WHY Z-WAVE: 10 REASONS

VOLUME 1
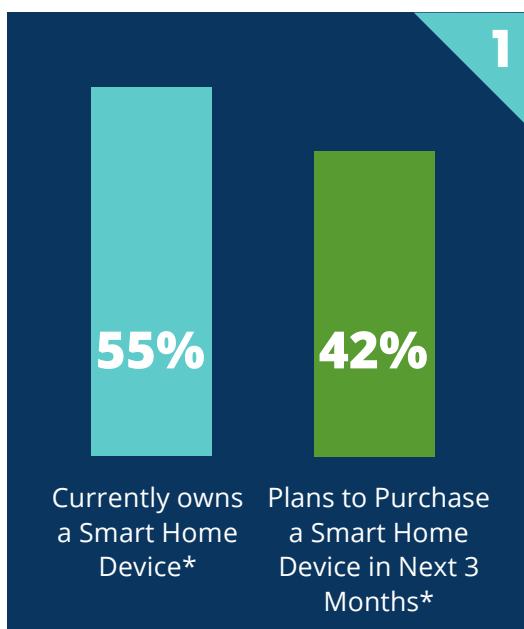
WHY Z-WAVE: 10 REASONS

We are often asked this question. *Why Z-Wave?* and *What is the purpose of the Z-Wave Alliance?* Here is the definitive book on it.

The Z-Wave Alliance is a member-driven standards organization that develops, advocates, educates, and markets Z-Wave Technology to manufacturers, installers, and end users to further the success of the Z-Wave standard in IoT applications.

The Z-Wave Alliance certifies devices to standards that guarantee interoperability with full backwards and forwards compatibility among all generations of Z-Wave devices. These standards include specifications for reliability, range, power consumption, device compatibility, and future-readiness. Alliance members are industry leaders providing connected products, software, and systems that deliver increased comfort, convenience, energy conservation, safety, and security to residential and commercial smart buildings and the people within them.

The Alliance is collectively working to open Z-Wave to new applications, market Z-Wave to end-users, and develop new technical functionality and opportunities for Z-Wave.

The ten most important facts to know about Z-Wave.

1

55%

Currently owns a Smart Home Device*

42%

Plans to Purchase a Smart Home Device in Next 3 Months*

Z-Wave Has Been Around for More than 20 years, and It Is Not Going Away.

Over more than two decades, Z-Wave technology has evolved to what it is today, a ratified multi-source wireless standard for the development of IoT devices. The Z-Wave Alliance has been driving the mission to unify devices regardless of manufacturer brand while progressing the Z-Wave protocol since inception. There are more IoT devices in the home today than any time in history, and that's nothing compared to what is to come. In order for the promise of industry wide interoperability to happen, the hundreds of millions of existing devices, installations and large ecosystems in the market today must continue to function as well as grow, and Z-Wave is the protocol that can bridge these systems.

Interpret research found by the end of 2021, 55% of adults aged 18-55 owned a smart home product, and the average adult owned 5.6 devices.

Furthermore, the data showed that 42% had the intent to buy smart home devices in coming months.

4,000+

Z-Wave Certified Products currently in the market

2

Z-Wave Is Interoperable; Products Enjoy a Widespread Ecosystem.

It's important that products be able to work together with all smart devices in the home, regardless of type, version, or brand. There are 4000+ Z-Wave certified products that are backwards- and forwards-compatible in the Z-Wave ecosystem and well over 100 million devices currently in the market.

3

Z-Wave Was Designed for Smart Home Control.

Z-Wave was designed from the ground up for home control. Its power, range and bandwidth are optimized specifically for smart home applications. Z-Wave's combination of technological agility, low cost, ease of integration, product-level interoperability, and mature mesh networking makes it ideal for control applications.
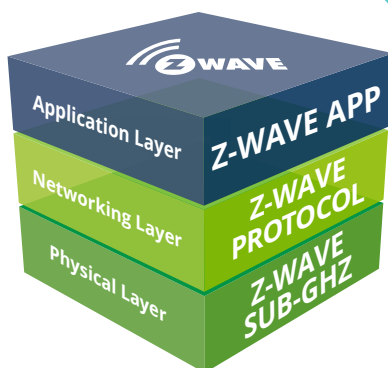
4

Z-Wave Isn't Affected by Wireless Interference.

Z-Wave uses a lower frequency than common household wireless products such as Wi-Fi and Bluetooth. It is not subject to common interference and traffic jams, which makes Z-Wave more reliable for mission-critical tasks and status. Z-Wave operates on the sub-GHz (low bandwidth) vs 2.4GHz (high bandwidth) to capitalize on the application-level benefits of low power, long range, less RF interference. Wi-Fi and Bluetooth operate on the 2.4GHz bandwidth which manages a lot of traffic among power hungry devices. Thread and Zigbee also operate on the busy Wi-Fi standard frequency of 2.4 GHz, while Z-Wave operates at a range of 902-928 MHz in the U.S.

5 Z-Wave Is Securely Encrypted.

Z-Wave uses industry-standard AES128 encryption, and the Z-Wave certification process ensures that Z-Wave smart devices are secure. The Z-Wave Security 2 Framework is designed to eliminate risk of man-in-the-middle attacks and include industry-wide accepted secure key exchange using Elliptic Curve Diffe-Hellman. The S2 framework is mandatory for all devices.

6 Z-Wave's Mesh Network Provides the Best Scalability.

Z-Wave is designed to provide reliable, low-latency transmission of small data packets at data rates up to 100kbit/s and is suitable for control and sensor applications, unlike Wi-Fi and other IEEE 802.11-based wireless LAN systems that are designed primarily for high data rates. Z-Wave devices create a mesh network, where devices can communicate with each other in addition to the central hub. Advantages to a mesh network include greater range and compatibility. The more Z-Wave devices a system has, the stronger the network.

7 Z-Wave Long Range (LR) goes Farther.

Z-Wave LR devices operate on a star network topology that features the hub at a central point and then establishes a direct connection to each device, rather than sending signals from node to node until the intended destination is met, as in a mesh network. With a transmission range of several miles, the Z-Wave LR specification significantly expands the possibilities of system scalability beyond the confines of a single residential property. Z-Wave LR extends Z-Wave capabilities to larger, more complex installations and markets including hospitality, MDU, smart cities, commercial installations, large residential compounds, and more.

8 Z-Wave Offers Consumers the Most Choice.

Z-Wave certified is a logo that assures consumers interoperability across a manufacturer-agnostic ecosystem of 4000+ IoT devices, encompassing virtually every category and application. Consumers can have Z-Wave certified devices professionally installed from security system providers, custom integrators, and tech service companies, or if the consumer wants to install their devices they can buy Z-Wave devices from leading online retailers, home improvement stores, and many other product and service resellers.

9 The Z-Wave Alliance is an SDO.

The Z-Wave Alliance is a standards development organization dedicated to developing and advancing Z-Wave Technology. A consortium of over 300 leading companies in the residential and commercial connected technology market, the Alliance Technical Working Group manages Z-Wave specification development and maintains a library of standard implementations for Z-Wave compliant products.

10 Z-Wave is the Leading IoT Standard for the Sub-GHz.

Z-Wave has proven to be the most ubiquitous of the wireless communication standards; it is the only low-power, medium-bandwidth HAN/LAN technology with interoperability demanded as part of certification of devices. Z-Wave's interoperability layer, with the software added to Z-Wave's open-source library. The Z-Wave MAC/PHY is globally standardized by ITU 9959 . The open-source availability allows software developers to integrate Z-Wave into devices with fewer restrictions. Z-Wave's S2 security, Z/IP for transporting Z-Wave signals over IP networks, Z-Wave middleware, and Z-Wave application are available for open-source development.

Join and Develop

Z-Wave Alliance is a member-driven standards development organization dedicated to market development, technical Z-Wave specification and device certification, and education on Z-Wave technology. Members work together to develop the open-source standard. To start the process of becoming a member of the Z-Wave Alliance, please download the Membership Application Agreement and return it to **administration@z-wavealliance.org**.