

# THE CONNECTED HOME: AN EVOLVING CONSUMER MARKETPLACE

By Rawlson O'Neil King

*The connected home has been defined as a living space that allows people to manage all aspects of their homes in convenient ways.*

Connected homes typically include automation, connection of home electronics and appliances, both within the home and over the internet, wireless networking, entertainment, and energy conservation with remote monitoring.

Connected homes can also perform operations such as controlling lighting, heating, air conditioning and security systems.

Generally speaking, members of the connected home industry believe the consumer market is on the cusp of *en masse* adoption of technologies related to the connected home.

Right now, manufacturers and service providers are developing connected home products and services. In general, these are products and services designed to provide entertainment programming, automate common household tasks, and let people communicate with each other more easily.

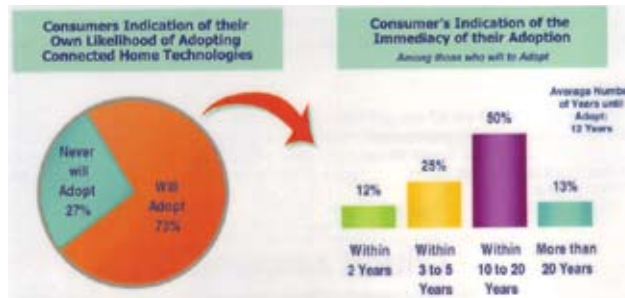
While the industry has been obviously enthusiastic about consumer adoption, consumers themselves have been cautious. Consumer research completed by the Continental Automated Buildings Association (CABA) in 2006 found that consumers were not as ready for the connected home concept as many in industry would believe.

CABA also found that while the majority of consumers believed at some point that they would adopt connected home technologies, many did not think they would necessarily adopt such products and services in the immediate or near future.

CABA made these findings when it conducted its first Connected Home Roadmap in 2005 as a snapshot assessment of the marketplace and its probable short term evolution.

The report helped facilitate the identification and development of business opportunities to encourage mainstream adoption of connected home solutions and their enabling technologies.

Since 2005, the organization has published a wide range of studies of the connected home marketplace. Much of that research has found that while the majority of consumers believe they will at some point adopt connected home technologies, many do not expect that they will be using them in their homes in the near future.



Consumer likelihood of adopting connected home technologies (Source: CABA Connected Home Roadmap, 2006)

In a large tracking study of US consumers conducted during 2008, CABA asked consumers to rate the appeal of the "connected home." The results: About one-in-four consumers considered the connected home idea "definitely or somewhat appealing," essentially the same number as in 2005.

While interest in the connected home idea seemed stagnant on the surface, CABA noticed that mass market consumers, those who typically have a "wait and see" approach to adopting new products and services, were a bit more neutral and open to the idea than three years earlier. Early adopters on the other hand, ever quick to grasp the synergies that result from a whole-home system, remained as strongly interested in 2008 as they were three years earlier.

The most recent research that CABA has conducted has found that opportunities to advance home control and monitoring capabilities as a comprehensive product and service are limited for many manufacturers and service providers, but that healthy demand exists for the ability to remotely control all home functionalities, especially energy consumption.

Until recently, consumers have had no viable way to identify energy wasting devices in the home. That, however, is rapidly changing as a number of emerging home energy monitoring solutions are rolled out across North America, in conjunction with smart meters.

According to CABA research, there is a substantial market opportunity for energy management and control products and services. These are systems that track where and when energy and water is being consumed and products that schedule and control appliance usage, along with products that allow users to centrally control room temperatures and lighting.

These home energy management systems are designed to provide the consumer and the power company with information that they need to reduce waste and schedule demand to avoid

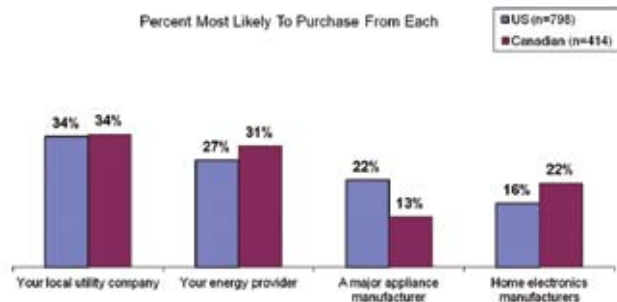


Readiness for connected homes (Source: CABA Connected Home Roadmap, 2006)

Appeal of the Connected Home Concept	U.S. 2008			U.S. 2005		
	Total	Early Adopters	Mass Market	Total	Early Adopters	Mass Market
Definitely/somewhat appealing	23%	51%	2%	22%	51%	1%
Neutral	61%	48%	71%	57%	48%	63%
Definitely not/somewhat not appealing	16%	0%	28%	21%	1%	36%

Source: 2005 and 2008 State of the Connected Home Market Studies. Total sample size (n) = 1,800 per wave. Percentages may not add to 100% due to rounding.

Appeal of connected home concept (Source: CABA/Zanithus Home Control White Paper, 2009)



Who would you be most likely to purchase improved solutions from? (Source: Connected Home Roadmap, 2010)

peak periods, thereby reducing the need to increase power generation.

For several high opportunity areas, many consumers who are dissatisfied with their current energy management are willing to pay for improved capabilities, such as for programmable lighting controls, eliminating phantom energy drains, and individual room lighting and temperature control.

Not surprisingly, consumers continue to expect energy management systems to deliver on the promise of saving money. In a previous CABA survey, four-in-five expected payback on their investment in a home energy management system to occur within five years, with just over half expecting it to occur within two years.

To meet these ambitious goals, consumers expect their power companies to help underwrite the costs of needed equipment and improve their home's energy efficiency through their own actions.

The research found that consumers view utility companies in high regard and that they are the ones that are most engaged by consumers when they require help managing energy use. Indeed, over one-quarter of home decision makers look to their energy provider as a source of energy management products and fewer consumers expect brown or white good manufacturers to offer these products.

Though not covered in CABA consumer studies, industry players have told us that consumers want control over changes to their home's energy consumption habits, and they do not want to hand total control over to the utility company via a demand response system. They want to compare their overall energy consumption to neighbours and to similar homes to determine what their consumption should be, and learn what steps are need to make improvements. Then, to determine if their goals are being met, they expect to actively monitor their usage, at least at first. They want to set a specific energy usage threshold only to be altered when it has been exceeded, and receive month-to-month and year-over-year energy usage comparisons.

Consumers also want to have a conversation with their home, without having to learn and remember how to communicate with each individual device and system. Effectively, consumers want to ask their home: What temperature is the house set at during the day? Or does the furnace need maintenance? Or will the lights come on when we're on vacation? They then expect answers and immediately implementable solutions.

After five years of conducting market research, CABA has found that there is a gap between consumer perceptions of how home technologies should work, and applications offered by product and services providers. Through its research, however, the organization has been actively working with its members to close this gap, by examining consumer value propositions, price points and determining consumer return on investment.

CABA has been engaged in such research since 2006, when it integrated the operations of the Internet Home Alliance. The Internet Home Alliance was a cross-industry network of leading companies conducting collaborative research to advance the connected home market. Founded in 2000, the Alliance provided

its members with the real world testing opportunities required to bring their home technology products and services to market more quickly, successfully and cost effectively.

Under the new arrangement, IHA's collaborative research programme was continued under the CABA umbrella through CABA's Connected Home Research Council, which oversaw a wide array of consumer research studies and real-world pilot projects. In 2010, CABA's collaborative research evolved and expanded and the Connected Home Research Council was transformed into the CABA Research Program, with a scope including market research for both large building technologies and home systems.

CABA's "Connected Home Roadmap 2010" project, a large-scale study created to provide insights into consumer attitudes concerning technologies, value propositions and future market adoption, was funded by Bell Canada, Best Buy, Stanley Black & Decker, Direct Energy, Hydro One Networks, Microsoft Corporation, Moen, Ingersoll Rand/Trane, TELUS and Whirlpool Corporation. The research was undertaken by Parks Associates, POCO Labs and JLA Strategic Research.

The research has been released to these funding partners and will be made available for purchase to the rest of the industry after an embargo period. ■■



**ABOUT THE AUTHOR:**

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