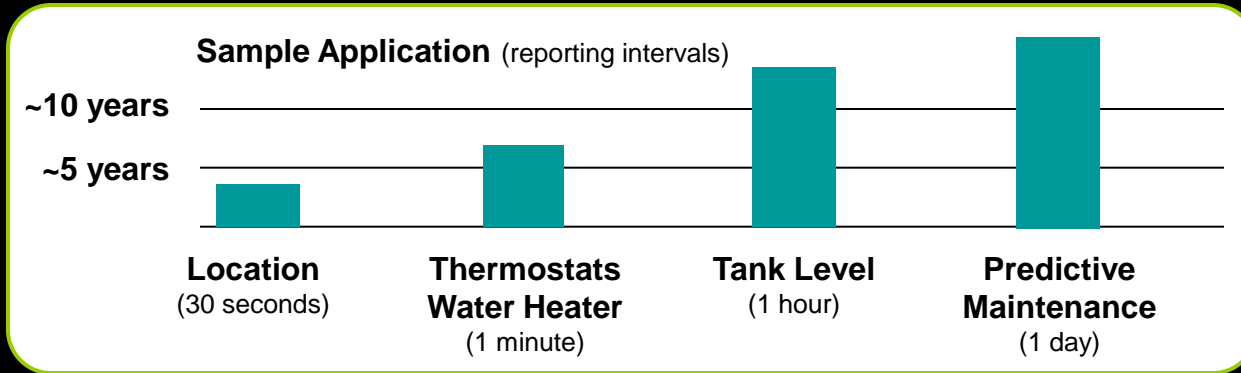
- **Works with huge installed base of access points and devices**
  - 2 billions Wi-Fi certified devices vs < 6M Zigbee devices
  - 75% of Home Gateways shipping with Wi-Fi
  - PDA's/ smartphones with Wi-Fi (>45%) as control devices
  - Lower total cost of ownership
- **Mature Technology:**
  - Industry most stressed security- WPA2
  - Wi-Fi protected set-up (WPS) being copied by other technologies
- **Successful interop. and certification Wi-Fi alliance program**
- **Supports and complies with DOE / NIST requirements**

# Smart Energy Home



**Energy monitoring & control provided through utilities or broadband network providers**

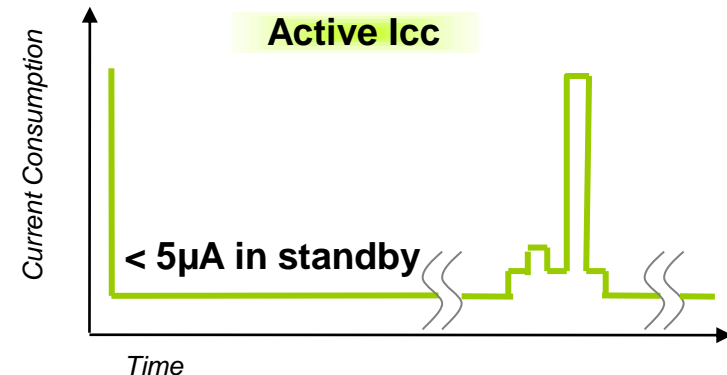
- Local monitoring & control through Smartphone or PC
- Reduced energy bill to homeowners
- New revenue opportunities from web hosted services
- Potential revenues or government funding offsetting cost of broadband deployment
- Reduced capital cost to utility



100 Byte Packet Size  
AA Li-Ion 3.6V  
2,000 mAh Battery

## Smart power consumption for battery powered sensors

- Efficient active & standby modes
- System level power management
- Small footprint, real-time OS
- Controlled clocking, wakeup
- Single die integration

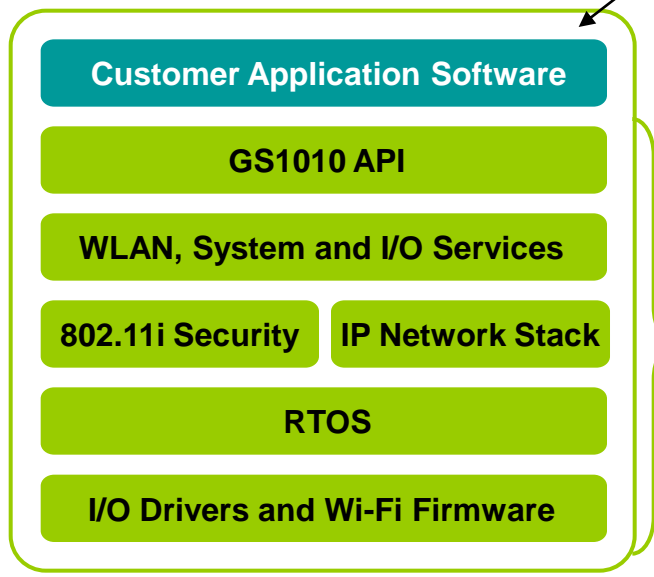
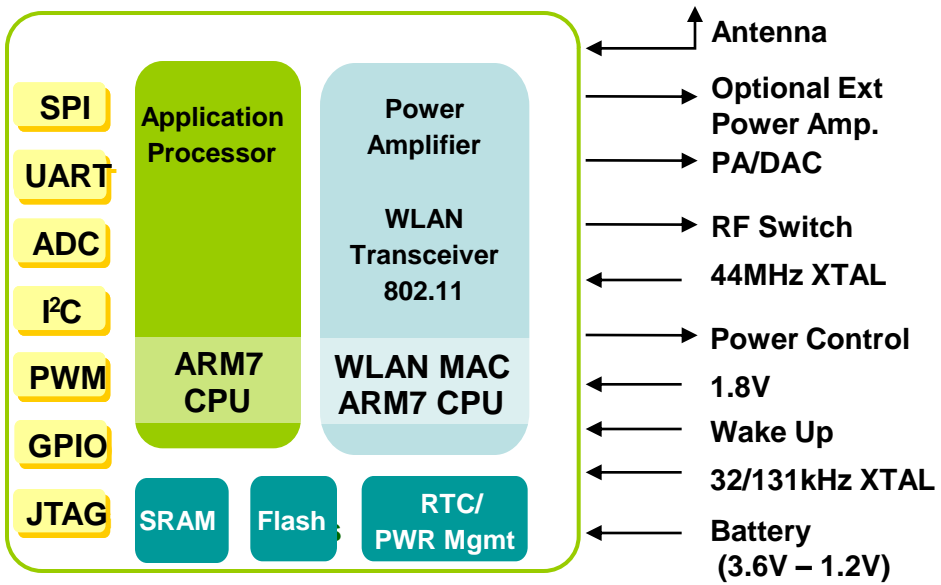


# GainSpan: GS101X SOC & Embedded SW



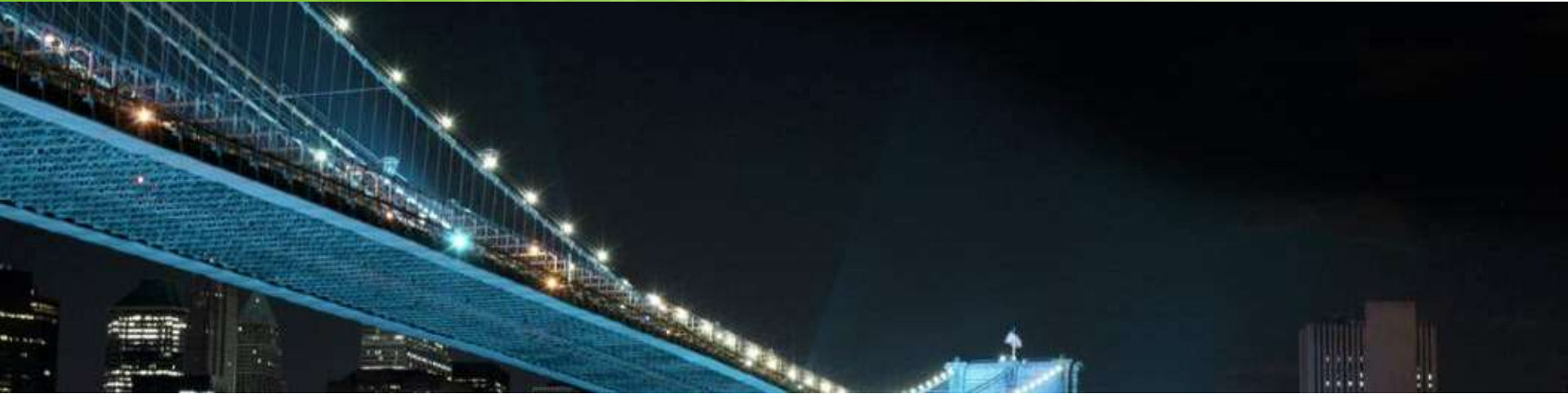
- Highly-integrated Wi-Fi SoC** – Dual processors, SRAM, Flash, PA in 10mm X 10mm
- Ultra low power** consumption for years of battery life on a single AA
- Works with existing Wi-Fi AP infrastructure
- Supports TCP/IP/UDP protocol for direct internet connectivity
- Evolving to support Smart Energy Profile**

## Highly Integrated SoC



Developed by Customer Reference provided by GainSpan

From GainSpan



- **Wi-Fi is the ideal solution for OpenHAN/ OpenSG**
- **Wi-Fi enables a lot more applications**
- **Low power Wi-Fi solution enables long battery life**
- **GainSpan provides high level of integration and quick time to market**

[www.GainSpan.com](http://www.GainSpan.com)