The Way of the Future for Multifamily Housing:

High-Speed Internet and Smart Technology

Introduction

The events from the past year heightened the importance of connectivity as our homes took on new roles as our places of work, our schools and our entertainment hubs. With a growing expectation of work flexibility, more online education, and greater emphasis on streaming entertainment, people increasingly need reliable Internet.

Two years ago, we found smart home and smart building technologies were just beginning to appear at the forefront of the multifamily tech world. The 2019 The State of Smart Technology in the Multifamily Housing Industry survey from Xfinity Communities illustrated how quickly smart technology was becoming a requirement for residents across age groups and dove into the network implications stemming from this trend. This year, we found that interest in smart home tech remains, but there is a greater emphasis on the strong network behind it.

As a leading provider in the multifamily industry, Xfinity Communities understands the unique technology needs in this space and how to help property managers, owners and developers future-ready their properties to improve the resident experience. Our new survey, The Way of the Future for Multifamily Housing: High-speed Internet and Smart Technology, emphasizes how the Internet has evolved beyond being an amenity to something that should be reliable and ubiquitous and that smart technology demand is not going anywhere. This report provides an in-depth look into how the multifamily industry is embracing next-step tech amenities to customize their properties and how residents' expectations have changed over the past years.

- Adrian Adriano
  VP, Xfinity Communities

Overview:
The State of Smart Technology in the Multifamily Housing Industry

Technology is ever-expanding into daily life – from making processes more efficient to finding new ways to connect people, and the U.S. multifamily housing industry is no exception. Smart home technology is transforming the industry by creating efficiencies and opportunities for both the properties and their residents. In a year that required greater online and technological connection than ever before, potential and existing residents looked to their properties to provide smart home technology, while property managers, property owners and real estate developers turned to smart technology to improve cost savings, create operational efficiencies and allow them to better connect with their residents while maintaining safety protocols amidst a global pandemic. As daily life returns to normal, residents will still expect to have access to both high-speed Internet and smart technology in their homes in order to stay increasingly connected.

Property managers recognize this – citing plans to increase their focus on high-speed Internet after the pandemic. Accordingly, property managers, owners and developers also report increased interest in smart technology in-unit among residents in the past year. Residents show the greatest interest in smart home security and energy solutions, recognizing the multiple benefits offered by smart home technology like convenience, control and managing energy costs. Smart home technology can also be an asset in increasing property value, attracting new residents, and keeping current residents satisfied.

Despite the growth in awareness and adoption of smart home technology, the multifamily housing industry is still experiencing challenges in full implementation. Major challenges include complexity of installation, complexity of the technology and high initial costs. As residents increasingly look for smart home technology in their existing or future units, multifamily properties also face difficulties in hiring maintenance staff with the skillset to attend to both traditional and smart-home related issues. Property managers, developers, owners and maintenance staff will need to adapt in order to move beyond the learning curve of smart technology and incorporate it into daily practices – and thus, moving their properties into the future.

The following report examines the state of connection in the multifamily housing industry today – both in where the industry stands in high-speed Internet connection and in the adoption of smart home technology.

ABOUT THE STUDY

The Way of the Future for Multifamily Housing: High-Speed Internet and Smart Technology report is based on a survey conducted by LEWIS Research on behalf of Xfinity Communities to better understand the importance of high-speed Internet and the impact that the adoption of smart home and building technology has on the multifamily housing industry. The findings detailed in this report are based on data collected in the study which consisted of 200 total responses from property managers, real estate developers, and property owners who are employed at multifamily residences, from April 23, 2021 to May 4, 2021 with a margin of error of +/- 5.8 percentage points.

KEY TAKEAWAYS

- Multifamily housing properties report plans to focus more on high-speed Internet after the COVID-19 pandemic
- Property managers agree that fast Internet is more of a requirement these days than an amenity
- Residents have become more interested in smart technology in-unit over the past year
- New and prospective residents are looking for the latest smart home technology
- Smart technology increases property value and makes it easier to connect with residents, according to property managers, building owners and real estate developers
- Property managers say smart home technology is the way of the future, an important consideration in their organization's plans to adopt smart technology at their properties
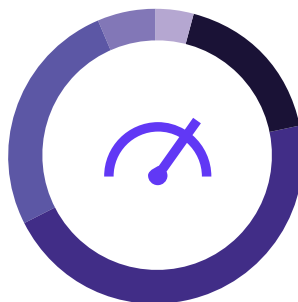
Internet Speed: The Road to 1G+

Fast Internet is more important than ever. From an increase in remote work to the growing adoption of smart home technology, residents rely on fast Internet speeds in all parts of their daily life.

▷▷▷ *Over nine in ten property managers, owners and developers (92%) agree[1] that fast internet is more of a requirement these days than an amenity.*

Whether streaming the latest show, shifting online for remote learning, or relying on in-unit smart technology, residents expect seamless service across all connected devices. Over eight in ten (86%) agree[2] that the Internet speed available at their properties meets the expectations of their residents. Despite this focus, many properties are falling behind. Only three in ten (31%) report Internet speeds above 500 Megabits per second (Mbps) available at their properties.

Average Internet speed available at their properties:

- Less than 50 Mbps: 4%
- 50-249 Mbps: **17%**
- 250-499 Mbps: **44%**
- 500-999 Mbps: **25%**
- 1 Gbps or more: 6%

As the technology improves and potential Internet speeds multiply, the multifamily industry must evolve and invest in high-speed Internet to deliver the experience their residents are looking for.

Where We Stand:
The Adoption of Smart Home Technology

Smart home technology adoption continues to grow in the multifamily housing industry. Respondents estimate that, on average, over half (55%) of the multifamily housing
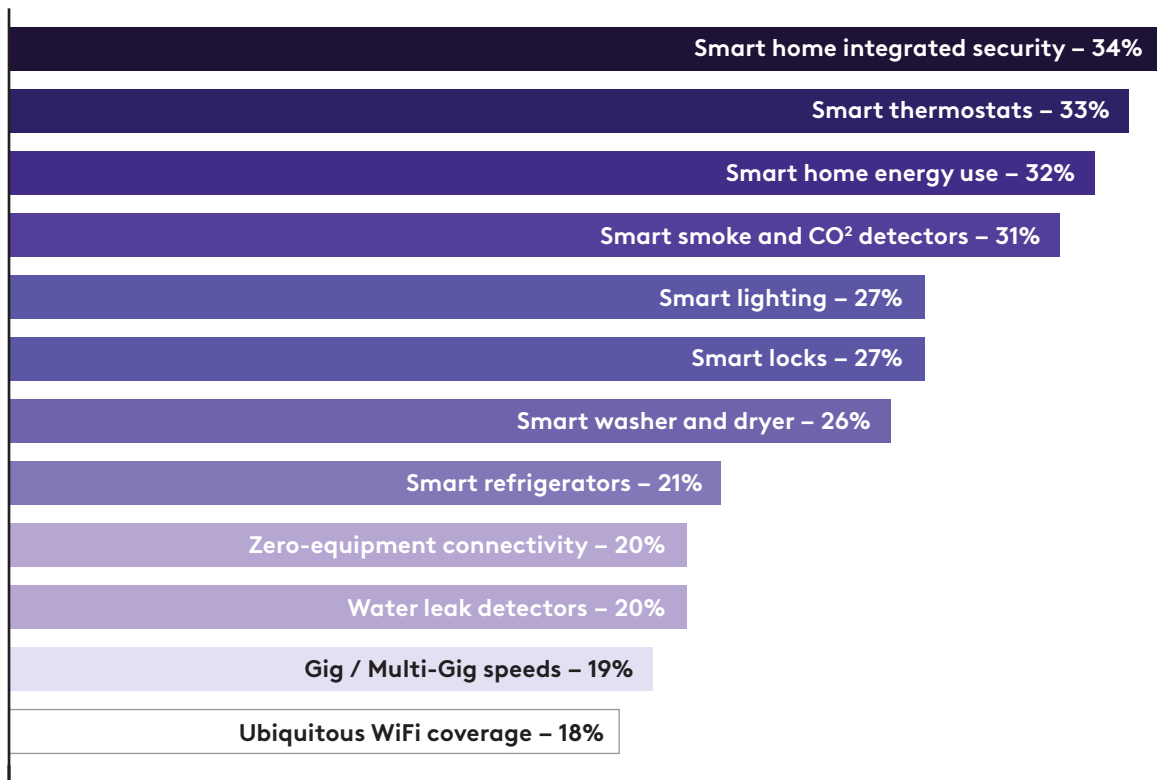
[1]Strongly agree / somewhat agree • [2]Strongly agree / somewhat agree

industry has begun to adopt smart home technology.

▷▷▷ *Over eight in ten (84%) report that residents have become more interested[3] in smart technology in-unit over the past year.*

As to why, property managers, developers and owners connect this increased interest to smart technology being more mainstream (36%), smart technology offering a greater level of control or customization (35%) and smart technology resulting in greater efficiency (32%). Three in ten (31%) say there is an increased interest in contactless solutions due to COVID-19. According to organizations, residents are interested in smart security and energy solutions.

What types of technology or smart technology are residents or potential residents most interested in?

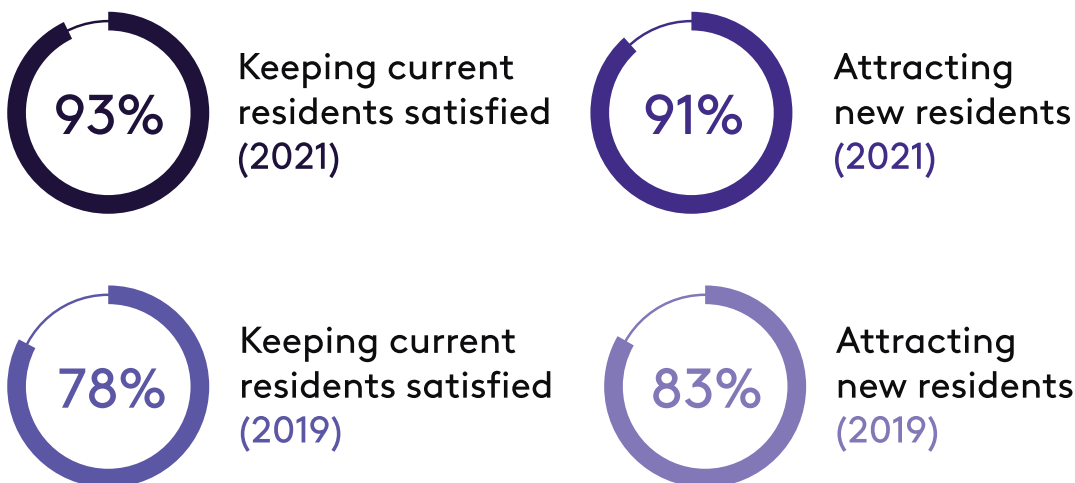|	
Smart home integrated security – 34%	
Smart thermostats – 33%	
Smart home energy use – 32%	
Smart smoke and CO_2 detectors – 31%	
Smart lighting – 27%	
Smart locks – 27%	
Smart washer and dryer – 26%	
Smart refrigerators – 21%	
Zero-equipment connectivity – 20%	
Water leak detectors – 20%	
Gig / Multi-Gig speeds – 19%	
Ubiquitous WiFi coverage – 18%	

[3]Much more interested / somewhat more interested

Respondents indicate that their organizations understand the importance of smart home technology in order to provide the best experience for their residents and keep up with competition in the market. They overwhelmingly agreed that the following considerations are important[4] when it comes to their organization's plans to adopt smart home technology at its properties:

- Implementing smart home technology can help residents that have various disabilities and limitations – **79%**
- Our current and prospective residents have a strong desire to have access to smart home technology – **75%**
- Our competitors do not offer smart home technology, so it gives us an advantage over them – **73%**

Smart home technology can also help properties keep existing residents satisfied and potential residents interested. Over nine in ten (92%) say adoption of the latest technology is an important factor[5] to keeping current residents satisfied and attracting new residents, compared to four in five in 2019 (78%).

93% Keeping current residents satisfied (2021)

91% Attracting new residents (2021)

78% Keeping current residents satisfied (2019)

83% Attracting new residents (2019)

While properties are making progress in their implementation of smart home technology, many still have a ways to go in fully adopting certain smart home technologies. Few properties report no plans in adopting smart home technologies.
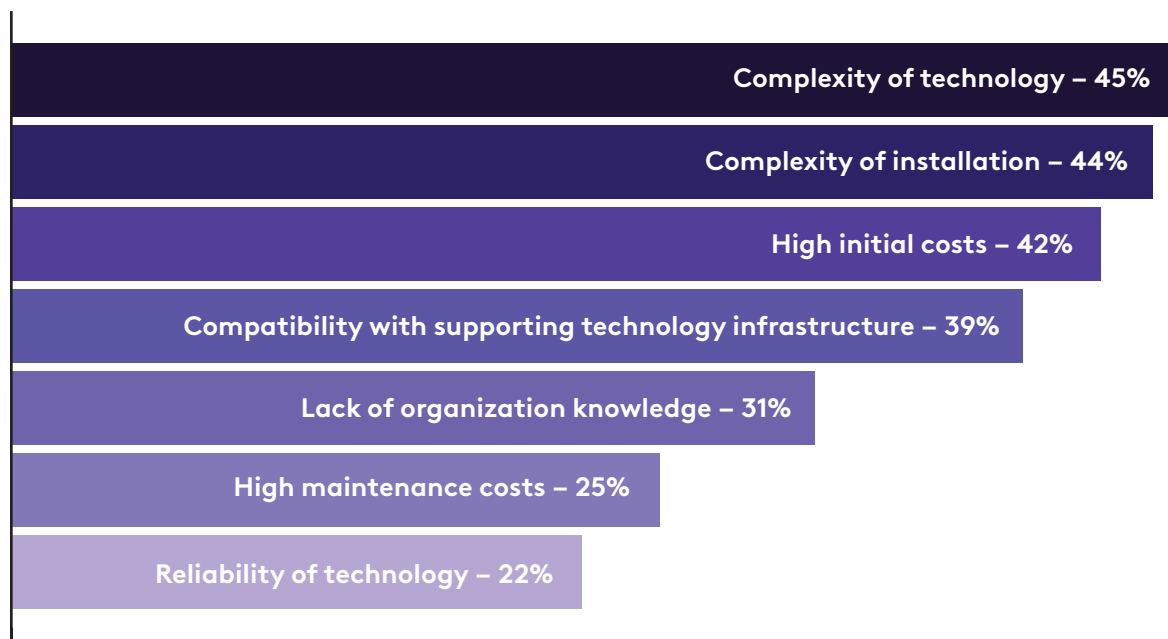
[4]Extremely important / very important • [5]Importance of 7-10 (0 (not at all important as a factor) -10 (most important factor) scale)

	Fully adopted	Adopted but finishing implementing	Have decided to adopt but still need to implement	Have had conversations to adopt but they are ongoing	We have no plans in adopting	Don't know
Cameras in common areas	42%	32%	14%	7%	6%	0%
Smart lighting	37%	33%	10%	11%	9%	2%
Water leak detectors	37%	35%	10%	10%	8%	2%
Digital resident message boards	37%	30%	14%	8%	11%	1%
Smart locks	36%	33%	14%	10%	9%	0%
Smart smoke and CO_2 detectors	36%	30%	17%	9%	10%	1%
Smart home energy use	35%	33%	16%	7%	10%	1%
Smart washer and dryer	35%	30%	17%	6%	13%	1%
Smart refrigerators	34%	35%	12%	7%	13%	1%
Smart thermostats	34%	32%	17%	8%	8%	1%
Resident services webpage	33%	34%	19%	7%	9%	0%

Growing Pains:
The Challenges of Smart Technology Adoption

Despite recognition around the transformative future of smart technology in the industry, there are still growing pains and misconceptions around the negatives of these technologies. Multifamily property managers, developers and property owners say the greatest challenges associated with their organization's adoption of smart home technology are complexity of technology, complexity of installation and high initial costs.

Which of the following are the top challenges associated with your organization's adoption of smart home technology?

Complexity of technology – 45%

Complexity of installation – 44%

High initial costs – 42%

Compatibility with supporting technology infrastructure – 39%

Lack of organization knowledge – 31%

High maintenance costs – 25%

Reliability of technology – 22%

Of respondents who report high costs as an issue, over three-quarters (78%) say they are a major barrier. Over half of respondents (51%) reported that they believe the adoption of smart home technology by their organization has reduced the speed of their properties' Internet bandwidth. Despite being perceived as a challenge, Internet bandwidth is not affected in deployment, demonstrating a need for further education and understanding on the implementation of smart home technology.

As the adoption of smart home technology continues to grow, property managers, owners and developers also face the challenge of hiring maintenance staff with the skill set needed to attend to these solutions. Three in ten respondents (30%) say it has been very or extremely difficult for their organization to hire maintenance staff with the skill set to attend to both traditional and smart home-related issues. Moving forward, nearly four in ten (39%) say it will be an absolute requirement for them to be able to fix issues related to smart home technology moving forward at their organization's properties in the next 3 years, while three in ten (30%) say it will be a major consideration when it comes to hiring, but not the only determining factor.

The Modern Workforce:
How Smart Technologies Impact the Day-to-Day

Property managers, property owners and real estate developers recognize the transformative impact smart home technologies can have for their teams as well as their residents.

▷▷▷ *Smart home technology provides greater peace of mind for me and my team[5] – **85%***

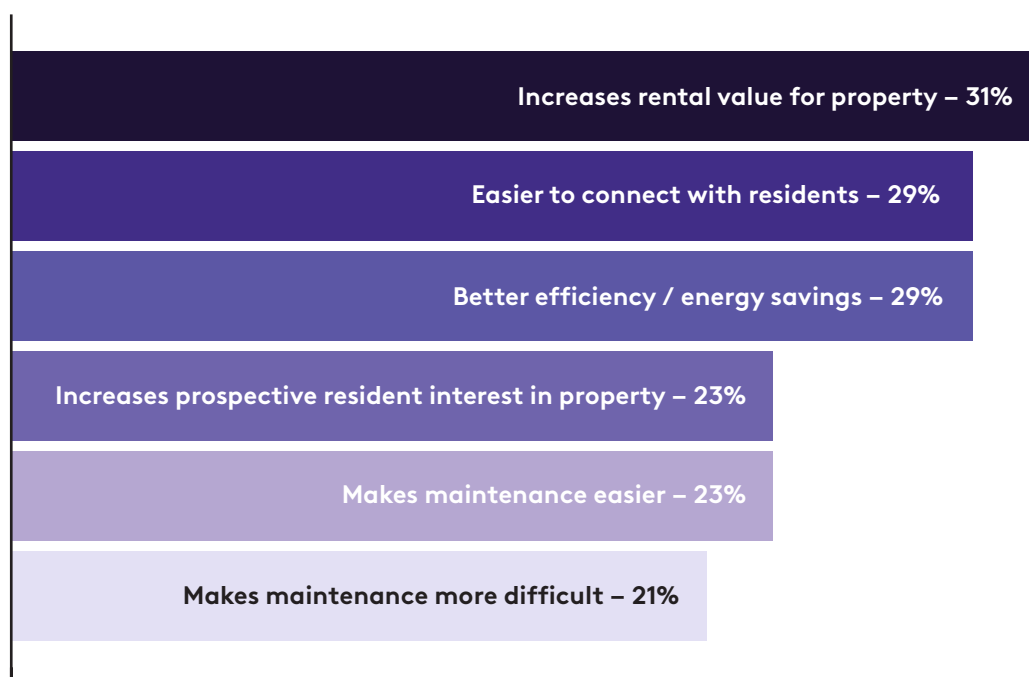▷▷▷ *Smart home technology provides greater peace of mind for my residents[6] – **82%***

There are a number of important considerations when it comes to organization's plans to adopt smart home technology at its properties. Organizations recognize[7] that smart home technology can provide a number of benefits for their staff and their properties, including cost savings, simplifying the day-to-day, and environmental responsibility.

• Smart home technology is the way of the future, the sooner we have it the better – **75%**
• Smart home technology is good for our bottom line – **75%**
• Smart home technology makes our organization's jobs easier on a day-to-day basis – **74%**
• We believe that it is environmentally responsible to adopt smart home technology – **74%**

[5]Strongly agree / somewhat agree • [6]Strongly agree / somewhat agree • [7]Extremely important / very important consideration when it comes to organization's plans to adopt smart home technology at its properties

Automation associated with the adoption of smart home technology can affect the day-to-day workload in a variety of ways, but many organizations indicate that they are getting used to this way of work. Nearly half of respondents (44%) say their day-to-day workload is about the same despite automation associated with the adoption of smart home technology. Smart technology can also increase property value, make it easier to connect with residents and provide a variety of infrastructural property benefits.

How has smart technology impacted the day-to-day at your job?

Increases rental value for property – 31%

Easier to connect with residents – 29%

Better efficiency / energy savings – 29%

Increases prospective resident interest in property – 23%

Makes maintenance easier – 23%

Makes maintenance more difficult – 21%

The Future of Work:
Teleworking and Smart Technology Amid the COVID-19 Pandemic

The COVID-19 pandemic brought changes to all industries. As the number of residents spending time at home and teleworking grew, properties were forced to adapt to better address the needs of their residents. Nearly nine in ten respondents (86%) report that resident reliance on Internet increased[8] during the COVID-19 pandemic. As the COVID-19
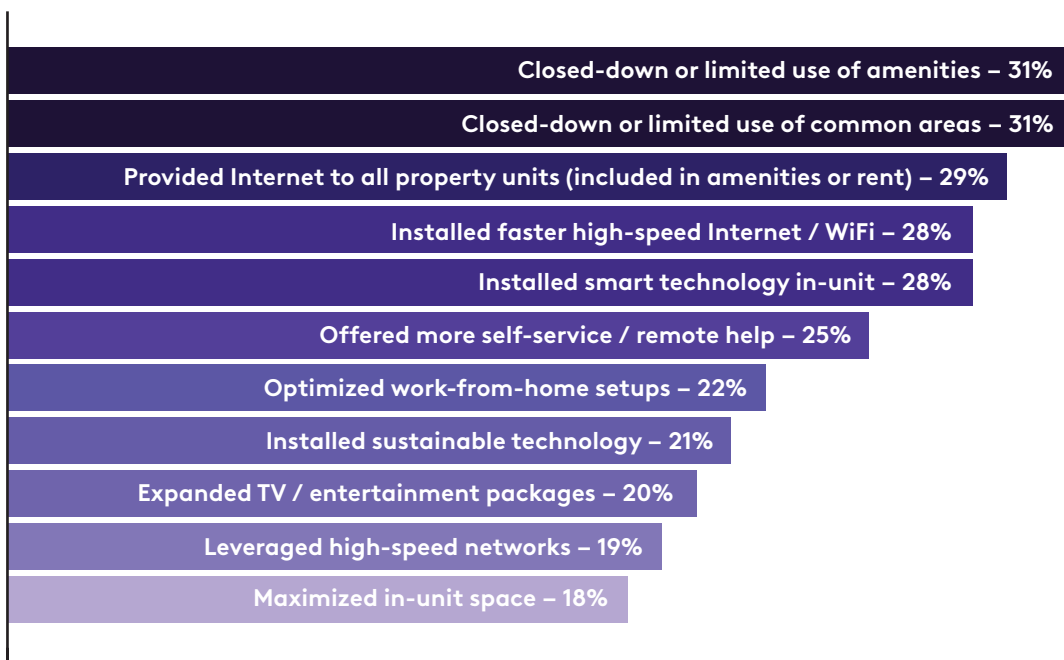
[8]Greatly increased / somewhat increased

pandemic slows down, some organizations expect to see certain industries within the modern workforce evolve towards a hybrid remote-work environment.

Respondents indicated they expect the number of residents teleworking from home to increase (53%) or stay the same (42%) in the next 3 years. Only four percent expect to see a decrease in the number of residents teleworking in the next 3 years. Organizations have tried to adapt properties by taking steps including providing instant Internet (i.e., providing Internet to all property units), offering robust WiFi and conference rooms to better allow for it to manage an influx of residents teleworking from home. In-unit, properties offered increased WiFi capabilities, smart adapters and availability of faster Internet to make individual units more friendly to teleworking.

Many properties were forced to evolve during the pandemic. While much of this involved shutting down shared spaces or amenities, other ways to adapt included offering better or faster Internet and smart home technology to residents.

Did your properties implement any of the following changes during the COVID-19 pandemic?

Closed-down or limited use of amenities – 31%
Closed-down or limited use of common areas – 31%
Provided Internet to all property units (included in amenities or rent) – 29%
Installed faster high-speed Internet / WiFi – 28%
Installed smart technology in-unit – 28%
Offered more self-service / remote help – 25%
Optimized work-from-home setups – 22%
Installed sustainable technology – 21%
Expanded TV / entertainment packages – 20%
Leveraged high-speed networks – 19%
Maximized in-unit space – 18%

According to organizations, many of these changes will be here to stay, including leveraging high-speed networks for new property operations functionalities (74%), offering more self-service or remote help (73%), and installing faster high-speed Internet (73%). Three in five also indicate plans to continue installing sustainable technology (62%) and installing smart-technology in-unit (62%).

▷▷▷ *As to what will become the focus moving forward, organizations report their properties will focus more on high-speed Internet / WiFi after the COVID-19 pandemic.*

Smart Technology:
Its Impact on the Mixed-Use Sector

Smart technology is also making its way through the mixed-use multifamily property industry. Of organizations who currently operate mixed-use properties, nearly half (47%) say they are advanced in their adoption of smart-building technologies and nearly one in five (17%) say they have adopted some smart building technologies but still have a ways to go. One-third (34%) are more confident, reporting that they are at the cutting-edge of smart building technology adoption at their organization's mixed-use properties.

Mixed-use properties had the greatest adoption of the following smart building technologies:

	Fully adopted	Adopted but finishing implementing	Have decided to adopt but still need to implement	Have had conversations to adopt but they are ongoing	We have no plans in adopting	Don't know
Safety and security	49%	32%	12%	7%	0%	0%
Building management	47%	32%	15%	6%	1%	0%
Lighting	44%	28%	23%	4%	1%	0%
Energy Systems	44%	26%	22%	6%	2%	0%
Building structures and systems	42%	39%	14%	5%	0%	0%
Building envelopes	42%	34%	20%	2%	2%	1%
Windows	41%	40%	12%	4%	2%	0%
Foundations and pavement	41%	34%	16%	6%	4%	0%
Water systems	36%	34%	25%	2%	3%	0%
Safety and security	49%	32%	12%	7%	0%	0%
Mobility	38%	39%	18%	2%	2%	1%
Sensors	39%	39%	14%	7%	2%	0%

Conclusion

Residents today rely on technology more than ever before – whether streaming on multiple devices, teleworking, or using smart home technology to create greater convenience, control or efficiencies in their home – and high-speed Internet is one of the most important technology-driven amenities residents enjoy the most. The need for properties to fully adopt and implement high-speed Internet and smart home technology has already increased over the past few years and will continue to increase with time. In 2019, 68% of respondents believed it was an important consideration when it comes to their organization's plans to adopt smart technology that their current and prospective residents have a strong desire to have access to smart home technology, compared to 75% in 2021. Smart home technology can be an asset in keeping current residents satisfied and attracting new residents, as technology comes into play while leasing to residents of all ages:

- Technology infrastructure is the most important factor when it comes to my organization's ability to lease to those under 40 years of age[9] – **81%**
- Technology infrastructure is the most important factor when it comes to my organization's ability to lease to those over 40 years of age[10] – **76%**

Smart home technology is not only an important tool in helping residents remain connected, but it can also offer a variety of benefits and advantages to property managers, developers and owners such as increased rental value, better building security, great energy efficiencies and making it easier than ever to connect with residents in a way that is relevant and convenient. While many industry insiders look at full adoption of smart home technology as a challenge to bandwidth, implementation costs or maintenance staff, better education around the reality of smart home technology and the efficiencies it creates will allow the industry to understand how to successfully increase adoption and meet the expectations of their residents.

[9]Strongly agree / somewhat agree • [10]Strongly agree / somewhat agree