

Outlook for the Smart Home in Western Europe

A Parks Associates Whitepaper Developed for



PARKS
ASSOCIATES

Drastic Changes Expected in Europe

The market for home monitoring and controls in Europe is beginning a period of dramatic change.

The wide deployment of broadband and smartphones has already transformed the way we communicate and shop. Technology is now being applied to consumer products and services, connecting individual devices in the home and, in the process, transforming them and adding new value propositions and business models to mature markets.

Security, energy, home controls, communication, and entertainment services are all converging, offering services that overlap, creating new competition and partnership opportunities. Partnerships will showcase the combination of value propositions that are many times more powerful than separate models; these new propositions will expand traditional markets by providing additional capabilities and benefits to a wider range of consumers than possible previously.

Today, leading European companies from the security services, energy, and telecom channels are launching smart home initiatives that will change the market for numerous products and services.

Topics Addressed in This Whitepaper

- Introduction: Drastic Changes Expected in Europe
- The Smart Home is Beginning to Take Shape
- Smart Products are Highly Differentiated
- Consumer Interest in Smart Home is High
- Platforms Are Essential for Market Growth
- Security Channel Leadership in the Smart Home
- European Smart Home Initiatives



The Smart Home is Beginning to Take Shape

The wide deployment of broadband communication in the home provides a conduit for many new applications.

Broadband connectivity enables cloud services such as real-time feedback and automated controls that help consumers and manufacturers know when a product is in disrepair or that can automatically synchronize operation of multiple devices so that peak electricity demand is minimized.

The connection to the Internet also allows devices to offload the computing power to central servers where extensive analytics can be performed, providing sophisticated solutions at a small cost premium. Both broadband and the cloud allow solutions to use existing displays such as smartphones to interface with connected devices in the home. Using existing screens in the home instead of a dedicated display also lowers hardware costs and allows for faster product development cycles.

The data streaming from connected devices has great value.

Initially, products will simply display their status and allow remote control of devices in the home. While being able to monitor and control a device in your home from anywhere in the world using a smartphone is groundbreaking, it is just the beginning.

Data will enable new capabilities.

Using smart meters as an example, first-generation products may only capture the meter data and simply display current consumption. Other products summarize the data into a graphical report that allows the user to explore the history of data.

While both of these solutions are highly valued by some segments, solutions that perform higher-level analytics provide even more capability.

Using the same data to create a model that describes typical or normal operation allows products to detect abnormal operation or anomalies in performance. Rather than having the end user do the analysis, these solutions mine the data for the consumer and highlight issues. More advanced data models can be extended to predict the future, which is a form of artificial intelligence.

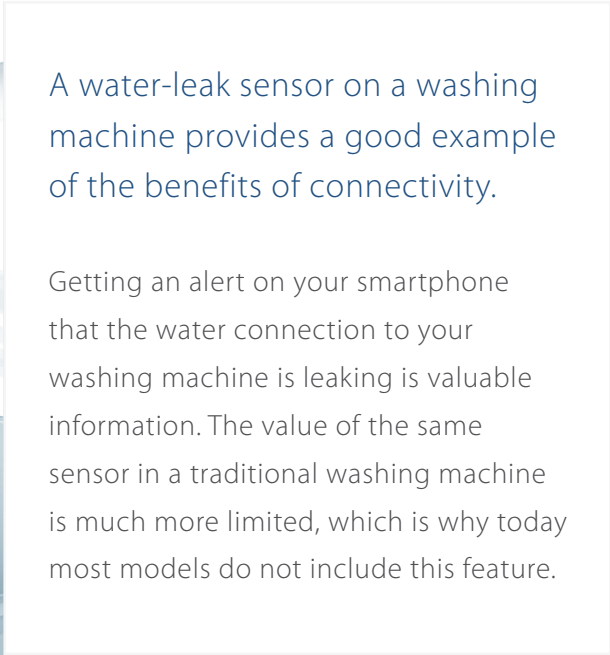
And if solutions can predict the future, then control systems can use those predictions to change the future.

Smart Products are Highly Differentiated

Connectivity opens up a wide variety of new features that can be added to everyday products.

Initially, connectivity can be added to premium products to create differentiation. Over time, connectivity features will cascade into mid-tier and value-tier products, just as automatic door locks were first launched on luxury vehicles but are included in nearly all vehicles today.

Once connectivity is added to products at the premium tier, manufacturers will add new sensors and software capabilities. Sensors that did not add value to an unconnected product now add tremendous value to a connected device.



A water-leak sensor on a washing machine provides a good example of the benefits of connectivity.

Getting an alert on your smartphone that the water connection to your washing machine is leaking is valuable information. The value of the same sensor in a traditional washing machine is much more limited, which is why today most models do not include this feature.

Manufacturers developing and refining objectives and strategies for connected products in a connected world must make a series of business, product, technology, and execution decisions. Parks Associates has helped many clients develop their smart home strategy.

Consumer Interest in Smart Home is High

Several market trends are driving consumer adoption:

- **Interest** in alternative energy supplies
- Ever-rising **energy costs**
- Increasing **security concerns**
- **Aging** populations
- The use of **smartphones and apps**

Companies recognize this opportunity and are formulating their own visions for the connected home, including scenarios for the caretaker, energy manager, security service, and household mate.

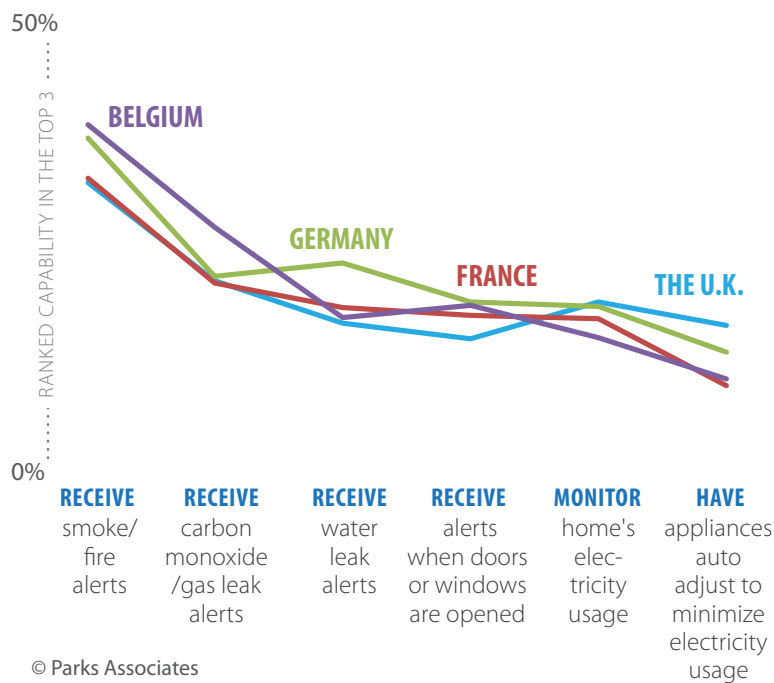
Each use-case is perceived as a pathway to a stronger customer relationship.

Consumers rank traditional safety and security capabilities high among their desired connected home features.

Notification capabilities enhance traditional security features such as smoke, gas, and water leak detectors. Energy management features—monitoring electricity usage and automatically adjusting devices to minimize electricity usage—rank behind security features at this time.

Top Ranked Connected Home Features

Broadband Households in Specified Country



© Parks Associates

Figure 1

When asked about specific devices and their associated price points, consumers rank security-related devices highest for home control devices they are likely to purchase (Figure 2).

Consumers find lighting control modules and appliance switches less appealing than security/safety features when these are tested at €39.99 each.

Trust and brand are highly important, especially in the early stages of a market.

Consumers prefer to do business with vendors that have a solid reputation in a specific industry. Brand helps simplify the complex decision process associated with buying first generation products and services.



Intend to Purchase Home Control Devices

Broadband Households in Specified Country

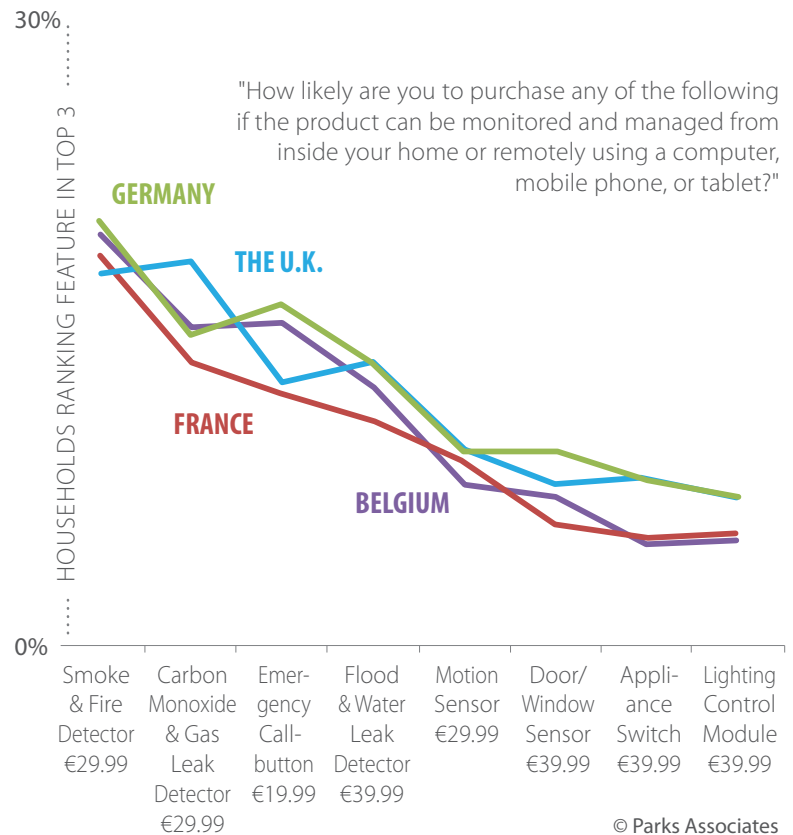


Figure 2

Preferred Type of Home Monitoring Service Providers

Broadband Households in Specified Country

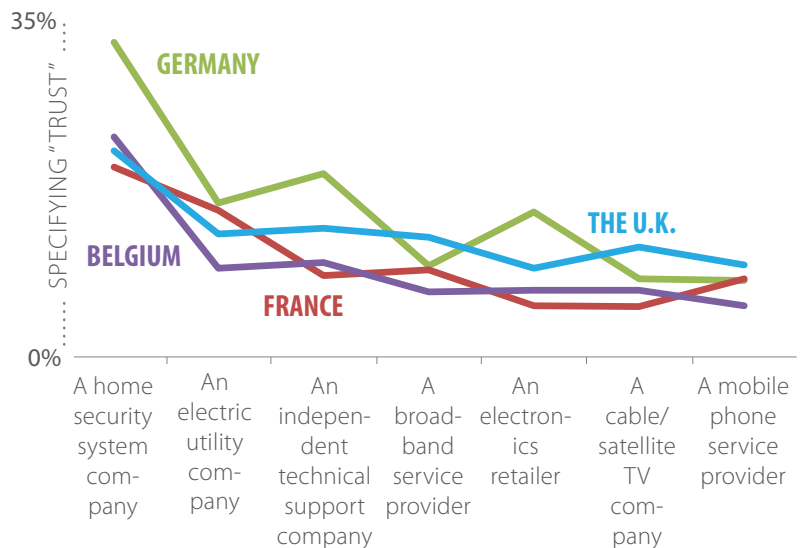


Figure 3

Appeal of specific use cases varies segment to segment and market to market. Energy management provides a strong entry case for a large segment in Denmark, where according to www.energy.eu, the residential cost for electricity is the highest in the EU (Figure 4).



Residential Energy Costs in Euros

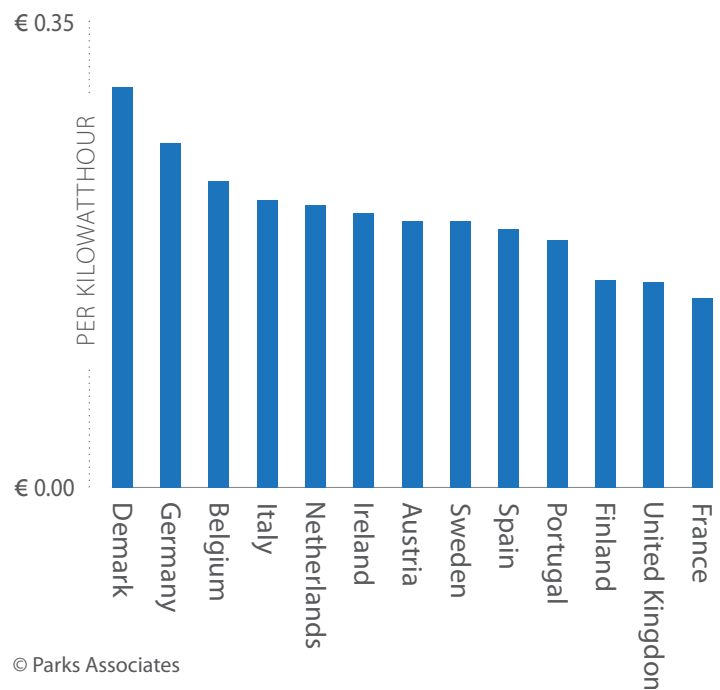


Figure 4

Platforms Are Essential for Market Growth

In the early market, the experience of the early adopters is critical to transitioning products to the mass market.

Connected products such as network cameras, thermostats, door locks, and lighting controls have been on the market for the past few years.

Approximately 5% of households in France, Germany, the U.K., and the U.S. own at least one of these devices. The net promoter score for these early adopters is marginal, at 16%.

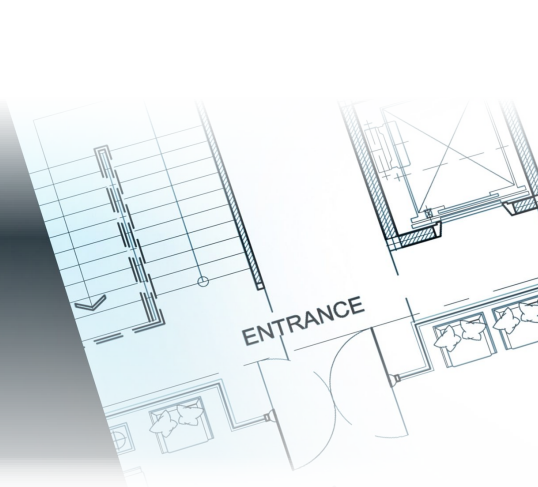
Looking more closely at the net promoter score numbers, it becomes clear that perceived value expands with device volume.

The more connected devices present in a home, the more likely the early adopter is to recommend them to their family and friends (Figure 5).

Security systems that include motion sensors, door and window sensors, and cameras serve as an excellent base package of connected products. The sensors that are used to detect intrusion can also be used to determine occupancy or activity level. Those inputs can then be used to dramatically reduce energy consumption by setting back temperatures and turning off devices when the home is unoccupied. Understanding activity level is also an essential part of aging-in-place solutions.

The net promoter score data also highlights the need for partnerships.

Manufacturers are launching individual connected products, each with their own app. While these products are functional, the user experience is less than ideal, especially as multiple products enter the home. Integrating those individual products into a smart home platform expands the capabilities of the system and enhances the experience with the individual product.

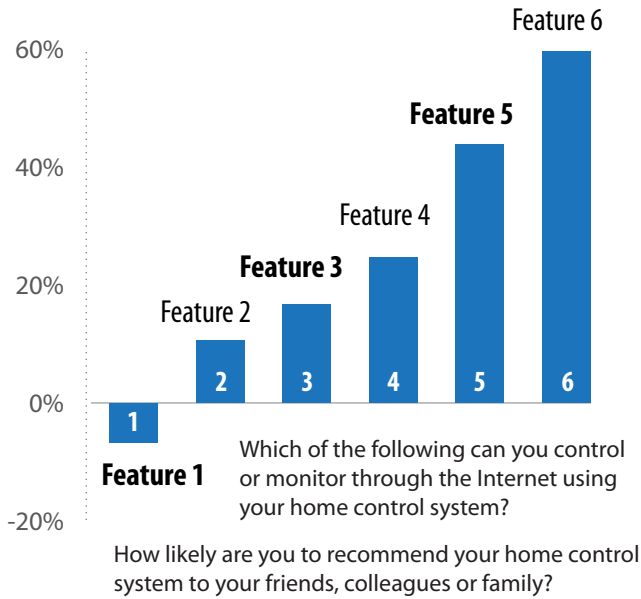


A door lock is a good example of the benefits of expanded functionality.

While manufacturers can sell electronic door locks and their associated apps separately, the user experience is dramatically improved when the lock is integrated into a smart home platform and becomes part of a larger home control and security system.

NPS Score for Primary Home Control System by Number of Features Adopted

U.S. Broadband Households with Specified Features



© Parks Associates

Figure 5

Smart home platforms will therefore play a critical role in providing a seamless user experience. Successful platforms must be capable of integrating new products and their full feature sets, providing users with a complete and fully integrated experience. Platforms must be able to integrate these new devices, even if they use different home network technology.

Given the huge amounts of data that are generated within the smart home, data security and privacy must be addressed as well. Platforms in particular must be diligent and provide an elevated level of digital robustness.

Companies and brands with solid reputations as trusted caretakers of private information are best able to allay consumer's data privacy and security concerns.



Security Channel Leadership in the Smart Home

Given the strength of consumer interest in security features and components and the trust consumers have in the leading security service providers, security services and products are well positioned to drive the early market in much of Western Europe.

Home safety and security products and services are well understood and accepted by consumers. Home security companies in Europe can extend their daily interaction with the customer to include interactive services that enable consumers to use their smartphones, tablets, or computers to monitor and control the security system remotely. Extending the capability of security systems enhances the relationship with the consumer by increasing interaction with the system.

Adding home control components to the security system is a natural extension.

Consumers who are already paying a recurring fee for security monitoring services are the ideal targets for home control features that add significant value through energy savings and convenience with only a minor incremental monthly cost.

Home security companies are also well positioned to lead in the broader market. Security companies already have an effective go-to-market model and service organization, which in many cases means large sales and service forces in the field. Just as in the U.S., the security channel can use its sales channel advantage to extend home controls beyond existing home security customers.

Having a sales team that can directly interact with consumers gives the security channel an advantage.

Home controls are new to the market and consumer awareness is low. In addition, the smart home has numerous value propositions but *not a single killer app that fits into a 30-second sound bite and sells itself*. A face-to-face sales approach is ideally suited to overcoming lack of consumer awareness by allowing consumers to interact with systems and ask questions. The sales agent can also explain in detail the many value propositions that systems deliver.

European Smart Home Initiatives

The rush to offer smart home services is underway. Early market leaders in Europe include retail energy providers, security service firms, and telecoms. Profiles of three market leading companies, from the energy, security, and telecom channels, are provided. Each channel is doing its part to develop the overall European smart home market.



QIVICON—Qivicon launched at the IFA in Berlin. Qivicon is an independent company owned by Deutsche Telekom. The Qivicon platform is open to partners and includes partners such as Miele and Samsung.

Its 'Home Base' gateway enables other companies to connect their hardware products to the Internet and to each other. The gateway supports multiple protocols and an application ecosystem. Manufacturers develop applications using SDKs and make applications available to consumers through the Qivicon App Store. Each manufacturer continues to rely on its own "go-to market models." Qivicon charges partners for the gateway and the use of the gateway.

The vision behind the Qivicon platform is to create the perfect ecosystem balance between continuity and change by combining global brands with innovative start-ups.

The Qivicon platform is targeting broadband suppliers and utilities. They certify partners to assure that products are fully interoperable. The platform is launched in Germany, and Qivicon is planning launches in other European countries.



VATTENFALL—Nuon is a Dutch utility company generating, trading, and supplying electricity, gas, and heat and providing value-added services. Nuon is part of Swedish Energy company Vattenfall AB. In November 2011, Nuon launched the E-Manager solution that provides real-time insight into energy usage and offers remote control of appliances. The system consists of a communications gateway, both gas and electric meter readers, smart plugs that allow users to schedule and turn loads on and off, and a smart thermostat.

GreenWave Reality is supplying the gateway, meter readers, and smart plugs. Honeywell is providing the thermostat. The meter readers use optical sensors to read traditional analog meters. If the home already has a smart meter, the system can simply plug into the RJ11 port on the meter and receive data.

Smart meter deployments in the Netherlands are in the pilot stage, with about 200,000 meters deployed. Large-scale rollout will begin in 2015 and be complete, with 90% of meters converted to smart meters by 2018.

The cost of the E-Manager system is €149 plus a €2.95 monthly service fee. New customers that sign up for a three-year electricity and gas contract receive the hardware at no charge and pay no monthly fee. Nuon believes that the E-Manager system will improve customer satisfaction and loyalty.

In addition to remote monitoring and control of end devices, the E-Manager system provides tools to manage energy usage and budget. In the Netherlands, consumers pay a monthly advance that is settled with the actual usage once a year. The E-Manager helps customers avoid the surprise of having to pay an extra amount if the actual costs of usage turn out to be higher than the advances.

In Sweden, Vattenfall provides its customers with Energy Watch, a service that provides tools for residents to manage their electricity usage. Swedish homes are heated with electricity and therefore have a high interest in managing their electric bills.



SECURITAS DIRECT - VERISURE—As stated earlier, the consumers in Europe place high trust in security companies to provide smart home services. Securitas Direct - Verisure, Europe's leading supplier of safety and security products and services, with presence in ten European markets and over 1.6 million customers connected to its monitoring stations, recently announced it would broaden its products and services offerings to include smart home functionality.

Securitas Direct - Verisure offers a recurring service based on a technical platform, Verisure, which provides building blocks for home security alarm and smart applications in the home. Verisure products are connected by a gateway to cloud services and state-of-the-art alarm monitoring and call-out services.

In addition to the baseline home safety and security products, the company introduced the Verisure SmartPlug, which enables the customer to safely switch lights and electric appliances remotely through the Verisure App or by Verisure MyPages. The SmartPlugs are integrated with the alarm system and its functions and can be synchronized with the use of the alarm.

In addition, Securitas Direct - Verisure has just recently announced a partnership with the world leading supplier of locks, Assa Abloy. The new partnership will launch in Sweden, Norway, and Denmark for the digital lock, alarm, and connected smart home sectors. The digital locks allow consumers to lock and unlock the door using a mobile phone or PC/Mac from anywhere in the world. Locking is only one of the customer benefits; the customer can also see a log of when and who locked and unlocked the door and also use temporary codes for guests.

The Verisure concept is app-centric in the sense that all smart home functions can be monitored and controlled by one app interface. The Verisure App makes it possible for consumers to see the status and control the intrusion and fire alarms, the door locks, and different electric appliances in the home, all from a single user-friendly app. The company states a clear ambition to further strengthen its position by establishing partnerships with other actors providing relevant services and products.



About The Author

Tom Kerber, *Director, Research, Home Controls & Energy*

Tom leads Parks Associates research in the areas of home controls, energy management, and home networks. Tom's work includes industry reports, consumer and utility industry survey work, and consulting engagements to leading home systems device and service companies. Tom regularly speaks at industry conferences in the U.S. and abroad and is a frequent guest at client planning meetings.

Prior to joining the firm, Tom was a client of Parks Associates' Home Energy Management service (2010) while serving Lennox Industries as Corporate Director, Advanced Engineering and as Director of Product Management. Tom has previously worked in the utilities industry, the consumer goods industry, and for Motorola in the telecom industry.

He holds a MS in Software Engineering from the University of Texas and a BS in Systems Engineering from the United States Naval Academy.



About Parks Associates

Parks Associates is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services. Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, primary studies, consumer research, custom research, workshops, executive conferences, and annual service subscriptions.

The company's expertise includes new media, digital entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, consumer electronics, energy management, and home control systems and security.

For more information, please visit www.parksassociates.com

972.490.1113 | info@parksassociates.com

ATTRIBUTION

Authored by Tom Kerber. Published by Parks Associates. © Parks Associates; Dallas, Texas 75248. All rights reserved. No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher. Printed in the United States of America.

Disclaimer—Parks Associates has made every reasonable effort to ensure that all information in this report is correct. We assume no responsibility for any inadvertent errors.



**PARKS
ASSOCIATES**

**BACK YOUR VENTURE
WITH SOLID DATA**

Advance strategic business planning with *up-to-date consumer research and analysis.*

- Access and Entertainment Services
- Advertising
- Connected CE and Platforms
- Connected Home Systems and Services
- Digital Gaming
- Digital Health
- Digital Home Support Services
- Digital Living Overview
- Digital Media
- Home Energy Management
- Mobile and Portable
- App Ecosystem
- SMB Market
- European and Worldwide Consumer Research

Understand the Connected Home and Mobile Industries.

Discover Parks Associates today at www.parksassociates.com