

Smart Home Case Study: Philips Lighting's master plan to become the lighting expert

How the Philips Hue is shaping the smart home market by enhancing the lighting experience

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Mariana Zamoszczyk



Summary

In brief

The lighting industry is undergoing a radical transformation, transitioning from conventional lighting to LED and connected lighting applications. To sell advanced lighting solutions to the mass market, however, the industry needs to show value beyond basic illumination. This is why Philips Lighting, one of the largest manufacturers of lighting in the world, is trying to change the way consumers perceive the use of light, focusing mainly on the “lighting experience” rather than its use per se.

This case study looks at how Philips Lighting is enhancing the lighting experience in the smart home market through the Philips Hue solution. Philips Lighting has also developed an extensive ecosystem that is interoperable with different apps, products, and platforms from other brands to offer value to its customers. This strategy will help propel its customer-centric business approach and increase its market footprint, shaping at the same time the lighting segment within the smart home industry.

Ovum view

- **Philips Lighting wants to be recognized as the lighting expert in the smart home market.** Unlike other lighting vendors, Philips Lighting has no ambition to spread its capabilities into other areas of the smart home by turning lightbulbs into security alarms or Wi-Fi hotspots, for example. This means that it is 100% focused on the lighting vertical. Although this limits its market potential, Philips Lighting is working with a number of partners to emphasize the relevance of lighting in adjacent areas.
- **Philips Lighting aims to emphasize the “lighting experience.”** Philips Lighting is inviting consumers to create their own lighting experiences through the implementation of use cases, so that they see the lightbulb as more than just a commodity product. This will be essential to the success of Philips Hue bulbs, which are priced far higher than standard lightbulbs.
- **Philips Lighting provides an open architecture that allows third-party partners to expand their portfolio and range of applications.** Smart lighting can be used in the home in a variety of ways . Some solutions are relevant to all consumers, but some are more niche. Although Philips Lighting has developed the technology for a number of the main use cases, it also relies on an extensive set of partners and developers. To date, Philips Lighting has more than 600 third-party apps that interact with the Philips Hue ecosystem through the developers' program. Therefore the company can quickly and efficiently create a wide range of use cases for both niche and mass-market consumer segments.

Recommendations

Recommendations for Philips Lighting

- **Show that smart lighting can be technically sophisticated and affordable at the same time.** Philips Lighting believes that lighting is underappreciated in the home and that it is the role of smart lighting to change this viewpoint. It could be argued that Philips Lighting is making inroads into the smart home market by showing concrete value propositions around

lighting through its use cases. Ovum believes that besides raising awareness of the benefits of smart lighting, Philips Lighting must reduce the cost barrier to ensure it hits the true mass market. At present, smart lighting is regarded as a sophisticated, high-end technology that can help make homes more beautiful, more comfortable, healthier places to live, but its high price tag represents an obstacle to mass adoption. Although Philips Lighting is working on a more affordable option with the Philips Hue White Starter Kit (two white bulbs and a bridge for \$80), this will only allow for a smart room, rather than a truly smart home. Economies of scale will help over time, but Philips Lighting should look for innovative ways to bring the price of smart lighting down.

- **Make more of the expanding ecosystem.** In the fast-paced smart home market, the integration of products through partnerships between companies should be made clear to consumers. This will ease consumer frustration over interoperability issues after devices have been configured at home. Philips Lighting is giving Apple and Nest a preferential place on its “friends’ list,” providing all the necessary tools to facilitate the integration of their products. However, Philips Lighting is not providing insight on the relationship and benefits of partnering with companies such as Amazon, Bosch, Logitech, Samsung SmartThings, and the other companies that are part of its Friends of Hue certification program. Ovum believes that Philips Lighting needs to further promote these partnerships with joint marketing initiatives to generate awareness. The company also needs to offer concrete use cases similar to the ones Philips Lighting is presenting through its integration with Apple and Nest.
- **Focus on frustration-free interoperability.** As technology evolves, each new generation of hubs will offer increased interoperability. Philips Lighting has made it clear that its new Philips Hue Bridge will be “future proof,” but this does not necessarily mean that there will not be some incompatibility issues that persist, both with tested and untested products. Philips Lighting seems to have understood that restricting interoperability only creates frustration among consumers, not to mention bad publicity. This is why Philips Lighting decided to undo a recent software update, allowing consumers to continue using lightbulbs made by other companies. Philips Lighting needs to focus on ensuring interoperability and increasing ease of use and compatibility beyond its certification program.
- **Philips Lighting should explore ways to integrate its hub technology.** With the smart home market being so immature, it is understandable that Philips Lighting promotes its own hub as it is the only way to sell directly to consumers at the moment. Philips Lighting also claims that the technology it has developed for its hub increases the quality of the lighting experience compared to generic hubs. However, in the long term, expecting the consumer to purchase and maintain a separate hub for each smart home vertical is unrealistic and will eventually form a barrier to greater adoption. Working with its partners, Philips Lighting should explore ways of integrating its hub technology into other devices in the wider smart home portfolio. This will increase efficiency and reduce the cost for both Philips Lighting and its customers.

Recommendations for service providers

- **Leverage Philips Hue’s ecosystem for your own purposes.** From the beginning, Philips Lighting has focused on promoting use cases that help consumers to build their own lighting experiences, instead of just selling lights and switches. To achieve this, it has relied on support from partners and developers to enrich the consumer experience and add value to

the use of light. And adding value is exactly what service providers need to do to gain more competitiveness. By integrating the Philips Hue into their own ecosystems (as companies such as Deutsche Telekom have already done), service providers can instantly take advantage of its fast-growing partner ecosystem and extend to their own customer base the value that it brings.

- **Promote the use case over the product.** Philips Lighting is promoting how smart home technology can be used to enhance consumers' daily lives. Service providers should do likewise because there is little understanding among mass-market consumers of what smart home technology is, never mind the benefits it can bring.

Becoming the smart lighting expert

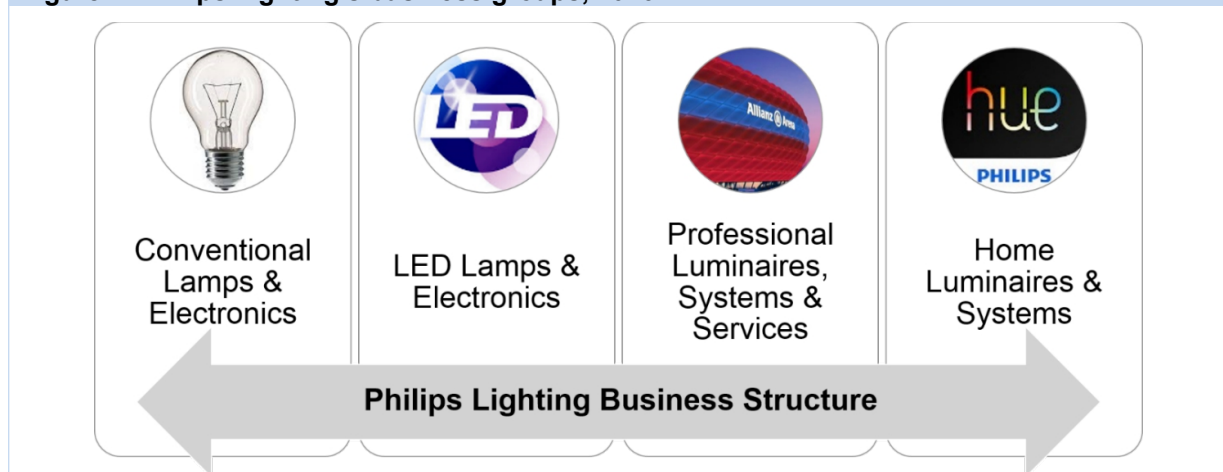
Setting the business context

Royal Philips celebrates 125 years in business in 2016. The company currently operates in approximately 100 countries and has around 105,000 employees. In September 2014, it announced its next strategic step to capitalize on fundamental market changes: creating two market-leading companies focused on health technology and lighting opportunities, respectively.

Philips Lighting's business structure is divided into four business groups: conventional lamps and electronics; LED lamps and electronics; professional luminaires, systems, and services; and home luminaires and systems (see Figure 1). The conventional business group covers halogen, fluorescent, compact fluorescent (integrated and non-integrated), compact high-intensity discharge, high-intensity discharge, and incandescent lamps as well as lighting electronics and starters. The LED business group covers LED lamps, LED drivers, and LED modules for businesses and consumers.

The professional lighting business group covers controls and luminaires for city lighting, road lighting, sports lighting, office lighting, retail and hospitality lighting, and industry lighting. The home business group includes functional, decorative, lifestyle, and scene-setting luminaires and lights.

Figure 1: Philips Lighting's business groups, 2016



Source: Philips Lighting

In 2015, Philips Lighting's total sales increased by 8% when compared with 2014, reaching €7.4bn (\$8.4bn). Cost productivity and procurement savings led to the long-awaited improvements in

profitability. The decline of the conventional lighting market – which at present represents the biggest revenue stream for Philips Lighting (accounting for 38% of sales) – is driving the company to focus on its LED and connected lighting propositions for the city, enterprise, and home. With its renewed focus, Philips Lighting seeks to leverage the Internet of Things to take light beyond illumination and transform homes, buildings, and urban spaces. The company is creating light-as-a-service for enterprise and government segments and enhanced lighting experiences at home through its smart home proposition. The remainder of this case study will focus on its lighting strategy for the smart home.

Bringing the strategy to life

Philips Hue: The enabler of an enhanced lighting experience at home

Within the smart home market, Philips Lighting aims to become the lighting expert, putting a spotlight on the Philips Hue solution. Rather than being at the epicenter of this fast-growing market (one with several battlefronts and numerous players from different backgrounds), Philips Lighting is simply focused on driving new and richer uses of lighting for consumers. It wants to provide the best lighting experience at home, offering a comprehensive product portfolio supported by an enabling system that facilitates integration with partners.

On the website Meethue.com, the Philips Hue product family is presented together with several use cases designed to enrich the use of lighting. The Philips Hue product portfolio offers several options, ranging from white and colored lights which could be used in existing ceiling light fixtures to accessories such as light strips that have been designed to offer value and enhance the user experience (see Table 1).

Table 1: Philips Hue pricing summary

Product	Price (\$)
Philips Hue bulb (white)	15
Philips Hue bulb (white and color)	60
Philips Hue Bridge (second generation)	60
Philips Hue White Starter Kit (two bulbs and bridge)	80
Philips Hue White and Color Starter Kit (three bulbs and bridge)	200
Philips Hue Lightstrip	90
Philips Hue Lightstrip Plus	30
Philips Hue Dimmer Switch	25
Philips Hue Wireless Dimming Kit (one bulb and dimmer)	35
Philips Hue Tap Switch	60
Philips Hue Go (portable light)	100
Philips Hue Bloom (wireless single light)	60

Source: Philips Lighting

As the table shows, Philips Hue prices range from \$15 for a single white bulb to \$200 for a starter kit that includes three white and color bulbs and a bridge. Considering that a bridge is mandatory for everything to work, the actual initial investment starts at \$75 (for a single white bulb and a bridge).

However, Philips Lighting is offering newcomers starter kits for \$80 which include two white bulbs and a bridge. The starter kits are being marketed as a cheap, simple-to-install solutions, from which customers can add more lights and accessories.

These kits also allow consumers to discover new use cases. The use cases are presented in a way that highlights how consumers can enhance their everyday life, well-being, and peace of mind through the use of personal wireless lighting. For example, Philips Hue offers an away-from-home control so that you never have to come home to a dark house; the ability to decorate your home with light; and the chance to create light schedules that allow for more natural sleeping patterns.

Philips Lighting thinks that lighting is underappreciated at home. By illustrating the diverse ways in which it can be used, the company hopes to show the consumer that lighting goes far beyond simple illumination. Philips Lighting is not only providing the product, but also the integrated lighting system, allowing consumers to create their own lighting experience based on their preferences and needs.

Justifying the need for a smart bridge

For Philips Hue products to work, the user first has to install the Philips Hue Bridge. For the time being, the bridge also offers the only way to connect the lights with other smart home devices. It could be argued that there are several ways to justify the need to install a bridge. However, the most basic of all explanations is that there is still no technology embedded in home devices that has the capacity to connect them all at once.

According to Philips Lighting, the bridge is justified by the fact that it can send the right instructions across the lighting system. The company also points out that a central controller allows for an easy set-up, feature configuration to define preferences/use cases, and constant access to the Internet. The Internet allows consumers to manage the lights at home from anywhere, providing access to multiple parallel ecosystems.

Additionally, Philips Lighting uses the peace-of-mind element as an important factor to justify the use of a smart bridge. It explains how the bridge allows users to configure who can control lights via smartphone, tablet, or the Web. Philips Lighting also indicates that the bridge offers features such as scheduling and light synchronization with music and video.

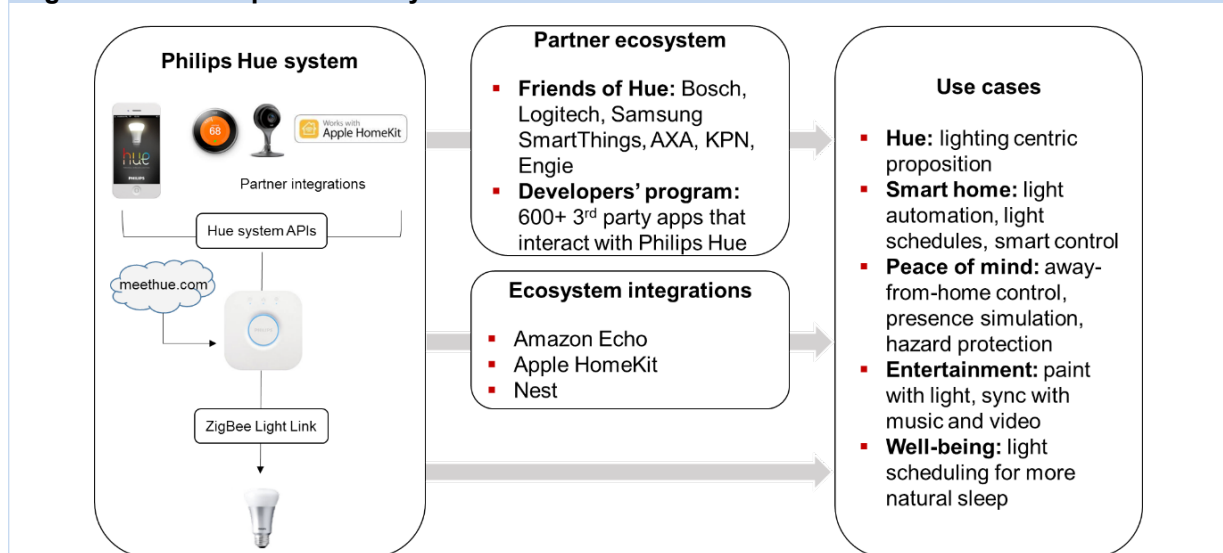
Ovum believes that the use of a smart lighting bridge should be seen as a short-term solution. Philips Lighting should develop a more efficient long-term strategy and consider partnering with hub/platform vendors that could integrate Philips Lighting's technology. This situation would allow them to gain differentiation in the smart lighting market segment and provide cheaper solutions, without forcing consumers to have an additional hub at home if they want to use the Philips Hue connected lighting system.

Friends of Hue: Offering value and expanding reach through partners

For the past few months, Philips Lighting has made several announcements regarding its Philips Hue partnership strategy. At the end of 2015 Philips Lighting announced the launch of its Friends of Hue certification program with Bosch, Logitech, Samsung SmartThings, KPN, AXA, and Engie. This program complements existing partnerships with Apple and Nest. Philips Lighting understands that it needs the help of such partners to enhance the consumer experience. This is why Philips Lighting has created an open development ecosystem and designed the Philips Hue system so that it can work with other apps, products, and platforms.

The Philips Hue system has four components: apps, bridge, portal, and lights. The bridge enables the smart bulbs to communicate with each other and the portal via the Internet. The bridge APIs are the main tools for controlling the lights, and the apps use them to connect with the bridge, creating a rich ecosystem of interoperable applications that translate into business opportunities for all participants and an enhanced lighting experience for the user (see Figure 2).

Figure 2: The Philips Hue ecosystem



Source: Ovum

The system was built on an open standard protocol known as ZigBee Light Link, with control points supported via the bridge. These open standard protocols allow compatibility with other solutions that have ZigBee certification, even including lights from competitors. However, Philips Lighting cannot guarantee compatibility with untested products. In order to tackle this matter, Philips Lighting is promoting its Friends of Hue partnership program as a way to test and certify the products and platforms from other brands that are interested in working with the Philips Hue.

Philips Lighting understands that the smart home market is at an early stage of its development and therefore the main focus should be on stimulating consumer interest and understanding. To do this, all players in the marketplace need to work together, even if they compete at product level. This is why Philips Lighting is happy to work with a range of different companies, through the Friends of Hue program or by integrating its products into their platform (as it does with Deutsche Telekom's Qivicon platform). To date, Philips Lighting has more than 600 third-party apps that interact with Philips Hue through the developers' program. Regardless of the level of partnership that Philips Lighting develops, it is clear that the integration of devices from different manufacturers and the availability of diverse applications will create a greater range of experiences, taking lighting beyond basic illumination.

Below are three examples that show how Philips Lighting is working with partners to enhance the smart lighting experience.

Apple HomeKit

With the release of the new Philips Hue Bridge, Philips Lighting inaugurated its partnership with Apple and its HomeKit solution for the smart home. This means that the Philips Hue portfolio can be voice-controlled through Siri, Apple's virtual assistant, using an iPhone, iPad, iPod Touch, or Apple Watch, in addition to other HomeKit-enabled devices. It also offers the possibility to create scenarios

whereby devices are triggered simultaneously: For example, turning off the lights, locking the doors, and reducing the temperature can all be done by a single command. These scenarios can be exported to the Apple HomeKit and recalled later using Siri.

However, to discover the benefits of voice control through Siri it is necessary to have the latest version of the Philips Hue hub – which is not great news for existing customers. To counteract this – and bring some peace of mind to customers – Philips Lighting has emphasized that the new Philips Hue Bridge will be “future proof,” meaning that it will be capable of supporting multiple connected home platforms without any issues. The lack of compatibility with different platforms could represent a roadblock for Philips Lighting and making such promises in an immature and quickly changing market could be easier said than done.

Nest

On [Meethue.com](https://www.meethue.com), Philips Lighting provides a high-level overview of its integration with Nest, offering specific use cases centered on increased home comfort and peace of mind. To date, the combination of the Nest Learning Thermostat, Nest Protect smoke alarm, and Nest Cam with the Philips Hue portfolio has given rise to four different case scenarios. These four cases are the result of the Works with Nest program and several IFTTT “recipes:”

- **Leave home worry-free:** Lights automatically switch off when Nest perceives the person is away. Also the Philips Hue can mimic the presence of someone by switching the lights on and off.
- **Left the room, lights off:** In the absence of movement or noise, the lights start fading as a way to save energy.
- **A smarter security light:** If the Nest Cam perceives movements outside when it is dark, lights switch on, mimicking the presence of someone in the house for 15 minutes after the motion stops.
- **Protect light:** Lights start flashing yellow and Nest Protect emits an audible warning if it finds a possible hazard. The lights will also go red to assist navigation in the case of smoke.

It is worth mentioning that Philips Lighting does not have exclusivity in the lighting segment when it comes to the Works with Nest program. For example, in the Lights + Switches group, Philips Lighting competes with firms such as LIFX, Osram, Stack, and Lutron.

Convo

Convo was founded in 2009 by a group of deaf experts within the video relay service industry which provides video phone and translation services to the deaf community. The company's goal has always been to create the most natural calling experience possible for deaf people. When the Philips Hue solution was launched, together with its open APIs, Convo's engineers started developing several calling functions that allowed them to create a more natural and smooth calling experience through the use of light. The Convo lights solution developed for Philips Hue uses light to illuminate incoming calls and notify deaf people of missed calls. For example, an incoming call can trigger a rule for the lights to flash green. A yellow light can indicate that a call is in progress, and a red light can represent a missed call. In addition, the app from Convo allows users to create personalized light ringtones with differentiation between callers, allowing also to adjust room brightness to make sign language easier to see on screen.

Without doubt, the customizable nature of the Phillip Hue solution is extremely valuable, opening up a world of possibilities. Philips Lighting's open architecture allows third-party partners to expand their portfolio and range of applications, and the above example of home automation for deaf people clearly reflects that. Although Philips Lighting could not be expected to invest directly in such small markets, the fact its developer community is willing to do so empowers the Philips Lighting brand while showing how technology and innovation can enrich people's lives.

Appendix

Methodology

Ovum Case Studies leverage in-depth interviews with key stakeholders as well as a review of any available documentation such as strategic planning, RFP, implementation, and program evaluation documents.

Further reading

"Why the smart home industry is not ready for the mass market," TE0003-000924 (May 2016)

"KPN deal will bolster Deutsche Telekom's European smart home ambitions," TE0003-000915 (March 2016)

2016 Trends to Watch: Connected Home, TE0003-000893 (January 2016)

On the Radar: BeON integrates the smart home into everyday objects, TE0003-000885 (November 2015)

Smart Home Forecast: 2015–20, TE0003-000887 (November 2015)

Author

Mariana Zamoszczyk, Senior Analyst, Consumer Services

mariana.zamoszczyk@ovum.com

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