WHY Z-WAVE: MDU

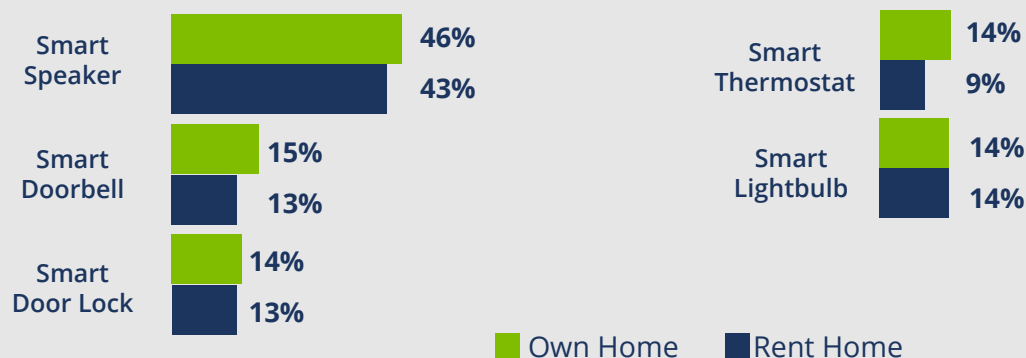# No Time Like the Present

The smart home market is projected to reach USD $537 billion by 2030, according to a June 2022 report by Grand View Research, Inc. While most of this growth is within single-family homes, the Multi-Dwelling Unit (MDU) market has started to accelerate in alignment with the increase in MDUs coming online and tenant demand for home technology devices. For this ebook, MDU's are defined as multiplexes, townhomes, low-rise, mid-rise, and high-rise condo or apartments. The physical structures and centralized systems of MDU buildings share characteristics with commercial buildings, however, the presence of occupants means that individual units and common areas must operate more like single-family homes, prioritizing the comfort, convenience, and peace-of-mind of residents. Herein presents the problem, smart home manufacturers who have attempted to scale their offerings out of single family residential and into MDUs have been challenged by the requirement to meet the needs not only of building occupants but also of property managers.

Smart Home Product Purchase Intentions
Plan to Purchase in next 3 Months*

	Own Home	Rent Home
Smart Speaker	46%	43%
Smart Doorbell	15%	13%
Smart Door Lock	14%	13%
Smart Thermostat	14%	9%
Smart Lightbulb	14%	14%

■ Own Home   ■ Rent Home

Market research confirms that the adoption of connected devices including smart lightbulbs, smart speakers, smart doorbells, smart door locks, motion detectors, and water shut off valves are increasing. However, without coordination of these devices with installed systems, including smart thermostats, major appliances, HVAC equipment, air and water distribution systems, and the building network backbone itself, the ability to create value within the residential unit is limited.

* Source: Interpret

2020 brought forth a

50%

increase in multifamily unit builds, compared to that of 2019.

Source: Buildium®

Cross-over property technology (commonly referred to as proptech) is aimed at both markets. Proptech systems bring facility managers a cooperative means to simplify the building management process, increase building efficiencies, and drive profitability, all while providing a more enticing experience for occupants. It's important that MDU managers consider the network protocol that they are building their property-wide smart ecosystem on to ensure renter satisfaction, greater product choice, and reliability that delivers now – and in the future.

Z-Wave is one of the most popular smart home protocols on the market, Z-Wave can be found in millions of deployed smart devices that are both backwards compatible and interoperable, meaning that no matter when or by whom a Z-Wave device was manufactured, it will still work with newly certified Z-Wave devices. This feature provides MDU managers (and their residents) with a greater range of product choice and the assurance that a system can scale as new smart devices enter the market, and without the fear of losing the initial investment and without additional maintenance costs required for older devices.

Z-Wave Long Range for MDU Buildings

Z-Wave Long Range (Z-Wave LR) is designed to extend network coverage, no matter how close or far away devices are located from the centralized gateway/hub. Long range devices can reach the edge of even the grandest of residential properties, and are finding even greater application within MDU buildings. With a range of over one mile, Z-Wave LR scales across much larger systems, with the ability to support up to 4,000 nodes (device endpoints) than Z-Wave or Z-Wave Plus, while maintaining interoperability with Z-Wave mesh devices. This makes Z-Wave the ideal protocol solution for MDU property technology systems.

The Z-Wave LR technology builds on the benefit of a Z-Wave network while extending the range to perimeter devices such as gate access control, door locks and more, all while bringing increased coverage, scalability, longer battery life, and device inter-operability. Z-Wave LR uniquely leverages dynamic power control to offer up to a 10-year battery life on a single coin-cell battery, incredibly important when deploying thousands of sensors across a MDU property. It is the new frontier.

The Z-Wave Alliance consists of members who are leading the charge in developing technology solutions for the MDU market. Alliance member STRATIS has engineered a specialty IoT software platform that has been completely deployed at The Miles in Minneapolis, MN. These modern luxury apartments consist of 203 units across three buildings managed seamlessly through the STRATIS app. STRATIS enables residents, property managers, and maintenance staff the best apartment community living and working experience. This includes comprehensive property-wide access control, device automation for ease and efficiency, visitor/vendor access, and security through numerous Z-Wave certified hardware integrations including Schlage, Honeywell Home, and JASCO, in cooperation with other smart home devices and their complementary protocols including RealPage, Brivo, ButterflyMX, tour24, and Amazon Alexa.

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Tenants will receive better living experiences and customer service because issues can be resolved quickly and efficiently, all while they have greater control over their units.

48.2M

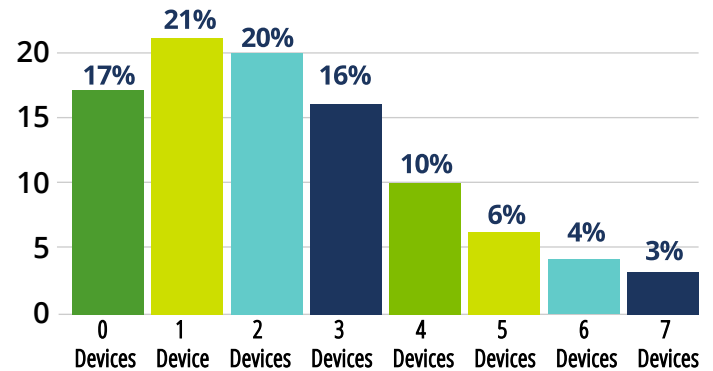available rental units in US – multifamily, single-family, and managed short-term per the **U.S. Census Bureau**

Recognizing the opportunity opened by the inability of residential smart home manufacturers to adequately serve the MDU market, manufacturers like STRATIS have found success with targeted offerings that bridge the challenge of serving both occupants and building operators, alike. Comfort and convenience solutions are notably popular among tech-savvy, environmentally-conscious millennials who comprise the largest portion of the renter population. The MDU market remains competitive for occupancy rates particularly in urban areas, all while regulatory action and volatile energy prices have forced building operators to invest in management systems to increase energy consumption efficiency.

Technology Increases Tenant Retention

Smart technology gives management more control over their properties, along with increased operational efficiencies, resource management, and improved preventative tools. Tenants receive better living experiences and customer service because issues can be resolved quickly and efficiently, all while they have greater control over their units. Z-Wave research has shown that once exposed to home technology, consumers tend to add to their systems, almost two-thirds of professionally installed smart security and smart home control systems have had their installer add more devices, while between 22-27% have added self-installed devices within their home control systems*. As the demand for technology in MDU properties grow, residents and operators will need solutions that provide the best living experience possible and deliver on the smart home promise of enhanced in-unit comfort, convenience, and peace-of-mind.
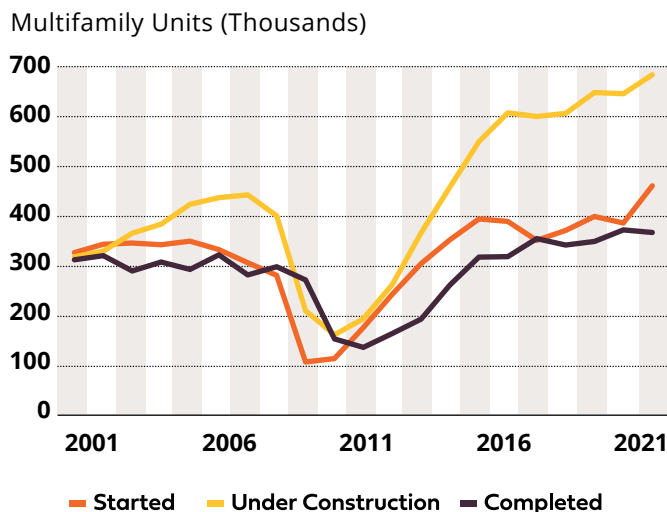
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The majority of renters (82%) want at least one smart device or system in their home. Despite this strong renter interest, nearly half (49%) of respondents don't currently have smart home technology in their apartment, condo, house or townhome.

Source: Rent.com

FIGURE A

The Heated Pace of Multifamily Construction Is Adding Hundreds of Thousands of Units to the Rental Stock

Multifamily Units (Thousands)

■ **Started** ■ **Under Construction** ■ **Completed**

Note: Data for 2021 show the average seasonally adjusted annual rate from January to November.

Source: JCHS tabulations of Census Bureau, New Residential Construction Data.

Harvard Business study on MDU stats

Per the Joint Center for Housing Studies at Harvard University, the strong demand from higher-income households has given a lift to rental construction. Through November 2021, multifamily housing starts reached a three decade high of 466,000 units. (*See Figure A*).

In addition, more than 375,000 multifamily units were completed in 2020, the highest number since the 1980s. With nearly 650,000 units under construction, the pipeline coming on the market is robust, and the opportunity for technology implementation for each unit has the potential to exceed 5 new smart home devices on top of the foundational home network, appliances and smart TVs.

Look ahead

The [Buildium 2022 State of the Property Management Industry Report](#) digs even deeper into the successes and difficulties that property managers have experienced over the last year, as well as the opportunities and challenges that they foresee for the industry in the years to come. For manufacturers and developers with experience in residential smart home, there is now both technology, opportunity, and need to shape the connected solutions landscape for MDU tenants and managers, alike.

Join and Develop

Z-Wave Alliance is a member-driven standards development organization (SDO) 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.