



ZWV-101: Introduction to Z-Wave, It's Markets and the Alliance

Industry-Leading IoT Wireless Connectivity



Z-Wave 101 Agenda

- **Z-Wave Alliance**
 - Now A Standards Development Organization (SDO)
- **Introduction to Z-Wave**
- **Differentiating Features**
- **Z-Wave Long Range**
- **Certification**
- **What's the Matter?**
- **New Products Announced at WW21**
- **Unify SDK**

The Z-Wave Community



CES



CEDIA

Z-Wave Alliance: Strong Focus on Go-to-Market Adds Technology



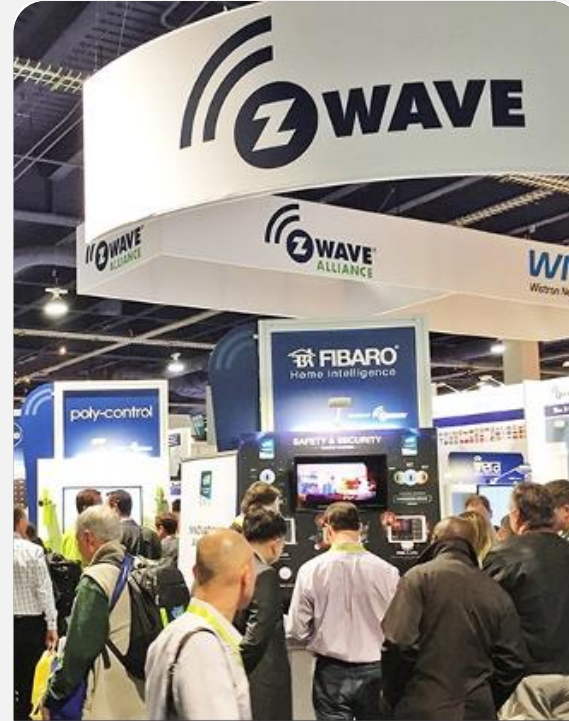
OUTREACH

- Grow, maintain membership
- Member engagement
- New channels
- New markets



THOUGHT LEADERSHIP

- Brand building, awareness, opportunity development
- Summits
- Articles & interviews
- Speaking
- Press & analyst



EVENTS

- Building demand
- Community
- Networking
- Facilitation
- Match-making



DRIVING GROWTH

- Drive Technology
- Roadmap Development
- Innovation
- Technical Working Groups
- Protocol Enhancements
- Specification Upgrades

Z-Wave Alliance Opens the Standard

Goal: Make Z-Wave THE Defacto IoT SubGHz Standard

More Innovation: Take Z-Wave to the next step in its evolution

- Enable multiple **Hardware** vendors with their own peripheral features
- Enable multiple **Software** stack vendors to accelerate software feature development
- Enhance specification through greater collaboration

More Markets: Remove Artificial Barriers

- Become the first widely deployed standard for subGHz
- Enable second-source technology availability
- Enable customers that want to contribute to the protocol they use

Less Confusion: Addressing the Industry Need

- An answer to the harmonization of subGHz
- Fewer competing technologies
- A longer-range wireless solution for the home

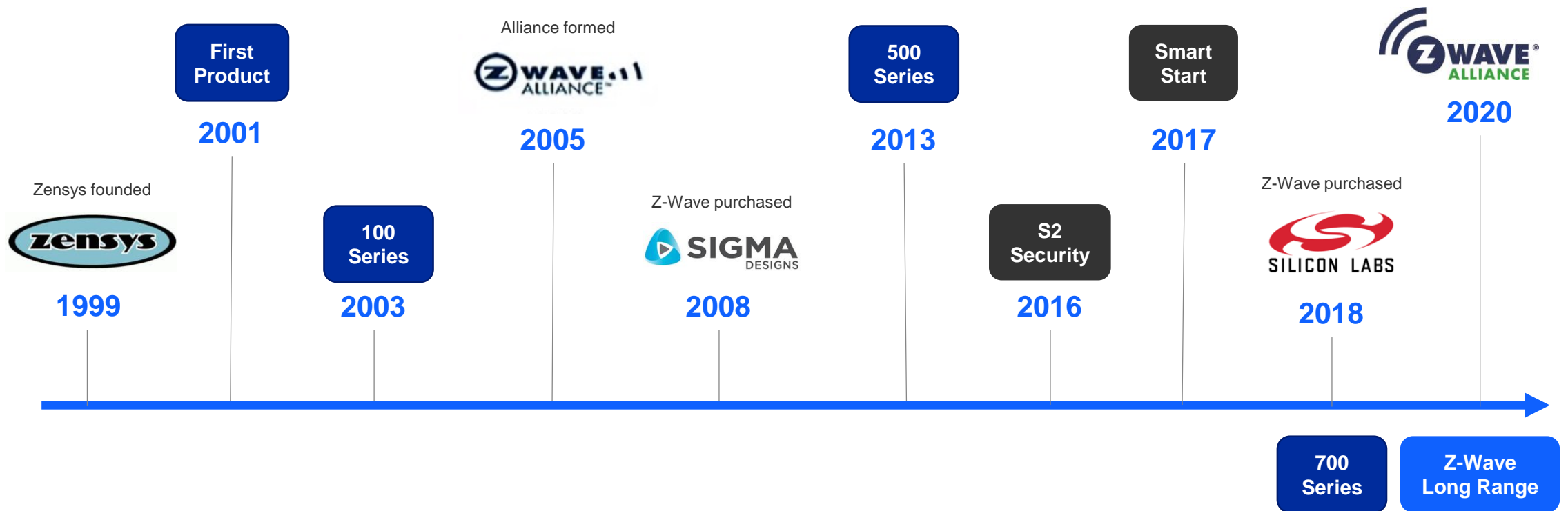
More Verticals: More vendors

- Faster growth (less confusion)
- More choice (peripherals, features, options)
- Better pricing (through larger volumes)



Focus on the Smart Home

A BRIEF HISTORY OF Z-WAVE



Simple, Secure, Interoperable: Z-Wave



Broad Ecosystem

300+ Companies in the New Z-Wave Alliance



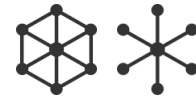
Sub GHz

Penetrates Walls, Long Range,
Less Interference



All Interoperable

3,500+ Products Certified 100%
Interoperable



Mesh & Star

Large network coverage
Robust



Easy to Install

463+ Products Certified with SmartStart



Secure

896+ Products Certified with SmartStart



Low Power

10 years on a coin cell



Global Standard

ITU-T G.9959 | Ratified 2012

The Z-Wave Ecosystem Enables the Smart Home, Hotels & MDUs

SWITCHES



JASCO® qubino®
WIRELESS SMART HOME

Aeotec LEVITON®

SECURITY



ALARM.COM ADT

Qolsys ring

CLIMATE CONTROL



Quby Danfoss

NORTEK CONTROL Honeywell Home
from resideo

WATER



fortrezz DOME
an ezlo company BY GLESA

GoControl®

SENSORS



FIBARO ring

SENSATIVE Ecolink®

LIGHTING



GoControl® LEEDARSON

sengled MONOPRICE

SHADES/BLINDS



SPRINGS WINDOW FASHIONS somfy

FAKRO®

LOCKS



SCHLAGE eugust

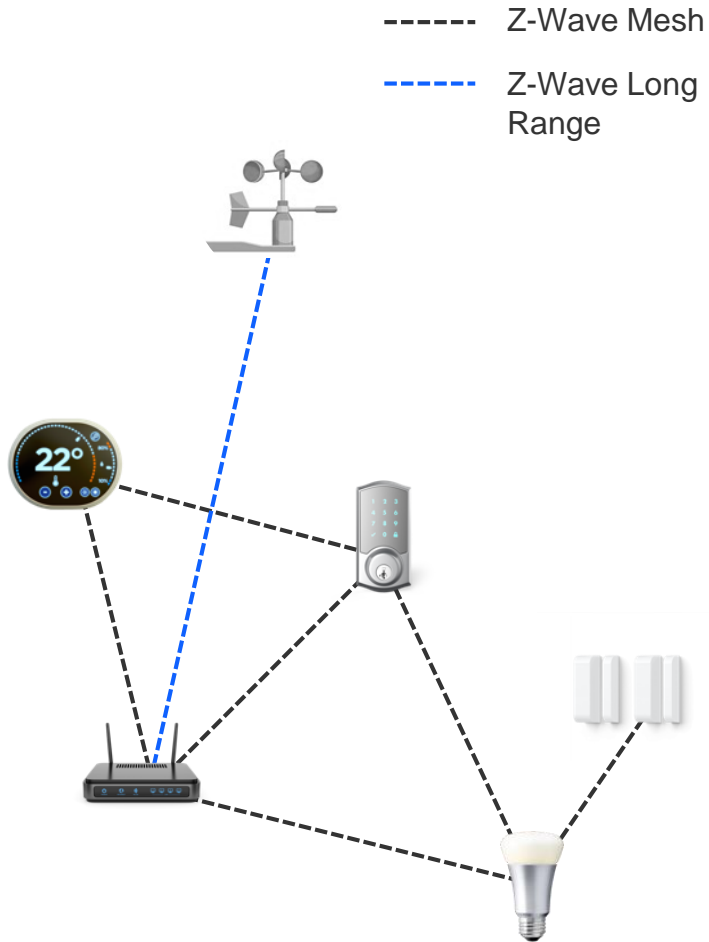
ASSA ABLOY Yale®
The world's favorite lock



Z-Wave Wireless: Introducing Z-Wave Long Range



Z-Wave Wireless



Mesh Network Topology

100 kbps

data rate

+0/14 dBm TX power

400m

Range (4 hops)

Coverage for the smart home and end of yard

200+ nodes

scalable

8-bit address space



Star Network Topology

100 kbps

data rate

Up to +30 dBm TX power

~1-Mile

Range

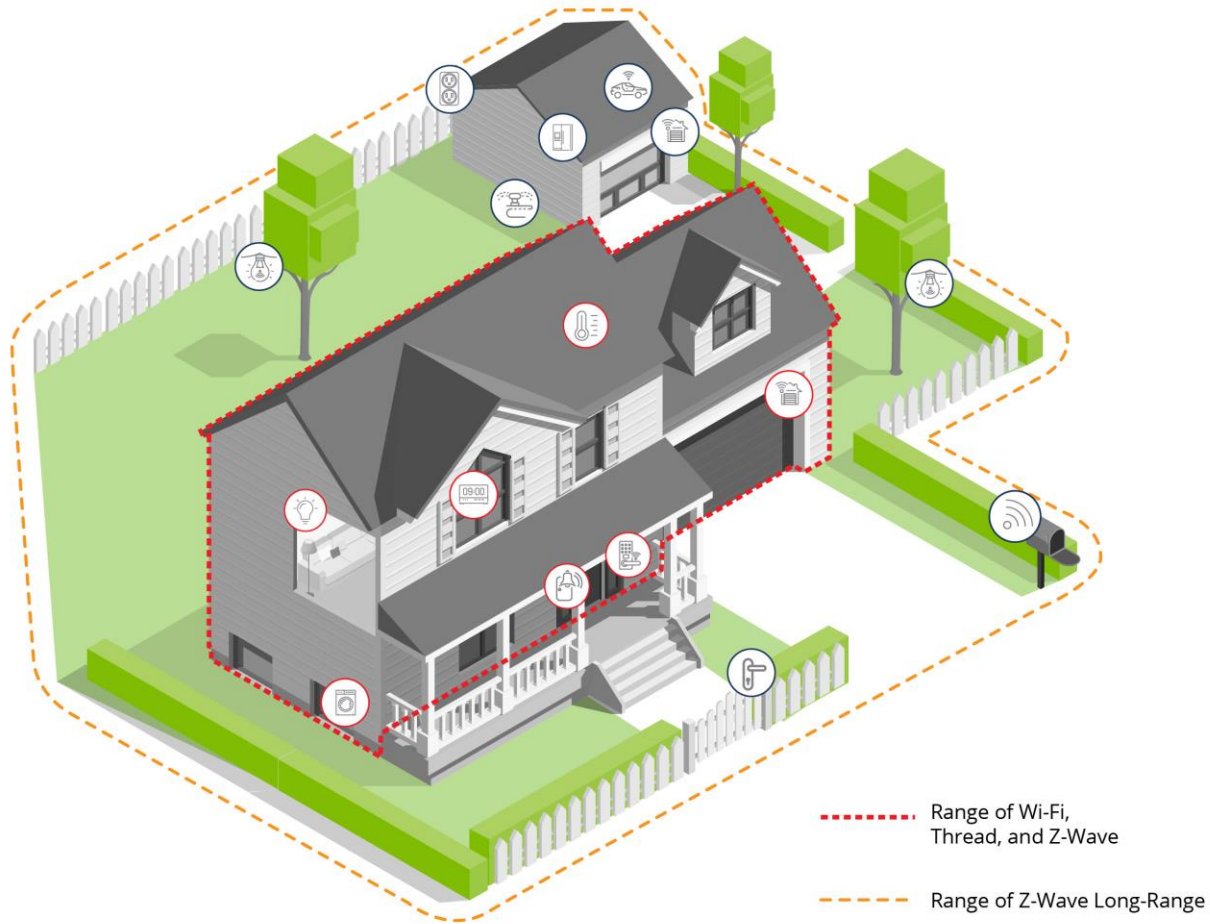
Coverage for the whole home, yard and beyond without a repeater

4000 nodes

highly scalable

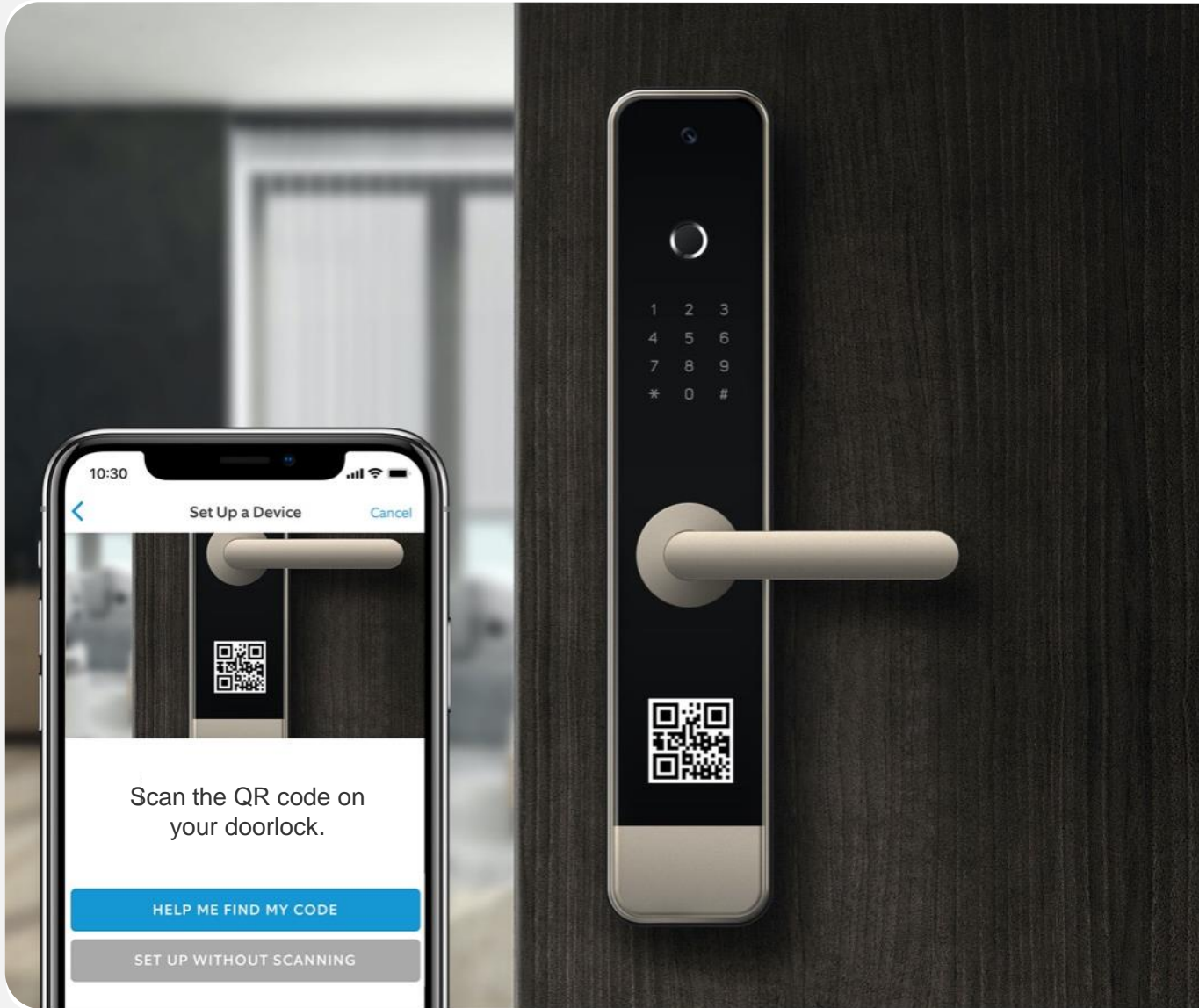
12-bit address space

Z-Wave Long Range [Z-Wave LR]



- **4000+ nodes**
 - Highly scalable
 - 20x increase over Z-Wave
- **Radio range of over a mile**
 - Reach mailbox to back fence
- **Optimized for long battery life**
 - 10 years on a coin cell
- **Backwards compatible**

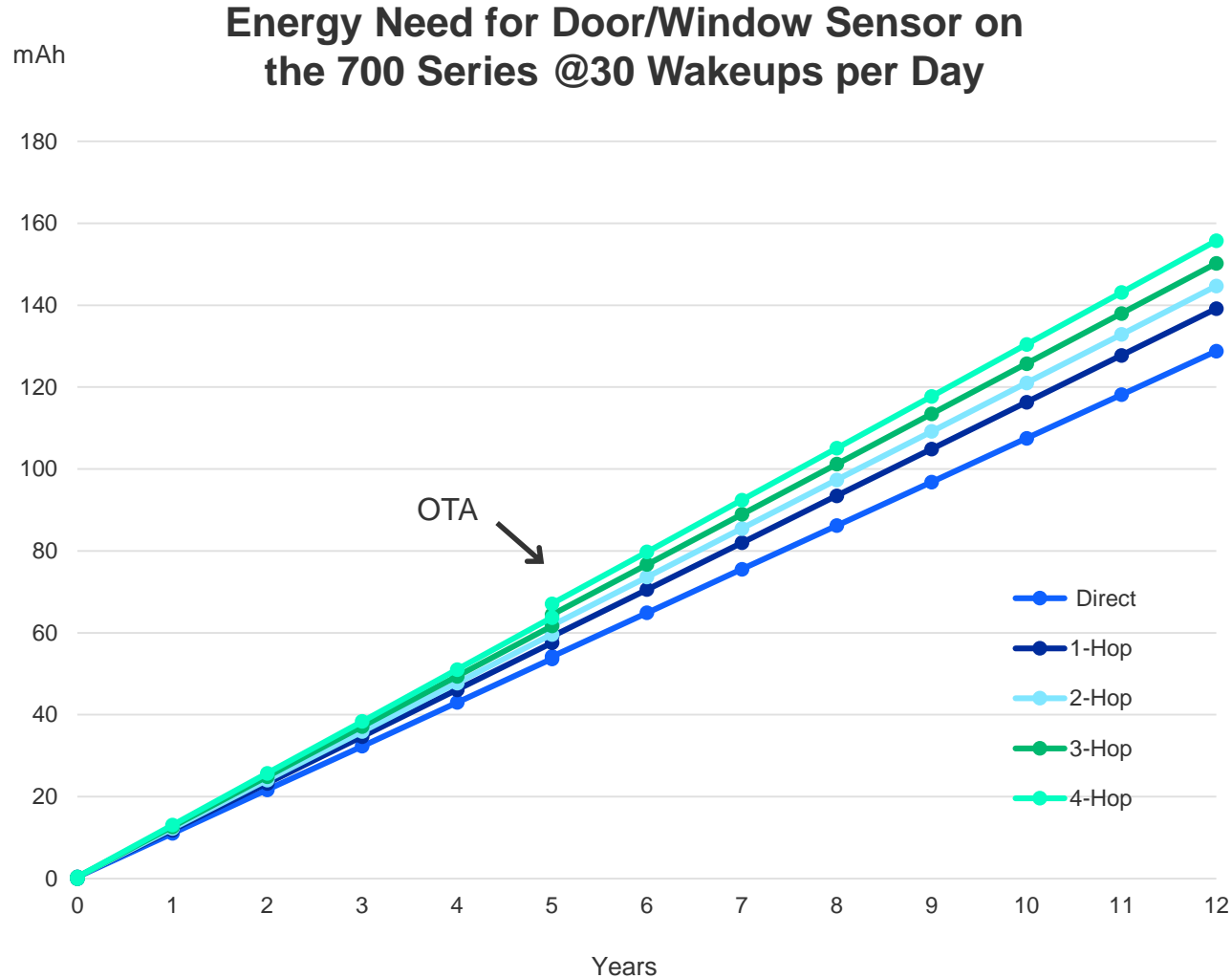
SmartStart: Easy, Error-Free, Secure Commissioning



- **Just take photo**

- Scan QR code to initiate automated installation
- Deliver consistent & secure device setup
- Simplify installations for consumers & installers

Z-Wave 700 Enables 10 Years on Coin Cell



■ Door Window Sensor on Coin Cell

■ Energy estimation

- CR2032 coin cell battery capacity: 225mAh
- Door/Window Sensor
- 30 activations/day in direct range needs: 110mAh during 10 years operation incl. 1 x inclusion and 1 x OTA

Depending on network conditions

Certification Guarantees All Products Work Together



Z-Wave Plus V2 ensures:

- Interoperability between products & vendors
- Backwards compatibility
- Uniform setup and capabilities

Interoperability benefits:

- Ensures all products speak the same language
- Control all Z-Wave products with a single app
- Provides thousands of configuration options
- Certification managed by Z-Wave Alliance

Certification performed by independent test house

- Online forms with comments & certificate
- Extensive tools and test suites provided
- Marketing announcement if desired

Silicon Labs: Advancing What's Possible in the IoT



- **Expertise:** 20+ years providing RF solutions with more than 1 billion deployed wireless nodes worldwide
- **Security:** Providing enhanced security features that help developers increase consumer trust in connected products
- **Platform:** Simplifying IoT product design with highly-integrated devices, reusable software and advanced development tools

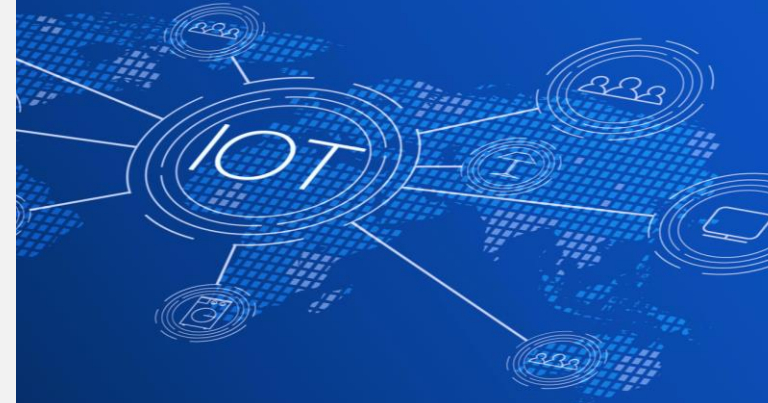


Future



Z-WAVE 800 SERIES EFR32ZG23

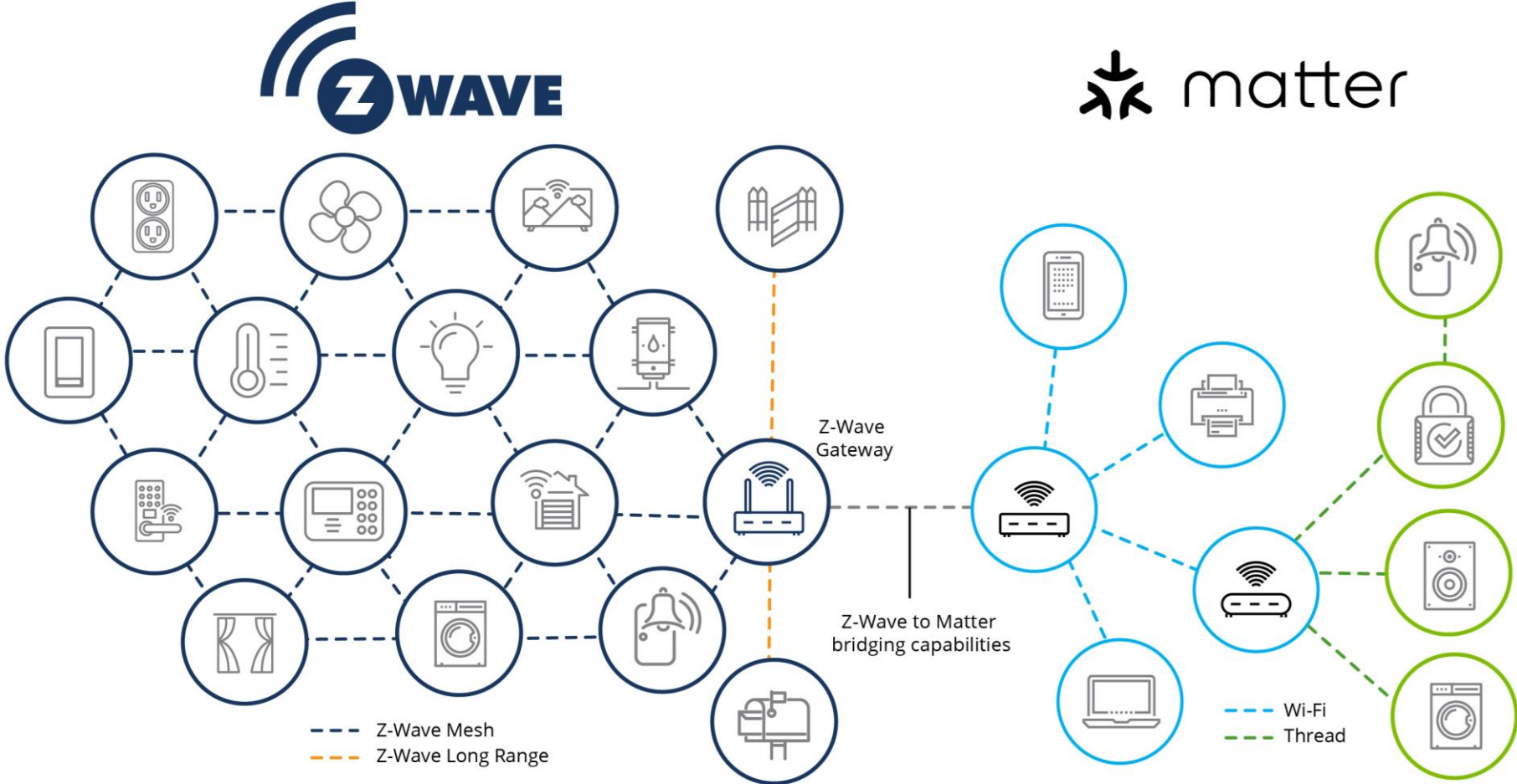
- 2X RF range (+20dbm)
- Lower Rx/Tx power – longer battery life
- Secure Boot
- 78MHz M33 CPU
- Z-Wave Long Range and still 100% backwards compatible with all previous series for over 2 decades



UNIFY SDK IOT CONTROLLER (UIC)

- Gateway software with MQTT server of generic IoT devices
- Silicon Labs handles the plumbing to any wireless protocol – Z-Wave, Zigbee, BLE
- Provides Bridge to Matter (formerly CHIIP)
- One interface to all the different wireless protocols

As a “Matter” of Fact:



For More Information

Z-Wave Wireless Solutions for the Smart Home

Z-Wave is designed to meet the demands of the future smart home, hospitality and MDUs, where increasing needs for more sensors and battery-operated devices require both long-range and low power. Our sub-GHz Z-Wave solutions offer best in class security, SmartStart provisioning, battery life of up to 10 years, full home coverage, customer product-level interoperability, backward compatibility and support for Z-Wave Long Range.



VIRTUAL CONFERENCE

Your Connection to All Things IoT

Silicon Labs is proud to host Works With — Connect hardware engineers, product managers, and the world to accelerate the creation of IoT in workplaces, cities, healthcare, and more.

Register Now



Over 3300 products.
All interoperable with each other.

The Smart Home is powered by Z-Wave.



Home Management

Market leader of the smart home revolution is interoperable Z-Wave.



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