



**PHILIPS**

Retail Lighting

# Retail Scene

Issue one Smart LEDs light up Europe

## The **future** of retail lighting

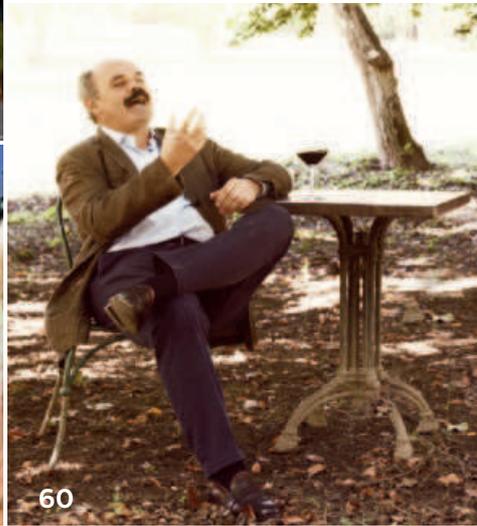
Design guru Rodney Fitch and Philips' Rogier van der Heide in conversation

**+**  
**Time to change**  
Fitting room revolution

**Green thinking**  
from supermarket giant Lidl

**Foot on the gas**  
Gazprom drives lighting innovation

**Windows come alive**  
Telling a story through displays



Cover image: Eataly, Rome

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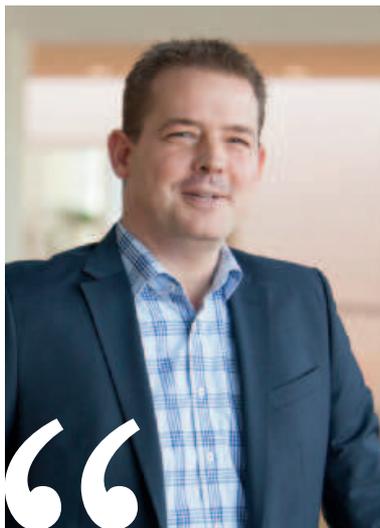
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# Welcome

Welcome to the first edition of RetailScene, a magazine for retailers who are looking to innovate and change the way they do business. Here at Philips, we understand the challenges the whole retail market has been facing in recent years. The explosion in online shopping, for instance, and the need for traditional 'bricks-and-mortar' businesses to compete. Not to mention the economic challenges across Europe as a whole, where consumers are increasingly looking for value.

Creative lighting solutions are no longer a 'nice to have'. They're an essential part of saving costs, building your brand and delivering the kind of experience shoppers expect. And all the evidence shows that if you make an investment in showcasing your clothes or enhancing the purity of your food products, you can drive sales and make a real impact on the bottom line. In RetailScene, we're highlighting the way in which the latest lighting technology can help increase profit, maximize the appeal of your store and make a real impact on your carbon footprint too. With over 90 years of experience and innovation in our Philips DNA, we're well placed to deliver the quality of light needed to help you create exceptional customer experiences.

There's certainly plenty to learn from the story of Italian retailer Eataly, which you'll find on pages 60 and 62. The luxury food mall chain has created a spectacular 17,000m<sup>2</sup> flagship presence in Rome which is providing inspiration to designers across the world.

On page 32, we talk to design guru Rodney Fitch and Philips' very own Rogier van der Heide about the future of retail, and on page 4 we take a look at how UK retailer House of Fraser has taken an innovative approach to the area of their stores where they know most buying decisions are made – the fitting room.

Retail is changing beyond recognition, but by monitoring the trends and spotting new opportunities, we can work together to create competitive advantage.

We hope you enjoy the read.

*Menno Kleingeld*

**Menno Kleingeld, General Manager Retail, Philips Lighting**

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## How well do you know LEDs?

The Philips Lighting University provides online courses that keep you informed and allow you to demonstrate your knowledge. Read more on page 76.



A beige lace top and pleated skirt hanging on a hanger in a fitting room. The top is short-sleeved with intricate lace detailing. The skirt is pleated and flared. The hanger is white and hangs from a wooden rack. The background is a dark wall with a wooden shelf above the rack. The scene is lit with warm, soft light, suggesting an indoor setting like a fitting room.

# Time to change

## **A revolution in the fitting room**

House of Fraser has long been a familiar name on the UK high street. Now, with the transformation of its flagship London department store, it's fast becoming the talk of the retail market. RetailScene went to peer behind the fitting room curtain.

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**Department store fitting rooms are normally pretty functional spaces at best. If we're honest, they can all too often seem downright shabby. And when the lighting in the space proves stark or inadequate, the customer has little idea of how their new clothes will really look back at the office or at that forthcoming party they're planning.**

Although House of Fraser can trace its roots back to the middle of the nineteenth century in Glasgow, Scotland, it has its sights firmly set on the future. In an innovative partnership with Philips, the retail chain has addressed the issue of the fitting room head on by creating three brand new changing areas in its branch in London's Oxford Street. Although each zone has its own features, the common theme is that the customer controls the lighting and is able to see their chosen item of clothing illuminated in a number of different ways.

#### **How will my clothes look in reality?**

When a customer selects a bikini for a summer holiday, she not only wants to see herself in a flattering light, but she also wants to have a realistic impression of how the outfit will look on the beach. Because LED is digital technology, it's possible to control the color and intensity of the light to reflect a range of different scenarios.

From a simple touch-screen panel, the customer is able to see how clothes would look at different times of the day or in different seasons. The brighter blue light of winter gives way to green and yellow for spring, for instance.

Philips designer Emmeline Whitaker worked on the project from its inception. "Our contacts at House of Fraser – David Blakeney and Phil Looker – were really interested in the latest innovations and how they could make a difference to the store," she says. "They were particularly keen to demonstrate best practice in the fitting room, as that's where a high percentage of buying decisions are made."

After a detailed survey of the spaces earmarked for transformation – the lingerie fitting room, the women's changing area on the third floor and the personal shopping suite – Whitaker put forward plans which were quickly approved by the House of Fraser board. It was then a question of working in close co-operation to ensure that the solution really met the needs of customers. "It's important to understand what the shopper is doing in each area," the lighting expert explains. "I was able to offer a female perspective on the lingerie area, for instance. We want flattering light, without shadows. Nothing too direct. The suspended cove system we incorporated gives a good ambient light."



#### **A new dimension to personal shopping**

One of the most remarkable transformations came in the personal shopping area. House of Fraser offers a free service, in which customers can get advice and guidance on their potential purchases from an in-store expert. The existing consultation suite wasn't, however, particularly inspiring for either staff or customers. Problems included the confined space and the lack of natural daylight.

As part of their solution, Whitaker and her colleagues incorporated striking luminous textiles into the corner of the room, powered by Philips LEDs. House of Fraser's Head of Design, Phil Looker, commented: "The customer can actually feel that they're not in an enclosed space. We then link this to the scene-changing mirrors that will add different options of light so that people can really understand what that product will look like in different environments."

David Blakeney, Director of Store Development at House of Fraser, says: "People have to have a reason to go into stores, so we have to make their experience a lot better when they do. The back of house – our fitting rooms and the personal shopper – are key elements. If we have a fitting room with great lighting and the customer gets an experience they don't get anywhere else, they know they have to come into our store to shop."

“ People can really understand what that product will look like in different environments.”



#### Testing the user experience

Philips worked closely with shopper insight consultancy Shoppercentric to gauge reaction to the exciting new initiatives at House of Fraser. A quantitative study of customers leaving the third-floor and lingerie fitting rooms revealed that 94% of women found the new lighting concepts to be ‘excellent’ or ‘good’ and 87% said they were quite likely or very likely to make use of the scene-changing technology again.

The ambience of the new fitting rooms had a positive effect generally with 31% of shoppers saying they had a greater propensity to buy. But among those who had used the lighting options, this figure rose to 56%.

Tim Hyde, the Store Manager at the Oxford Street flagship, sums up the significance of the installation:

“Our customers are telling us about their expectations of shops on the high street. They want them to have great products, great service and a great environment. And clearly, from the feedback that we’ve had, the Philips lighting that we put in our fitting rooms helps to deliver that great environment and also the great service they’re looking for.”

Philips technology allows House of Fraser shoppers to see clothes in different ambient light.



“

I became particularly interested in the effect of light on glass and fiberglass and started incorporating it into my designs.”

Lighting up the

# runway



Up-and-coming fashion designer Jef Montes is making waves. Light waves, to be precise. The 25-year-old graduate of Arnhem's ArtEZ Institute of the Arts has already dazzled the world of couture with his highly unusual catwalk collections. RetailScene asked him to tell us more.

"When I was studying, I developed a fascination for experimenting with shape and with textiles. In my final year, I became particularly interested in the effect of light on glass and fiberglass and started incorporating it into my designs.

"Fabric has a mind of its own. It's fluid. It shapes around the body like water. But to achieve the effect I want, it's important to use the right amount of external light. If you only use artificial light, it can go all over the place. That's why I combine both natural and artificial.

"I try to achieve designs which are simultaneously nostalgic and futuristic. I draw on my Spanish background for inspiration for the purity of the shapes. Catholic cathedrals. Statues. A praying priest. I love to travel and, for my graduate collection, I went to Barcelona and collected a number of priests' coats. I've been studying the hand craftsmanship that went into them.

"The truth is I'm always experimenting. I have an atelier in Arnhem and there's one room there where I'm always trying out something new. Because I'm using a lot of glass, it's quite hazardous and I need to wear a mask when I'm practising laser techniques. But you need to work hard and stay ambitious. If you're working on a collection, you might create 100 pieces and then choose the 20 best ones and work on the development of the fabric.

"When you're studying at the academy, the world seems small. You're busy developing your own style and interacting with your classmates. Now, there's a whole world of networking and exploration which has opened up for me... Holland, Belgium, France. New exhibitions and new opportunities.

"My next collection is all related to candles and candle wax and I'll be taking part in the Amsterdam Fashion Show at the start of 2014. I guess my long-term dream is Paris. If I stay focused at what I do and make the right connections, anything is possible."

#### Sparkling imagination

Designer Jef Montes experiments with the interaction between light and fiberglass.



# The great **day**light debate

There's no doubt that as human beings, we crave daylight. Where possible, architects will find ingenious ways of incorporating it into new buildings, but there will always be places where artificial lighting is the only option. How do we strike a balance between the role of light, on the one hand, and the immense power of nature on the other? RetailScene set out to investigate.



Perhaps it's inevitable that we take daylight for granted. The whole human experience is, after all, built around the rising and setting of the sun. As a result, it can be easy to forget the important part that light plays in our wellbeing.

Scientists recognise that bright light – and particularly daylight – triggers a number of physiological responses in the body. Our temperature and hormones react, for instance, along with the biological rhythms that regulate sleep.

For scientists, engineers and architects, there's a huge challenge. The International Commission on Illumination recommends that, wherever possible, we should be incorporating daylight into the spaces in which we live, work and shop. But where restrictions make this impossible, can artificial light mimic or complement the natural illumination from the sun?

## **A spectrum of ideas**

The qualities of daylight are unique. Diffuse blue light from the sky merges with direct light from the sun on the earth. It has a very broad spectrum which reflects all colors well. As things stand at the moment, there's no way of reproducing it artificially. But that doesn't stop scientists and technologists from trying to get as close as they can.

One such intrepid explorer at forefront of daylight science is Bernt Meerbeek, a Senior Scientist working in Human Interaction & Experiences at Philips. Talking from his base

in the Netherlands, he outlined some of the challenges.

"Fluorescent light produces a number of peaks in the spectrum," he explains. "With LED, you get a slightly broader spectrum, but there are still peaks. Another issue is that if you go outside, you can sometimes get intensity levels of, say, 100,000 lux, which is huge. It's difficult to replicate this indoors and, even if you did, there are sustainability issues to consider."

Physicist and daylight consultant at *alware GmbH* Andreas Lahme agrees. "Humans love to be outside," he says. "It's been that way for thousands of years. But the contrast in lux levels between the indoors and outdoors is enormous."

So there are considerable challenges in 'recreating' daylight inside. But there are obstacles to incorporating real daylight into buildings too, particularly in a retail environment. It's unreliable for a start. And Lahme recognizes that too much natural light can be problematic if it results in overheating. It's certainly something that stores grapple with as they look to keep food fresh or clothes in pristine condition. The German consultant specializes in helping developers and architects find the right balance.

## **Experiments in retail**

So what steps have been taken in simulating daylight in a retail environment? And just how successful have they been? Meerbeek reveals a recent project which shows the way the technology is evolving.



Sheffield, a British city some 250 km north of London, is the setting for an innovative new approach to lighting by retailer Marks & Spencer.

The familiar high-street brand has fitted out its Ecclesall Road Simply Food store with 100% LED technology. At the same time, M&S took the decision to make use of 'daylight harvesting' – incorporating 'sun pipes' and taking advantage of the free natural daylight which pours in through the windows.

Luminaires automatically dim in response to the external brightness, so the store maintains a constant level of light. And the fittings can even be programmed to turn themselves off completely when the level of daylight reaches a certain level. It all plays a part in delivering the most environmentally friendly shop in the Marks & Spencer retail estate.

Local store manager, Allison Burnley, is delighted with the results. "We've created a fresh, modern shopping environment for our customers," she says.

 <http://philips.to/1IAA2On>

## The science behind daylight

**Research on the impact of daylight is constantly evolving. Here are some highlights of relevant studies.**

### Feeling better

Daylight improves health and wellbeing. It increases mood and morale, while lowering fatigue and reducing eyestrain, according to authors Edwards & Torcellini (2002).

### An uplift in sales

A study in California (Heschong, 2003) measured sales over 34 months in 73 different stores. One third of the shops had diffuse skylights fitted which let in natural daylight, the other two-thirds did not. After controlling for a number of different factors including population, floor space and parking, the researchers concluded that the daylight uplifted sales by between 1% and 6%. Critically, the additional sales represented a much larger financial benefit to the retailers than the energy savings from using natural light. The increased profits were, in fact, between 19 and 100 times greater than the reduced energy bills.

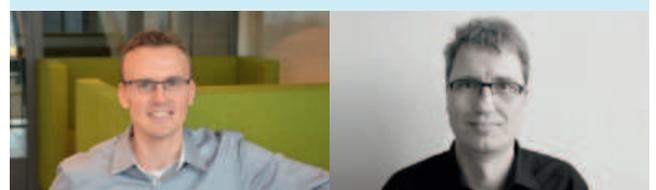
Although the reasons for the result are still debated, it might be that products have higher visibility in daylight and look more attractive through better color rendering. The variability in natural light might also help to keep customers and staff more alert.

### Being connected

Christoffersen (2000) found that people in offices prefer to sit next to windows. This isn't just for the light source, but also for the view. We like to feel connected with the outside world.

Bernt Meerbeek

Andreas Lahme



"We installed an artificial skylight in a pilot store and the luminaire provides a blue sky view. At the same time, it gives out white light in the store. It's a unique solution which came out of testing we do in the lab to define the parameters. We spend a lot of time looking at the qualities of real daylight and asking consumers to answer questionnaires and give us interviews. They tell us about their perceptions."

In Denmark, Philips experts have worked with energy company Q8 to refurbish some 90 service stations. As part of the remodelling, the LED lighting concept included daylight management: measuring the level of light outside at any given time and adjusting the interior light accordingly.

The best approaches in stores may not be limited to the lighting alone. It's a question of thinking more holistically about what consumers need. "People like to sit next to a window in an office," says Meerbeek. "This isn't just for the light. It's for the view as well. In a store, we might want to use LED light to create the sense of a more spacious environment or an illusion of connection to the outside world."

Lahme points out another area of interconnectedness. Light, heating and cooling need to be considered together, he claims, as they have a 'symbiotic' relationship with each other. It's about creating environments which use less energy and give visitors a feel of comfort – both visually and thermally.

# Managing energy effectively

One of the key innovations brought by LED technology is the way in which lighting can be easily controlled. LEDs become smart when combined with dimming controls. And a smart LED lighting system allows energy savings over and above those achieved by the luminaires alone. It's a great opportunity to reduce costs, while at the same time changing the ambience of a store.



## 1 Weather balance

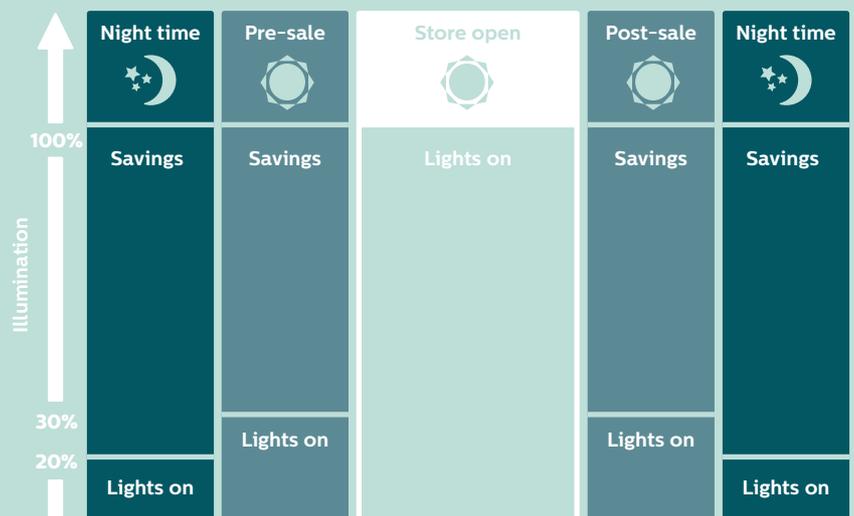
The weather outside changes with the seasons and it's important that the contrast between the indoor and outdoor environments isn't too marked.

By adjusting the light inside to the average seasonal level, it's possible to save energy and ensure a higher level of eye comfort.

## 2 Scheduling

Why use full light output when only supermarket staff are in your store, stocking shelves and cleaning?

You can save energy by dimming light outside sales hours and then practically turning it off entirely during the night. Scheduling can save up to 15% on your energy bills.

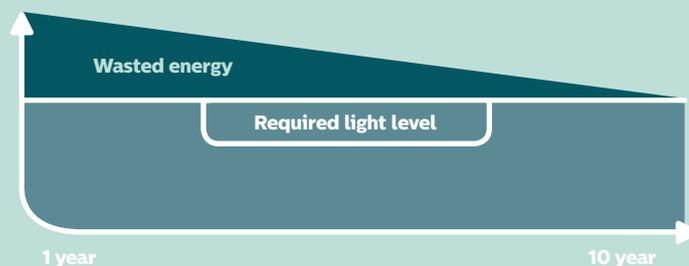


### 3 Light level preservation

Over time, the brilliance of the LED luminaires decreases due to a natural ageing effect, which is why the lights are always 'over-specified' to compensate for lumen depreciation.

You can save energy by dimming at the beginning of the lamp's lifetime and gradually increasing the lumen output over time to keep the same light levels. This can bring an energy saving up to 15%.

**Without light level preservation**  
Over illuminate in the beginning to ensure sufficient light by the end of lifetime



**With light level preservation**  
Gracefully dim up to compensate for natural ageing



### 4 Daylight harvesting

The increasing trend towards ceiling skylights and glass facades brings various benefits:

**Energy saving:** when there's sufficient daylight, artificial light can be decreased, leading to potential double-digit savings in percentage terms.

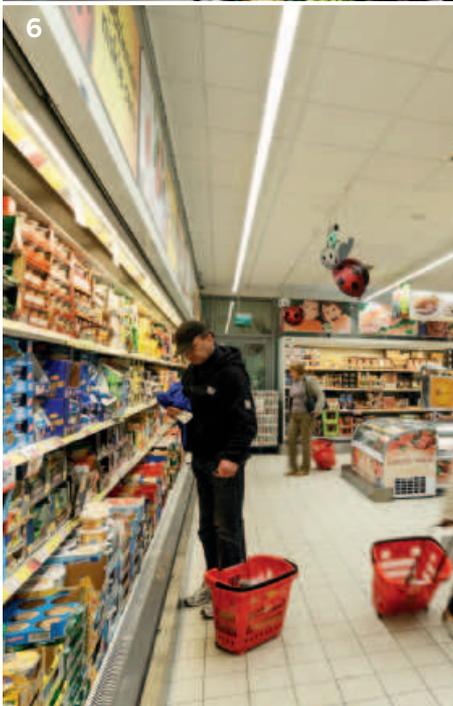
**Look and feel:** natural daylight gives the impression of an open air market which is positively perceived by customers.

**Impact of sunlight on people:** scientific studies show that people's mood is influenced positively by natural light, thanks to the release of serotonin in the body. Increased store turnover was measured in test studies in the US and Germany.

For 93% of the working hours in central Europe (between 07.00 and 18.00), there's sufficient daylight to dim or switch off indoor lighting. During the summer, harvesting daylight can also lead to reduced cooling costs.

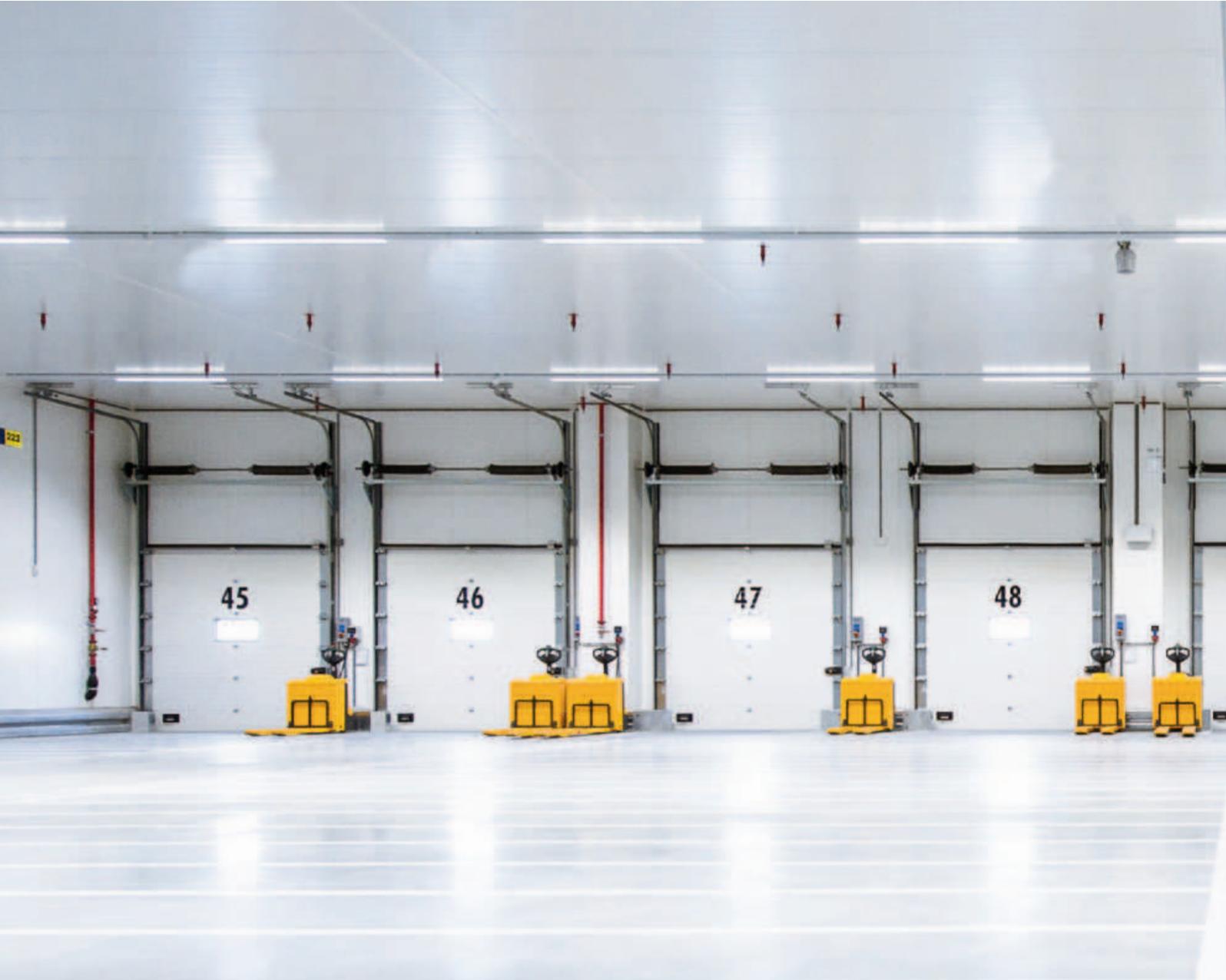
# Supermarket style

LEDs and associated control technology are helping to transform retail across Europe. The lighting enhances products by delivering exactly the right color accent.

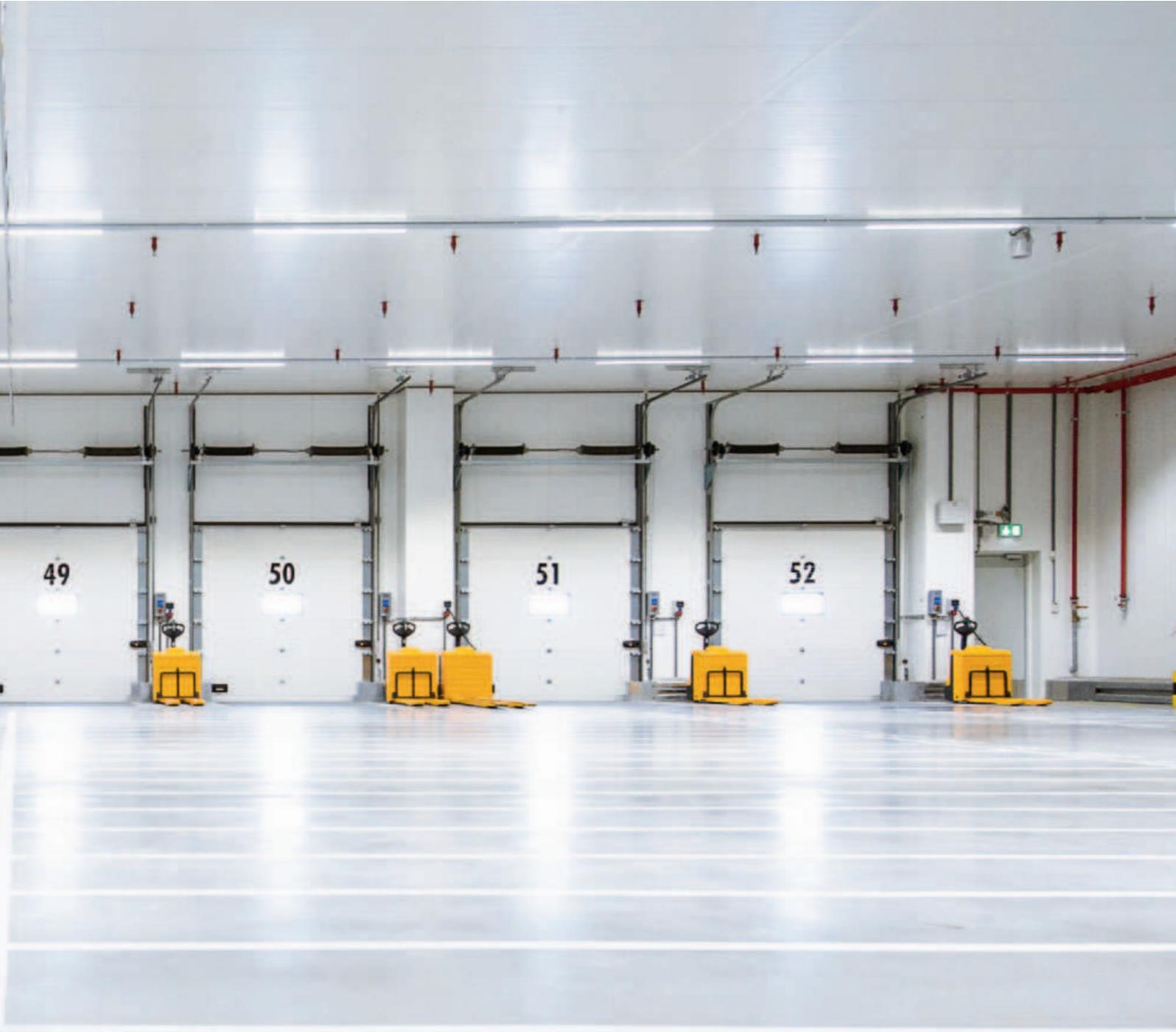




- |                                     |   |
|-------------------------------------|---|
| 1 Edeka, Hildesheim, Germany        | 8 Consum, Bexti & C.Benloch, Spain                  |
| 2 BP, Krakow, Poland                | 9 Spar, Vienna, Austria                             |
| 3 Shell, Azuqueca de Henares, Spain | 10 K-Supermarket, Helsinki, Finland                 |
| 4 Rewe Kaufpark, Iserlohn, Germany  | 11 Co-op, Leyland and West Didsbury, Lancashire, UK |
| 5 Morrisons, Illingworth, UK        | 12 Carrefour, Santiago de Compostela, Spain         |
| 6 Biedronka, Warsaw, Poland         | 13 Auchan, Caluire, France                          |
| 7 Superbest, Espergærde, Denmark    | 14 Asda, Bangor, Wales                              |



Going  
**green**  
in Heerenveen



They've named it as the most sustainable distribution center in the Netherlands and there's no doubt German supermarket giant Lidl has pulled out all the stops for its new 46,000 square meter hub in Heerenveen.

**RetailScene** examines the facts and asks whether we're looking at the future of retail.

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A few years ago, it would have been difficult to imagine that a retail distribution center might be ranked among the top 5% of buildings in Europe for sustainability. But that's exactly the feat that Lidl achieved when in June 2013, they opened their new, state-of-the-art depot in Heerenveen, around 120 km north-east of Amsterdam.

Stefan Uffelen, director of the Dutch Green Building Council, said that the supermarket chain was the first organization to 'bring sustainability to this scale'. His organization ranked the development as 'excellent', awarding it a 4-star BREEAM-NL Oplevercertificaat – a first for center of this size.

Let's decode the jargon. BREEAM stands for the Building Research Establishment Environmental Assessment Method, which was developed originally in the UK. It's a recognized standard for sustainable construction. But what was it that marked Heerenveen out as being so exceptional?

There's no gas in the building for a start and a thermal energy storage system derives heat directly from the soil. Lidl are using environmentally friendly refrigerants to cool and freeze products. And when you add in the high level of insulation and the triple glazing, the overall energy efficiency is exceptional.

Lighting, naturally enough, is a big part of the equation too in this landmark €42 million project.

Lidl already had a strong relationship with Philips following successful installations of LEDs in stores and at the supermarket's Dutch head office. It therefore was a natural progression to incorporate the lights internally at Heerenveen, with an energy saving of 45% a year in comparison with traditional fluorescent strips.

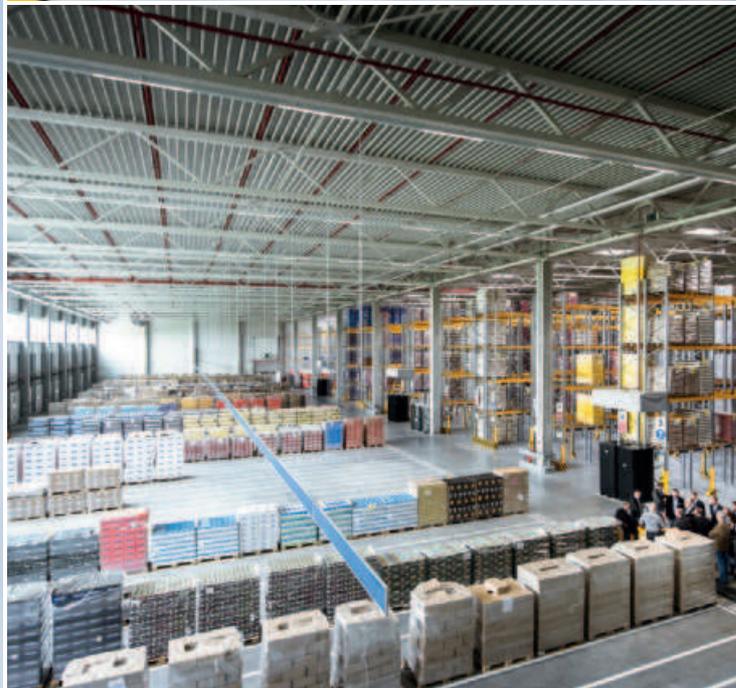
Presence detectors and daylight sensors also mean that the lights are only on when they're needed – illuminating zones as workers enter them and then dimming the lights or turning them off when they're not required. Another 22% energy saving.

According to Philips Account Manager Joost Flanagan, corridors are divided into sections over 10 to 20-meter stretches. "A third of the corridor might be lit at 100%," he reveals, "while the remainder stays at 20%." Outdoors, a similar principle applies. Automatic switches can turn lights on and off and ensure that they're dimmed when there's little activity at night.

Lidl's spokesperson Séverine van Tuyll van Serooskerken sees the center as reaching a new benchmark. "Sustainability was top of mind throughout the entire construction," she told RetailScene. "Never before has a site of this size been certified at a BREEAM 4-star level, which means we've succeeded in constructing the most sustainable building of its kind in the Netherlands."

The site is certainly prompting a great deal of interest, with people visiting from Germany to see the impact of the new-look lighting. And two further warehouses – operating to similar specifications – are planned by Lidl in the near future.





### The Heerenveen project

The original Heerenveen distribution center was Lidl's first in the Netherlands, when it opened in 1997, but the world of retail moves extremely fast. Their new build at the International Business Park is on a 12-acre site and is ultra modern in every respect, supplying around 80 stores in the northern part of the country. It's a reflection of the supermarket's strong commitment to simplicity and economy with both materials and energy.



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€42m

overall project costs

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45%

energy savings over  
fluorescent

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4 star

BREEAM-NL level  
achieved

“

We've succeeded in constructing the most sustainable building of its kind in the Netherlands.”

# At your service

In 2014, retailers are looking for much more than a shipment of lighting supplies arriving on their doorstep or a one-off installation. They want suppliers who can understand their priorities and provide ongoing support and advice. RetailScene talked about the trends with a thought leader from the Philips European Solution Center.



**Ronald Gelten couldn't be clearer about the way in which the world of retail lighting has moved on in recent years. The Philips Business Development Manager describes a market which has changed beyond recognition. Not just in terms of technology, but also in relation to the expectations of retailers.**

"In the past, we'd recognize that this was largely a product-based market," he says. "While it's true we always talked to visual merchandisers and designers, the whole nature of the relationship has changed now. It's about consultancy and an ongoing dialogue."

These discussions might be about the creative process, but sometimes they can be wider still – encompassing a client's broader business objectives and ambitions.

"We can help people save costs through low energy and maintenance," says Gelten, "and we can also influence their revenue stream. We'll ask what the issues are. Perhaps potential customers don't notice the store in the first place? Maybe people come in but they don't spend long enough there, so we're missing a conversion into sales?" Or perhaps the retailer realizes that it's a lack

of engagement with the look of the store which ends up causing a sales bottleneck?

"Let's say you want to change the scene in your displays throughout the year so as to provide an element of surprise when people enter, triggering ideas and engaging these shoppers," suggests Gelten. "Perhaps Valentine's Day is coming up and you want a showcase which reflects the romance of the occasion. With an ongoing service arrangement, these kind of changes become much more feasible."

Naturally, there's no one-size-fits-all solution. Retailers may, after all, confront any number of issues. It might be a question of monitoring energy consumption more effectively, creating more 'stopping power' as people pass by a store or taking a closer look at what neighboring shops are doing and providing insight and advice. Discussing the retailer's needs in a broader context, analyzing the bottlenecks and working out solutions together is what lighting consultancy is about today.

Although it's clear that consultancy is at the heart of what businesses such as Philips are now offering to retailers, Gelten is a little wary of the term.



“

It's about education and what light can do for your business.”



### What services can retailers expect?

Lighting services continue to evolve, and market leader Philips already offers a wide range of support:

- Education on the latest technologies via the Lighting University (see pages 76 and 77)
- Regular maintenance to ensure continuous reliable operation
- Optimization, upgrades and advice on intelligent systems
- Financing services, allowing retailers to keep investment off the balance sheet

“It can sound like we're giving retailers some nice fluff in a PowerPoint,” he jokes. “It's actually about education – helping them understand more about the technology through our Lighting University, perhaps – or asking what light can actually do for their business.”

Inevitably, the dialogue about services isn't just with purchasing managers, although they're still a critical point in the chain. Gelten believes it's vital to establish a rapport with Marketing Managers, Visual Merchandisers and Energy and Asset Managers. “It may be that we need to build a relationship with IT as well,” he says, “now that we live in a complex world of digital lighting technology.”

And there's another figure who's increasingly taking center stage. The Finance Officer of a business may have a strong interest in looking at the different options for investment. Philips can assist with the financing of a project, ensuring an installation can go ahead, even in situations where the funding may not be available up front. “In some cases,” observes Gelten, “we're talking about positive cashflow from day one. Payback time isn't even a relevant parameter any more.”

What about the trends in the world of lighting services? Personalization is a big theme, as well as ‘connected’ lighting involving the transfer of data. Maybe light installations will increasingly adjust to reflect male or female tastes, depending on the likely target for a particular product?

And there's also the wider operational and marketing benefits that come from gathering data. Today, there are already systems that collect data and turn it into actionable cost-saving information for retail chains.

“For example we show that a particular lightbulb is ageing while another one is broken,” comments Gelten. “Actionable information for maintenance purposes will show this so that replacement of the broken bulb can be combined with preventive replacement of the ageing one. Or it may be that we're analyzing changed shopper behavior, as a result of a new fitting room concept. We can then use this data to help clients improve business performance.”



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# Step inside the **Innovation Village**

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Forward-thinking retailers regularly walk through the doors of the Philips' purpose-built Innovation Village, where lighting experts have recreated both a supermarket and fashion store. These unique laboratories are highly realistic and provide a perfect location for ongoing discussions about future trends. In fact, they provide a unique opportunity to experiment. Marleen Verhagen, a Philips specialist, explains why the center in Eindhoven is always worth a visit.

Marleen Verhagen draws on her knowledge of engineering, sales and marketing to develop solutions with customers at the Philips Innovation Village.

▼ First-hand experience: retailers often spend time in the Innovation Village and have the chance to discuss ideas and plans for their own stores



### Start the discussion by visiting the Village

Retailers are always welcome at the Innovation Village in Eindhoven. Whether visitors specialize in fashion or food, they find that the realistic settings allow them to explore and imagine possibilities for their store that are hard to envisage on paper.

Here are Marleen Verhagen's top tips for getting the most from the experience:

1. See the visit as an opportunity to start a dialogue. It's not just a question of coming along and being convinced by the solutions already being demonstrated. More a chance to talk about the things that keep you awake at night.
2. Think about how the lighting can be part of a bigger picture: creating a compelling, instore brand experience.
3. Consider inviting colleagues who might have a specialist interest. Visual Merchandisers, for instance, or brand specialists.

### What's the light signature of your brand?

#### You don't have one yet?

There's no need to panic because the idea is still work in progress for many retailers. But just as surely as your logo and corporate color palette say something about the personality of your business, so does the light that you employ in your store.

It's just one of the many ideas explored by the engineering and marketing gurus who inhabit the Innovation Village at Philips in Eindhoven. They're responsible for opening up a dialogue with clients and then jointly developing and trialling new concepts marketers, procurement specialists and visual merchandisers are frequently seen on site, experiencing the innovations at first hand and discussing the possibilities for their own businesses.

As online retail becomes a bigger and bigger phenomenon, bricks-and-mortar stores are having to offer an experience that truly engages customers and lures them from the screen to the shop floor. There's a growing recognition that lighting, ambience and mood are key differentiators. While one e-commerce site may be much like another, the feeling you get when you walk into a shop can be quite unique.

Verhagen observes that we're getting less and less afraid of technology. "It's moving more and more quickly into society and into retail too. If you make use of the latest lighting innovations, you can attract and engage consumers. And you can convert shoppers into buyers."



▲ Collaborative environment – the Innovation Village is also ideal for experimenting with new supermarket lighting solutions

▶ Food <http://philips.to/19do6z9> | Fashion <http://philips.to/K5dru8>

# Superflash at SuperTrash



**Mission:**

To equip a leading fashion store in Amsterdam with some of the very latest concepts in LED.

**Timescale:**

Just two and a half weeks, from start to finish.

**Solution:**

A fitting-room environment that brings the world of the night club to the high street.



“

People that go in to the fitting room don't come out any more. We have to drag them out!”

Ingmar Brenninkmeijer, Head of Retail at SuperTrash



**SuperTrash is a fashion business with an international reputation. Founded by entrepreneur Olcay Gulsen, the brand stands for affordable luxury and now has a presence in over 32 countries. You'll find the clothes, shoes and accessories in approximately 2,000 high-end boutiques and department stores, as well as in 15 of the brand's own shops.**

The zone system in the 99m<sup>2</sup> Amsterdam store takes the customer initially into what seems a little like a hotel lobby. Coffee is on tap in this 'induction' area before we step through into an 'intimate' second zone, where the sight and smell of the clothes entices us a stage further. Before we know it, we're into a beautiful showcasing area, where there's access to a very special VIP fitting room.

Ingmar Brenninkmeijer, Head of Retail at SuperTrash, told RetailScene about what the brand is trying to achieve and how they have worked in close collaboration with Philips:

“Clothing needs light. And people need light. The Philips EcoStyle LED means people see the colors as we think they should be. Our customers no longer need to walk outside to see what the real color is.

“The VIP fitting room we created with Philips is so cool! We said a fitting room has to be an experience. Turn the music on – it's magic! People that go in to the room don't come out any more. We have to drag them out!

“It all started from an idea: could we have music in the fitting room? I wanted to know what the possibilities were. And that's Philips for you. Philips doesn't say 'impossible, that isn't for us, we only do light'. They send someone from head office, from the creative department, to see what is possible. And together we came up with the idea of using the AmbiScene Mirror and it really works.

“The customer can get the impression of daylight at the touch of a button. But if you need to dress for the office, you switch to the 'office setting'. And immediately you see the change. But then the finale, I think, lifts the roof. It's the 'evening' setting. Straight away, you hear the music. This is the only setting with music. People feel like they're in a night club. You forget the world around you, see yourself at your best and feel the music.

“Philips was faster than the smallest players in the market. They love it. They love quality and want to supply the best possible product. They organized everything inside two and a half weeks, from lighting plan to implementation. That suits us down to the ground. That's how we like to work. In sixth gear, up a gear, with 3g-force in the bends. We are very happy.”

 <http://philips.to/1cAB0oQ>

# Your store.



**Dennis Maas, Project Manager on international key accounts for Philips, spoke to RetailScene about the way in which the Dutch firm is collaborating with clients on bespoke lighting solutions for both fashion and food stores.**

Making use of the highly versatile StyliD range, he and his colleagues are able to bring to life the concepts that exist in the retailers' imaginations.

"Shop lighting is all about emotion. It's about bringing out the emotion that retailers want to associate with the brand. Our customers often have clear ideas and views about the way in which lighting will contribute to the overall feel of their stores. In short, they know what they want and they want a partner who has the flexibility to turn what they imagine into reality.

"They're interested in quality, performance and stores opening on time. And with StyliD, they not only have a top-quality LED-reflector combination, but they can also benefit from the fact that the system is modular.

You can have all kinds of design variants – recessed, track mounted or surface mounted, for example. There are many configurations."

#### **Bespoke solutions for unique stores**

"Products can also be tailor made. And some clients are particularly interested in the housing or the way in which the lighting is integrated into a specific building element. We deal directly with architects, as well as procurement experts and brand managers. Each has their own set of priorities. In the event that the client is looking for guidance on design concepts, we'll explore and test on their behalf before recommending solutions.

"There are already a number of examples of major projects in which our design variations have played a significant role. We have worked closely, for instance, with the huge Spanish group Inditex on the roll-out of their Bershka brand across Europe and Asia. We developed their full lighting system using StyliD modules."

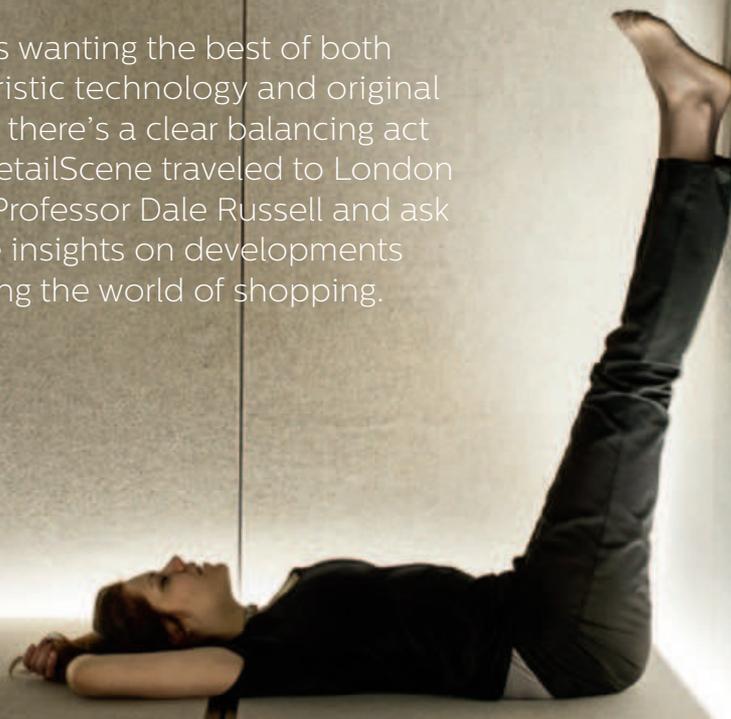
# Your style.



“Online shopping has become very popular, so retailers have to rethink the role of their physical store – creating experiences and touchpoints with the customers. It’s important for us to build exactly what the client wants. Yes, there’s the standard catalogue, but there are a whole range of other capabilities and considerable know-how too.”

# Back to the future

With shoppers wanting the best of both worlds – futuristic technology and original authenticity – there's a clear balancing act for retailers. RetailScene traveled to London to meet with Professor Dale Russell and ask for her unique insights on developments that are shaping the world of shopping.



Dale Russell

Known as a futurist, innovator and strategic creative director, Dale Russell finds herself right at the heart of debates on interdisciplinary design. The professor, who is an academic at both Central Saint Martins and the Royal College of Art, has consulted as an advisor to traditional brands such as Wedgwood and technology companies including Nokia, Samsung and Philips. She specializes in innovative and socially responsible product development, designed to enhance brand identity.

When we asked her to reflect on the major challenges and opportunities facing retailers, Russell talks of extreme contrasts. On the one hand, consumers love the convenience and 'magic' of the instant omnipresent technology that's all around them. On the other, they crave an authentic, human experience.

A brand relationship is created before customers enter the store. Retail is no longer restricted by time or geography as we enter the shop. This multi-disciplinary influence is integrated by lighting into the retail environment. "But it's not all about smartphones and devices. There's an increased desire for artisan products and natural foods. Customers can move from a high-tech experiential area to a relaxed rustic setting, with natural lighting and authentic materials."

In contrast to independent shops and cafes making use of an intimate or theatrical ambience, Russell talks about supermarkets in South Korea where customers scan from walls of virtual products. She sees it as just one extreme of the many contrasting changes with impact on lighting taking place globally.

#### **A place to visit, not just to shop...**

According to Russell, this concept convergence of retail is moving fast, although some players are obviously ahead of the curve. Luxury stores with heritage, such as Burberry, lead the way. The British fashion brand has fused technology and lighting as content showcased through multiple screens, via a five meter 'digital chandelier'.

Retailers need to be comfortable with the idea of embracing technology and working with it. What's more, they need to start thinking in a multidisciplinary way.

"We need to build on the idea of empathy and entertainment," says Russell. Thanks to online shopping, the store is no longer necessarily a place where you purchase. It's a place you want to visit. And with that comes the need to create a continued relationship through narrative.



#### A space to curate

One of the buzzwords in the world of retail is 'curation' – leading and navigating shoppers through a space, in much the same way as museums and galleries. Russell thinks the concept is incredibly important, with a focus on lighting as the navigator. Lighting can guide the customer along paths, borders and boundaries throughout the store.

Independent stores have become more experimental, more radical, in order to compete. Sometimes big brands have a basic approach, but now they are also aware lighting is a prime factor in helping people to navigate their way through the store. It's used not just to sell, but to invite.

Next, Russell's train of thought take us to Oxford Street and the innovative department store, Selfridges. She refers to a 'Silence Room' created in conjunction with Philips UK's Lighting Creative Director, Rowena Preiss, which was not intended as space for people to shop. Instead, it was a space which the professor says was fundamentally about wellbeing.

“

We need to build on the idea of empathy and entertainment.”

#### The sound of silence

Shoppers relish a few moments of relaxation in the Selfridges unique quiet zone before continuing their shopping expedition.

There are few stores in the British capital more iconic than Selfridges and there are few retail spaces more unusual than the 'Silence Room' it created. Positioned next to an exhibition area, major walkway and busy café, the area was a place in which customers could sleep, meditate or simply stop for a few minutes of reflection. "It felt like it was time to take a pause," says the department store's Director of Windows and Creative, Linda Hewson. "A breath of fresh air amid the madness of our modern lives."

LED lights from Philips were hidden at floor level and behind the seating to create a warm ambient glow.

#### Preview: 2014 and beyond

##### Dale Russell's thoughts on the future retail world.

##### Light as nurturer: shop as oasis

The role of shop is no longer to just sell but to provide an oasis for wellbeing and social responsibility within the hubbub of urban living. Sympathetic areas will provide light therapies for seasonal affective disorder and jet lag prevention and repair. These sensory environments are complementary to the overall retail experience.

##### Painting stories with light

Intelligent textiles such as luminous textiles, Shades of Light and technical materials will have greater impact on store interiors and exterior. Fashion fitting rooms recognize a greater need to use light and design to provide theatrical setting and experience alongside practical lighting relevant to trying clothes out.

##### On storytelling through light

Data delivered by light to a smartphone is telling customers about the provenance of a product in a supermarket and providing details of its ingredients. Interactive story-telling is bringing new experience and impact, particularly through shop-window displays. (See feature on page 36). British charity Oxfam has innovated by allowing customers to find out the product's history through smartphone-based QR apps. Other retailers are experimenting in this area too, through using data coded in 'connected' lights. (See feature on page 30).

##### Lighting of the future

The key question for lighting strategy is can it evolve in line with this new culture of retail opportunity, aligned to emotional and environmental context, whilst maintaining the essence of the brand? Bringing to life the merchandise within the practical challenges of the architectural envelope. Of course the answer is yes, as lighting technology brings with it a multitude of opportunity and flexibility in color, effect and light intensity. All now possible from any single point source, through new digital developments.

# The enlightened shopper

Every retailer knows that decisions on purchases are often made spontaneously in the store. But in a world of nearly constant connectivity, shoppers with mobile devices now have access to all kinds of information as they browse the shelves. They may be ‘showrooming’ – taking a look at a product and then comparing prices online. If they find a better deal, they may choose to make their purchase from another retailer, either online or at another bricks-and-mortar store.

To prevent losing sales in this way, store owners must make effective interventions at the point of sale. If it’s possible to offer customers an enhanced shopping experience right there in the store’s aisles, the cash register is more likely to start ringing.

#### What they want, when they want it... wherever they are

Recent advances in indoor positioning systems are now allowing retailers to give customers just this sort of enhanced shopping experience. Using wifi or another method of wireless communications, it’s possible to send targeted information directly to shoppers’ tablets, smartphones or other mobile devices. Customers who use specially designed mobile shopping apps can receive better product information, special discounts, or even directions to the right location in the store as they move around and consider different items to purchase.

“Many retailers have been building applications for shoppers to use in-store,” observes Jella Segers, Marketing Director at Philips Retail Lighting. “Near-shelf couponing has one of the highest conversion rates. So this is potentially a great way to upsell or cross-sell to customers when they’re at their most receptive. The whole shopping experience is going to become more inspiring.”

Developments in indoor positioning applications are driven in part by the increasing use of smartphones and tablets, which are often much in evidence as consumers wander around a store. In the UK, Nielsen reports a 64% smartphone penetration and in Spain, the figure is even higher. The Netherlands leads the way in the market for tablets, although sales are increasing significantly across Europe.

But it’s not only customers who may benefit from the new developments. With an indoor positioning system, retailers can send packing and restocking orders directly to staff as they move through the warehouse or store, making order picking and shelf stacking more accurate and straightforward. Managers can assign tasks more efficiently and they can adjust employee activity based on real-time information about the status and use of a particular space.

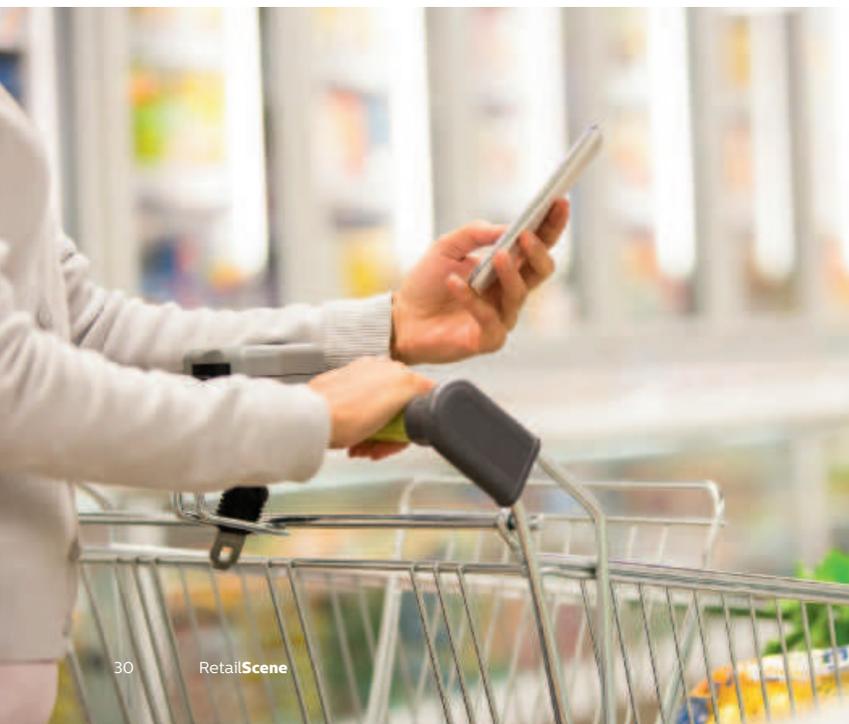


#### Lighting the way to indoor positioning

Building effective indoor positioning systems is not without its challenges. One issue is how to distribute responsive devices easily and affordably throughout a site. Another is how to create an indoor communications system that is reliable and sensitive enough to deliver the right information and services to people at the right time, wherever they happen to be.

Philips’ solution is based on a simple insight. As lighting is already present indoors, why not use it as a platform for positioning?

Enter Philips ‘connected’ lighting, which uses the lighting system for more than just illumination. By outfitting intelligent LED luminaires with responsive devices – such as locator beacons, sensors, and transmitters built into the luminaires’ housing – these connected lighting systems not only illuminate spaces, but also serve as a pathway for information and data.





### A day at the museum

At Leiden's Museum Boerhaave in the Netherlands, visitors are able to experience first-hand some of the advantages of indoor positioning. In this Philips pilot program, the connected lighting system triggers relevant information to customers as they stroll through the museum, educating them and enhancing their experience. When they enter the museum, visitors receive tablets fitted out with a custom application that includes articles, interactive experiences, and videos about the museum's exhibitions. Intelligent LED luminaires, installed throughout the museum use Philips patented light communication technology to identify themselves and broadcast their locations.

When a visitor stands in front of a particular work of art, the tablet receives the location signal from the nearby luminaire and automatically displays relevant information. Certain works of art can trigger quiz questions, for example, or a video clip perhaps, designed to deepen the visitor's understanding of the object's history and meaning.

### Different approaches, consistent results

Connected lighting systems for retail applications may differ from the Boerhaave Museum installation, but their intent is the same: to create a layer of intelligence that customers can access to enhance their experience of an environment.



### Beyond indoor positioning

The promise of connected lighting systems goes far beyond indoor positioning to deliver a whole range of benefits to people who manage retail spaces, as well as the customers who use them.

Connected lighting systems, such as those under development by Philips, build on the inherently digital nature of LED lighting technology. The company's LED luminaires contain on-board intelligence, very much like a computer's, that allows them to be connected to each other and to a building's IT network. In this way, they can be monitored and controlled by back-end lighting management software in exactly the same way that IT management software monitors and services computers in a network. And just like computers in a network, intelligent luminaires can be engineered to send information about their current state of operation to the back end and receive control signals from it.

"As the world leader in lighting, we have the largest portfolio of LED luminaires, backed up with products and competences at every step of the lighting value chain," says Jeff Cassis, Head of Global Systems at Philips Lighting. "We also have developed tools — like software-based dashboards — that provide an intuitive way to set up and operate the system. So we can be a key partner in enabling connected lighting systems that deliver value for our customers, over and above illumination alone."



# Rodney, meet Rogier...

**Rodney Fitch** (above) is the founder of the WPP-owned design agency which still bears his name and which helped to transform the fortunes of many leading retailers from the 1970s right through to the present day. Today, Rodney acts as a consultant and passes on his knowledge to a new generation of students as a Professor of Retail Design at Delft University of Technology.

**Rogier van der Heide** is Vice President and Chief Design Officer of Philips Lighting. He joined the Dutch multinational from Arup and has a wealth of experience of creative, independent design. Rogier has received over 20 individual awards and has worked with many leading architects including Zaha Hadid and Renzo Piano.



# How exactly is the world of retail changing?

## How can light transform the experience of the shopper?

**We brought two world-renowned experts together in London – each boasting a wealth of design knowledge and experience – and asked them to discuss the issues face-to-face.**

**Let's start with a very general question, gentlemen.  
What kind of spaces inspire you?**

**Rodney:** Richard MacCormac's big blue space at the Science Museum in London is nearly 15 years old now, but you walk in and you still feel it's very up to date.

**Rogier:** And that big blue space is created largely by the lighting treatment, and it's a part of what I think of as 'curating', in that someone curates a museum, but nobody curates a shop – yet.

**So, can the same principle be applied to stores?**

**Rodney:** The idea that you curate your collection, your shop collection, is not yet something that shopkeepers subscribe to. There are one or two that do, obviously, but mostly they don't. And if they did, then lighting – and the way lighting affects the collection – would be critical.

I mean if you're doing the Victoria and Albert Museum, where I have a particular interest, if you're doing a collection for metalwork or a collection for ceramics, you don't just put it in fluorescent tubes on the wall, which is what they would do in shops. You would curate your different collections and lighting would play a part of that.

There is a new supermarket that opened up in Toronto called Loblaws, which is lit very interestingly because it's underlit. The whole idea is not to overlight this supermarket, but to underlight it, so it's very dark and rather interesting. You need to find your way around.

**Bricks-and-mortar retailers are in head-to-head competition with online stores now. Does lighting have a role to play as a differentiator, perhaps?**

**Rodney:** If you were to project forward, the conventional wisdom is that we shall have many fewer shops, physical shops, but those that we do have must be exceptional. And lighting will play, could play, must play a really important part.

**Rogier:** But I think some of the luxury brands already act like that. They have a very limited number of outlets which are not too large. They have splendid architecture and they offer space, which is a real treasure these days in a city. And they pay a lot of attention to materialization. Very innovative facades, which seem to shimmer or whatever, and the illumination is also of a very high quality.

I worked for Louis Vuitton as the resident lighting designer and we mostly developed lighting which was just not there. You know, you walk into these boutiques and there are no spotlights on the ceiling, no tubes, not even holes there. We designed a continuous slot which follows the contours of the different parts of the shop floor, and inside that slot there's a very nifty fitting with optics which does exactly what you need. And that's what they wanted. They wanted the effect of light, they wanted the texture of it on the merchandise, but they didn't want to have the equipment. They wanted to have some sort of magic really.

»



“

People want to be part of the action, but they don't want to have a PhD to change the lighting in the fitting room.”

**So is this something for upmarket retailers?  
Or does it apply across the sector?**

**Rodney:** If you were to ask a retailer 'do I need to spend money on lighting?', he would say no, but he'd say the same about fixtures and flooring and everything. The mainstream retailers are very, very, very cost conscious, okay? Now that works perfectly well when they can buy this fitting, that fitting for £4 instead of £6. But if you were to ask most designers of shops, they would defer to Rogier. They would like there to be no fixtures, they would like the lighting to be completely secret as it were. To do the job, but it's not there.

**Rogier:** There are big differences, of course there are, but the top-end luxury is kind of the concept card for the retail industry in many ways. I mean these guys really innovate and actually they are as cost conscious as Tesco. They ask you to do a store and they say 'this looks great, but now we're going to do it 40% cheaper, right?' and they also push you to be very cost conscious also as a designer.

I think, however, luxury has become far more accessible for many. There's a big democratization going on, right? Historically, nobody could afford air travel and now anybody can fly to Palma or anywhere.

**Shall we talk a little about the role that light can play in the store? Rogier, you believe that it has a real impact on wellbeing, don't you?**

**Rogier:** I think light is connected to our wellbeing and health just from a biochemical standpoint. I worked with Volvo on detecting the drowsiness of drivers. When you use illumination of the right wavelength, it can make them more alert by changing the melatonin levels in the blood cycle. Melatonin is our sleep hormone, so this is not vague New Age kind of gimmickry.

A lot of retail outlets don't have daylight except for the shop window which they often close off, but when you have that occasional space which has ample daylight, it is a huge treasure I would say. An asset really.

**Rodney:** I would hazard a guess that no modern retailer would consciously and willingly not have daylight. Most retailers that I've known and worked with... the more daylight the better.



You know, there have been times in the past when department stores have been built consciously excluding daylight under the mistaken impression that they could control the environment better by having no extraneous light and it all being done up artificially. I don't think that's the case any longer and if you go to any modern shopping center, the whole place is filled with daylight. Very consciously, they'll put glass wherever they can, all other things being considered.

**You're both people who have a long-term vision and bigger picture in mind. What do you say to the retailer who's maybe struggling in the economic climate today and thinking that the upfront investment in the latest lighting is just too much?**

**Rogier:** Well, the way retailers see themselves now is that every five or six years, they overhaul the whole format, so that makes it very hard. No retailer is interested in a lamp that lasts for 50,000 hours when they just break down the shop in five years, right? So you can either expect a very healthy second-hand market of luminaries that still function for the next 10 years, or you have to make a partnership with these retailers based on other benefits. I think that LED lighting is far better able to create a certain well-defined expression

than traditional lighting is, because LED is a point source and you just add a lens, a very simple one and have great control over what it looks like and very little glare.

**The controllability of LEDs creates possibilities to change lighting with the seasons and the weather. Or perhaps even to reflect people's natural body rhythms. Is there a pattern that people respond to in stores, do you think?**

**Rodney:** Well, I certainly think there could be. But I also want to say that there is no such thing as retail, you know? There's retail and retail and retail and retail. If there was one retail project that ought to happen, and it ought to be done soon, it's Regent Street. Because you must think about Regent Street, this beautiful piece of architecture, not as a collection of shops – individual shops that all need individual lighting – but as a place to bring people. Now, you have to think of these places as destinations rather than individual stores. And you wouldn't want Regent Street to just be lit like that forever. You would want it to change in some way, because you can control it or when the weather changes or when it rains.

**Is there a role here for government?**

**Rodney:** Oh no no no...

**Rogier:** It depends on the government. We're making great progress with some of the mayors in fast-growing cities doing something really meaningful in the public space because they say 'well, we invest a lot in a public space and we just want to extend the time that people can enjoy using it'. So we make really good lighting that is enabling the specific uses of the squares and piazzas and avenues at night and creating comfort. It makes people feel at ease with the space also when it's dark.

**And will consumers have control over light in the future? What about fitting rooms, for instance, where you can try the clothes with different light settings?**

**Rodney:** They want to be a part of the action, they want to be participative. But they don't want to have PhDs and be scientists in order to change the lighting in the fitting room. So while it might be of interest once in a while to show a girl what she would look like if she were wearing this in Ibiza or wearing it in New York, you've got to be able to do that in such a way that the control is almost subliminal. It's au naturel, everything has got to be au naturel.

**Rogier:** The next generation of this is that actually, in the clothes or on the tag, there's a little radio frequency identifier. A little piece of electronics. It's very, very cheap and as soon as you enter the fitting room with that specific piece, the lights adjust to the use of that specific piece. So if it's a gala dress, the lights become more brilliant, and if it's a sports outfit, the light becomes brighter because you're likely to use that maybe outside.

**More generally, what do you think are the likely trends in the years ahead?**

**Rogier:** I think the real future is for light and wellbeing. Studies that we do together with universities prove that people can leave the hospital a day or two sooner when the lighting is right in their room. Why is that? Because that light gives them a deeper and healthier sleep. There are so many benefits of light. I mean we think of air as something that should be clean to keep us healthy, we think of water, we think of food. Why is light never mentioned in that? In that category of the environment that should be, you know, pure and clean and just good for us in order to make us grow old in a healthy way? It's so logical and I believe that is the real future and it's going to be huge of course.

**Rodney:** It's perfectly possible for lighting to define the purpose of a place. You know that the Science Museum sits on Exhibition Road, and Exhibition Road has been treated as a piece of shared space and it's been very beautified. It looks a bit like Acapulco. Can lighting assist in that creation of shared space? I have a thing about retailing which is that a shop is a shared space in a different way, but not too different perhaps from the way Exhibition Road is being turned into a shared space. I'm disappointed by the lighting in Exhibition Road as opposed to the physical treatment of the place.

**Rogier:** You said earlier that there will be fewer – many fewer – shops. I think that's very true and will be very healthy in general for retail, because there are way too many shops all over the place, everywhere.

**Rodney:** There won't necessarily be fewer places, and that's the other interesting thing about retailing. I mean if you just used the British or Dutch high street, they're different in different places, but for the first time this month, the rate of closure of what we call high street shops has stopped. What is happening is that many of those shops that were closing are changing their use, changing their nature. So there may not be fewer places, there will be fewer shops but not necessarily fewer places. And whatever these places become, you can bet your life they will all need lighting.





Turning  
stores into

# stories

Window displays can be used to tell a story about your product or brand. What's more, they can help you attract, engage and convert your customers. A wide range of businesses are working collaboratively with Philips to find new and involving solutions.

## Local control versus brand consistency

On the one hand, retailers often want to encourage control at a local level, with each individual store taking charge of its own display. On the other, there's a desire for brand consistency across different retail outlets, which might point to lighting which is pre-set and pre-programmed.

"If you have 10 shop windows, they should have the same light settings," argues consultant Liselotte van Hoof. "One shop might be in Amsterdam and another might be in London, but the feeling has to be the same. You already see it with Abercrombie. The stores are really dark. I think it will become part of the brand identity."

## The Hunkemöller story

Take a trip to Antwerp's Beddenstraat and you'll find some fascinating story-telling by lingerie brand Hunkemöller. As well as incorporating new fitting rooms to create an enriched experience for the customer, the store has a window which really challenges passers-by and attracts attention. Through a subtle play in the spotlights, it's possible to view all the accessories one by one, while interactive screens entice shoppers to take a look inside.

This sense of dynamic interaction with the customer is reinforced further into the store too. The rear wall of the fitting room is lined with a luminous textile, for example, which displays low-resolution images and helps to change the perception of what would otherwise be a more functional space.

## Dynamic thinking

Research demonstrates that when lighting changes in a shop window, the display is more likely to catch the consumer's eye. With LED, it's possible to create a dynamic lighting scene with a sequence that can be varied in speed and intensity. Fast or slow, high contrast or low contrast – the choice is yours.

Through a simple app on a tablet or smartphone, the display can be controlled locally, giving considerable autonomy to local managers and visual merchandisers. And in flagship stores, there's the opportunity to go a stage further too, by changing luminaires and combining different color temperatures.

## On the spot: how the latest lighting works

Our eye is very sensitive to movement and brightness. It's these factors – dynamics and contrast – which can be used to attract attention in a shop window.

DALI enabled spots from Philips allow easy programming along horizontal and vertical routes. It's possible to specify the total time of the 'path', as well as the speed at which the beam moves.

Extra Narrow Beam Spots have three different settings, allowing for the variation of scenes through dimming. One of the possible scenes is 'subtle' daylight, while another is more dynamic. The third is designed for the night time, when there's a particular need to save energy.



Enticing shop window in Antwerp tells the story of lingerie brand Hunkemöller and entices consumers inside

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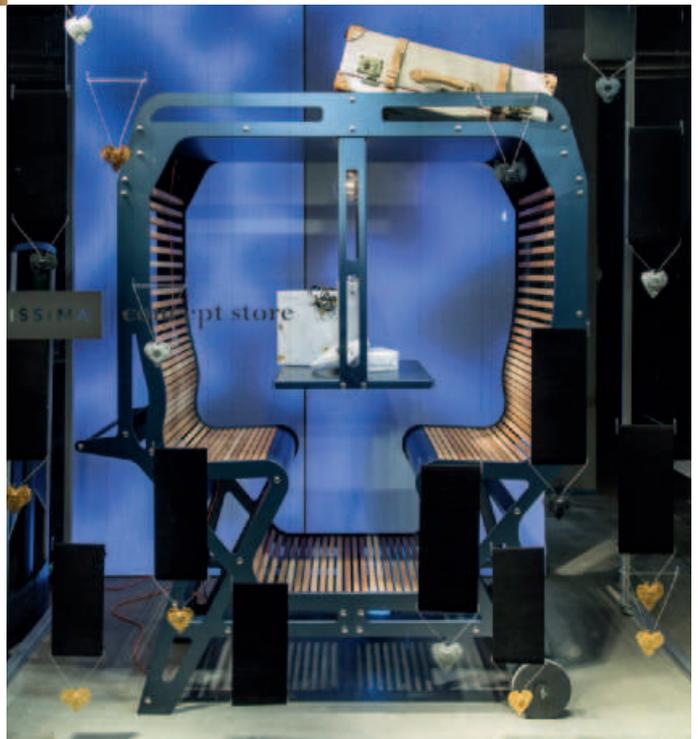
Light creates such a mood, an ambience, and it can affect people in such an emotional way as well.”

### Shop-front flair dazzles design show

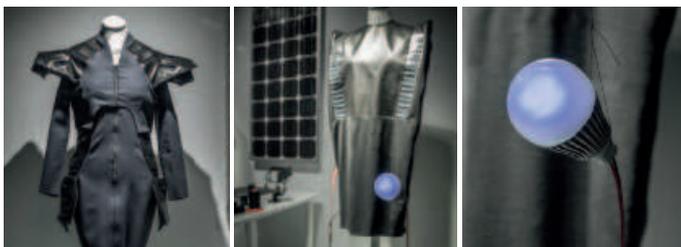
When Eindhoven once again played host to Dutch Design Week in November 2013, it was a chance to see some of the very latest inspirational ideas for store window displays. And needless to say, LED light played a big part in some of the new concepts.

Designer Pauline van Dongen says that she often collaborates with technology companies. “Philips and I have a very forward-thinking and innovative approach,” she says. “It’s a good match.” Her concept window for The Society Shop, featuring ‘wearable solar’ fashion, was created with the help of a dynamic lighting system from Philips. “Lighting is an important element in the consumer experience,” she observes, “as it creates such a mood, an ambience, and it can affect people in such an emotional way as well.”

Frank Tjepkema used one of the very latest technologies from Philips – luminous textiles, which transmit light. They have been specifically designed to add movement and drama to the spaces in which they’re installed. “What you want as a retailer,” says Tjepkema, “is to influence where your clients are looking as they enter your shop. And light is the ultimate way to create highlights and influence the viewing angles.”



- ▲ This unusual tandem chair, is the brainchild of designer Frank Tjepkema. It comes to life with a backdrop of luminous textiles.
- ▲ Pauline van Dongen has created a coat incorporating solar panels, which is able to power a light







# A window on the **soul** of a **business**

Everyone loves to window shop, but few of us give a thought to the careful planning that goes into the eye-catching displays. RetailScene visited the Netherlands to meet two experts in the field of visual merchandising – Liselotte van Hoof and Willemijn de Wit – and talk about the future of the shop front.

»

▼ Liselotte van Hoof (L) and Willemijn de Wit (R) discuss the future of shop windows outside Willemijn's boutique You Are Here in Eindhoven



**When you're trying to attract the attention of a shopper, you only have a few seconds to make an impact. Lights that change intensity or move around as people pass by are, intrinsically, more eye catching.**

Consultant Liselotte van Hoof is a graduate of TMO Fashion Business School and has worked with leading brands such as Diesel and G-Star Raw. As a result, she understands the huge potential of the window space when it comes to conveying a story.

"Storytelling is getting more and more important for big brands," she observes. "It reminds people of why the product is special. And the window is a place where products, visual merchandising, graphics and communication come together."

Willemijn de Wit agrees. An alumna of the Amsterdam Fashion Institute, she is the driving force behind the You Are Here store in Eindhoven and believes passionately in multidisciplinary collaborations.

"People should be amazed by what they see," she says. "The best thing is if you manage to tell a story throughout the whole year with your window. It's not hard to tell one nice story, but when you put your handwriting on it,

it's better. That's what Louis Vuitton always does. They're like the leaders of cool shop windows and they always tell a story."

So how exactly is the retail experience developing with the new technologies? Can dynamic lighting really help to bring products to life? According to de Wit, it's all about the unique atmosphere it creates.

"What I notice is kind of theatre feeling," she says. "It's a nice atmosphere. It's not like hard light. I think it will improve that six-second window we have to engage with the shopper."

For van Hoof, focal points are important. "If you have one big blur," she observes, "things get lost and you walk on by. But when the light is combined with the display, it will attract the eye of a customer. And the lighting really helps to highlight a product."

A criticism van Hoof makes of many retail environments is that window lighting is treated in much the same way as the lighting in store. "Most of the time, fixtures in the store are set and the products just change occasionally," she says. "But your shop window changes many times."



Indeed, the adventurous de Wit reveals that she changes her window display every two weeks. She also believes that the lighting should be altered to reflect the prevailing environment. “If you have a white floor and really bright sun in the morning, good lighting will definitely improve the focus of the viewer. And we’ve reached a point in the year when it’s getting darker and darker earlier, so control becomes really, really cool.”

“It’s like with fashion,” interjects van Hoof. “You have so many different fabrics, different structures and different colors. I think if you have a shimmering jacket, the lighting should be a little different from something in leather.”

Daylight is a challenge, of course, for anyone managing window displays. “It’s difficult because it’s not predictable,” says de Wit. “But this is why I also like it. I don’t like the regular consistent stuff.”

“But the thing with daylight,” responds van Hoof, “is that if it’s really bright outside, you get reflections in the window and your product is often harder to see. You have to overpower the sunlight to make your product more visible.”

Discussion turns to the other end of the day, when people might be window shopping in the dark. Could it be that sensors could determine the presence of passers-by and turn displays on and off?

“Yeah, I think it would be really cool,” says de Wit. “We should think about the environment, but not only the environment. It’s about the contrast between windows that are very dark and windows with bright light when you’re shopping at night. And if the light gets more interesting after the opening hours, people will be attracted to the window.”

So what lies ahead in the world of lighting and visual merchandising? Both experts were full of ideas. One thought van Hoof mentions is the possibility of shoppers controlling a ‘fantasy story’ in a window display via their watch. Suddenly we’re talking about augmented reality. “I think Hugo Boss had an augmented blackjack game in their windows and it was possible to win vouchers to spend in the store,” recalls van Hoof.

“  
It’s best  
if you can  
tell a story  
through  
the whole  
year...”

“Maybe Liselotte is thinking about brands and the bigger picture,” says de Wit, “whereas I’m perhaps thinking of the smaller stuff. I feel collaborations between artists and brands are already there and are going to become much bigger in the future. But what I also notice in Paris – which is my inspirational city – that they’re kind of losing their window and you can see straight into the shop.”

Finally, we touch on one of the biggest challenges facing retailers moving forward: the huge expansion in online shopping. How can traditional, bricks-and-mortar stores compete? Our interviewees are united in the view that visual merchandisers can still amaze their customers and provide a unique experience.

“You get a feeling in your heart,” says de Wit. “It’s the difference between talking face-to-face as we are now or chatting on Skype. It’s the same content, but I can see your eyes. It’s the same with the shops versus the online environment.”

The consensus seems to be that consumers are spoiled. In theory, they can buy everything on the web, but it’s not possible to buy the experience, the story or that sense of real life. “If you’re in the window,” says van Hoof, “you can feel the products and it’s so different from online.”

# Accent on quality



Seeing is believing: The CrispWhite solution incorporates – in one light LED source – a combination of clean, crisp, white light with deep, rich colors.



The retail market is ever-more competitive, so it's vitally important that products are presented in the best possible way. And with a product like CrispWhite from Philips you can deliver intense white and rich colors. RetailScene looks at some of the technical wizardry behind the store displays of 2014.

Understandably, retailers want their store concept to reflect their brand as accurately as possible. Until recently, this was often a stumbling block when it came to installing LEDs. The perception was that the digital light sources tended to make whites look dull, which meant that it wasn't possible to benefit from the cost and energy savings associated with the new technology.

Recent product launches by lighting experts at Philips have turned some of these ideas on their head. Through the latest LED light sources and reflectors, retailers now have access to bright, sparkling clean whites and warm, saturated colors. A perfect combination for showcasing products, particularly in a fashion environment.

Philips Research has patented an Optimized Light Spectrum Recipe and applies strict performance criteria at every stage of the manufacturing process. But how exactly is it possible to measure the quality of light?

#### **Where science and emotion meet**

The Color Rendering Index (CRI) is an objective way of judging a light source. It assigns a value to the color fidelity, which provides a degree of

certainty for specifiers. CRI 90 lamps render colors better than CRI 80s, for instance. But people's emotional reactions to light have increasingly become part of the equation too – a phenomenon scientists refer to as 'color appreciation'.

It's been observed that enhanced color spectrums, which oversaturate some colors, may produce a stronger response at an emotional level. And reactions can often differ according to culture, region and individual personality. In other words, in certain settings, it's possible for a CRI 90 lamp to be preferred to one rating CRI 95. At the moment, there's no widely accepted way of measuring color appreciation, so decisions on particular products may end up as a combination of technical specification and instinct.

The PerfectAccent reflector plays a vital part in the process too. Highly efficient, it provides retailers with the optimal level of beam definition and helps to reinforce the uniformity of color. What's more, it's possible to select either a narrow or wide beam depending on the context in the store and the particular products on display.





# Making fabric fantastic

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The ability to create a particular mood or ambience in a store – and to stop shoppers in their tracks – is invaluable to retailers. That's why more and more stores are looking at the possibilities presented by technologies such as luminous textile, which displays light, color, imagery and video.

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- ▼ Constantly changing menu: upmarket restaurant Beluga in the culinary capital of the Netherlands can modify the mood for its diners



**These panels have a unique quality to them and an almost infinite number of potential applications. Imagine being able to light up a specific area of the shop that wasn't previously attractive or visible, for instance. Or guide customers to a new product range. Maybe you could create the feeling of summertime in your fitting room or soften the hubbub of noise in a busy restaurant, while simultaneously recreating the feel of a tranquil beach.**

Margot Stuart of Philips Lighting's Large Luminous Surfaces venture observes there are a number of business advantages to the technology. "It creates a more pleasant shopping experience, gives different perspective on time and making people want to stay longer in the fitting room, shop or showroom," she says. Versatility is a strong theme too.

"The luminous textile panels contribute to a store's personality," comments Stuart. "They give you absolute design freedom. This starts with a choice of a particular textile and the size of panel. A big panel above your reception to welcome your guests or a few smaller ones in line with the staircase to guide you from level to level. It's up to you to decide what kind of atmosphere you want to create. You can personalize content by using your company colors in the video or adapting them to your fashion collection."

#### **The changing moods of Munich**

One store which has made excellent use of the technology is Laurèl in Munich, Germany. By incorporating Philips luminous textile with Kvadrat Soft Cells into their new flagship store on Theatinerstraße, the cosmopolitan and contemporary fashion brand has opened up a world of possibilities.

Laurèl's target market is independent, self-confident women who combine both femininity and strength. The aim initially was to create an ambience which reflected the premium brand's corporate ethos of 'See – Feel – Love'.

The luminous textile panels are combined with Kvadrat Soft Cells which line the stairways. The dynamic content can move at varying speeds, creating an eye-catching talking point for shoppers. Laurèl's Head of Visual Merchandising and Store Design, Evelyn Lagoyannis is thrilled with the results. "The luminous textile panels are a great fit with the architecture of our stores and create a very unique decorative effect," she says. "This suits us perfectly."

After the successful installation in Munich, the panels are soon to make an appearance at a second Laurèl store in Düsseldorf.

“It’s up to you to decide what kind of atmosphere you want to create.”

**L is for love. L is for luminous.**

Beluga loves you. That’s the message from one of the top restaurants in the Netherlands. With two Michelin Stars and a recognized ‘Chef of the Year’ in Hans van Wolde, the Maastricht-based eatery is never afraid to stand out from the crowd.

When van Wolde heard about the luminous textile panels available from Philips, he immediately saw this innovation as a way of further setting his dining establishment apart. The initial installation included various videos to fit in with Beluga’s ‘love’ theme. The intention is to have a ‘Chef Content’ who will learn how to create new videos and vary the content over time.

**Start to unwind before you’ve opened the bottle**

Germany’s largest supermarket group, Edeka, has been experimenting with a luminous textile panel, which can be operated directly from a smartphone in store. The wine department of their shop in the Dutch-German border city of Aachen has a very special ambience, encouraging customers to relax and browse at their leisure.

The store owner Andreas Hatlé comments: “We looked at different areas of the store, but felt the wine department was the most appropriate place for the technology. It’s great because you’re able to set different moods. It’s also easy to use.”



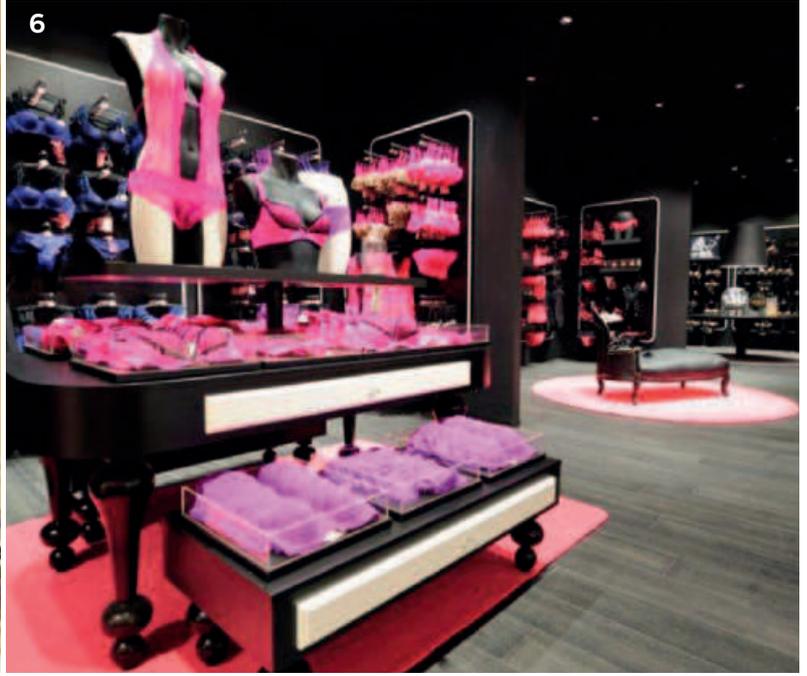
▲ Flexible and attractive: luminous textiles add another dimension to the fashionable Laurel store in southern Germany

▲ Splash of color: the ambient mood in Edeka’s wine department in Aachen is easily changed with the touch of a smartphone

# Making an **impression**

How LED from Philips is transforming retail environments right across Europe.





- 1 Harrods, London, UK
- 2 State of Art, Rotterdam, the Netherlands
- 3 House of Fraser, London, UK
- 4 SuperTrash, Amsterdam, the Netherlands
- 5 L'Occitane, Nantes, France
- 6 Hunkemöller, Antwerp, Belgium
- 7 Esprit, Antwerp, Belgium
- 8 Bizuu, Warsaw and Poznan, Poland
- 9 Pimkie, Munich, Germany

# Fashion **statement**

Aspirational fashion store lights up Warsaw





“ Bizuu is a brand created from passion.”

*Above: Bizuu's Autumn-Winter 2013/14 collection delighted followers of fashion.*

It's not often that visitors to a fashion event receive a free LED lightbulb in a goodie bag, but that's exactly what happened when Philips and Bizuu teamed up for a catwalk showcase at the Belvedere Restaurant in Lazienki Krolewskie Royal Park. One model was in a rush to get on a flight to LA and when she went back home to change and pack, she discovered the bulb in her room was broken. It was the Philips LED that saved the day.

**It was a chance meeting. There was a limited budget to play with. But Joanna Swiderska of Philips was certain that LED lighting could add a new dimension to a retro-influenced Polish boutique. The story takes RetailScene out to Warsaw and the bijou world of Bizuu.**

When you work in the field of lighting, every store visit can spark a thought or a flash of inspiration. Even if you're just spending time shopping for yourself.

So when Joanna Swiderska – Retail and Hospitality Marketing Manager at Philips – found herself browsing the stylish and feminine clothes in Bizuu on Koszykowa Street in Warsaw, she couldn't help but notice a problem. Half the bulbs in the boutique had blown.

The quick-thinking executive asked to see Zuzanna Wachowiak, one of the two sisters who co-own the shop, and soon struck up a conversation. “We talked about LED and this is where the wider discussion started,” explains Swiderska. “I said that I worked for Philips and we considered possible solutions. Zuzanna was very excited by the possibilities, but she only had a limited budget as Bizuu was planning on opening a new store in Poznan.”

From that initial chance conversation, a project was born. But there were a number of issues to confront. First of all, the Warsaw shop had no natural daylight. What's more, the fitting rooms were small and claustrophobic, so customers actually needed to come out to see what their potential purchases really looked like.

Part of the overall solution was the AmbiScene Mirror, which allows shoppers to see the sisters' entire collection of day and evening wear in the right light. Blanka Jordan, co-owner alongside Wachowiak, says: “Bizuu is a brand created from passion, for women who love fashion and for whom clothes are very important. They love the brand for its femininity and that is why we stand out in the Polish market.”

“The technology behind the mirror” adds Wachowiak, “allows us to create different lighting scenarios which we experience on a daily basis. We can easily check out how we are going to look during an evening event, for example.”

From a Philips perspective, Swiderska is delighted with the results as well. “I'm happy because Bizuu is a premium brand,” she comments, “and I like us to be associated with premium brands. It's also been a fun project to work on with our client too. Knowing the market trends and combining them with our experience and technology, we're able to create a perfect, tailored solution.”

The new-look store has proven a hit with clients and the entrepreneurs behind Bizuu now plan a third store in the exclusive Galeria Mokotow in Warsaw.

 <http://philips.to/19SBmtx>

Illuminating the

# figures

the financial bonus from perfect lighting

Although LEDs bring multiple benefits to retailers through their long life, low maintenance and controllability, procurement professionals and chief financial officers are looking hard for evidence that investment in new lighting improves the bottom line. RetailScene looked at some real-world case studies to see how the euros and pounds stack up.

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**+145%**

leap in turnover



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#### Sky high sales at Schiphol

A remarkable 'moving cloud' feature and attractive ambient lighting has been installed in the shopping zone of one of Europe's major hub airports. Made possible by LED solutions from Philips, the technology at Schiphol, Amsterdam has helped to create a unique new ambience, which has led to a 56% increased conversion rate and a massive 145% leap in turnover.

Peter-Jan Rozenberg, General Manager of Schiphol Airport Retail, says: "I think, with this store, we've really made something remarkable, which is challenging the minds and the senses of the consumers. They will buy a little bit more and spend a little bit longer with us. We had a vision to create something exceptional and we joined forces with Philips from the very beginning, in the design of the store. Now, we combine analytics with our point of sale system to understand how consumers are behaving in the shop."

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#### Strong numbers reflect use of mirror technology

60% of fashion-store buying decisions are made in the fitting room, according to research, which is why investment in flattering lighting can pay real dividends for retailers. The AmbiScene Mirror at Estée Lauder provided a 10% lift in sales after six months, while a Triumph store in Singapore reported an astonishing 45% upturn.

Lampert Kuiper is the owner of one of the 120 Livera lingerie franchises in the Netherlands and has worked in partnership with Philips to redesign his store. He argues that 'the deal is made in the fitting room' which is why he's placed such a strong emphasis on putting the shopper at ease. "We provide various light settings," he says, "so the customer can choose the one in which she feels most comfortable."



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+9.5%

rise in the volume of banana sales



#### Color recognition boosts fresh produce sales

A 2012 study by the Independent Retail Institute in Cologne, Germany found that intelligently controlled LED lighting can have a positive impact on a supermarket's fresh produce department.

The Institute's team looked specifically at a prototype system developed by the Philips Research Center, which uses color recognition software to adjust the light spectrum in response to the color of the product on display.

Sales volume of tomatoes, lettuce, vegetables and bananas in the supermarket at the center of the trial rose by 4.7%, leading to a 3.5% increase in revenue. The effect was particularly marked with bananas, where turnover increased by 9.5%.

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#### PLUS sees basket boost

Dutch supermarket giant PLUS were aiming to increase their sales through the creation of an enhanced ambience and a better working and shopping environment. They partnered with Philips in a two-year pilot which measured the effect of ambient lighting on shopper behavior. The customized solution included general lighting, indirect LED cove lighting and dynamic light 'recipes' in which variances of white light combined with selective color tones.

The results were carefully monitored independently by the University of Hasselt, which conducted both quantitative and qualitative research over a 21-week period. The findings are striking. Because customers spend up to 8% longer in store, explore more and take different routes, there's a direct impact on sales. In fact, basket value has increased by an impressive 5.5%.

+5.5%

basket value increase



# Which color

is the perfect match?

There's more and more evidence that LED lighting can really enhance the appearance of fresh foods on your supermarket shelf and also help to prevent discoloration. But which are the best choices to accompany your menu of bread, meat, fish and vegetables?

## LED Champagne

This LED gives a real feeling of warmth. It enhances the yellow in cheeses and can make fruit, pastries and wine look more attractive on the shelf.

*Example:  
SPAR - Vienna, Austria*



## LED Rose

Ideal for displays of meat, Philips LED Rose actually extends the shelf life of the product by up to 30%, thanks to changes in consumer perceptions of the product. The solution is also perfect for enhancing the beauty of flowers.

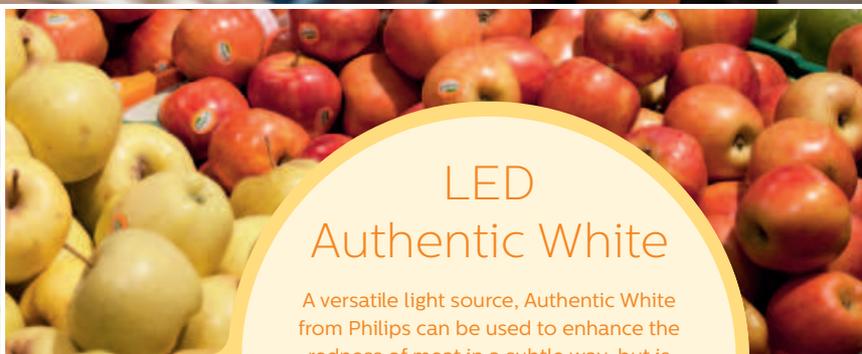
*Example:  
EDEKA Markt - Hildesheim, Germany*



## LED Frost White

Often the first choice for fresh fish, LED Frost White enhances the natural sparkle from your ice tray.

*Example:  
Consum - Bexiti & C.Benlloch, Spain*



## LED Authentic White

A versatile light source, Authentic White from Philips can be used to enhance the redness of meat in a subtle way, but is also much in demand for displays of fish, vegetables and cheese.

*Example: Carrefour - Santiago de Compostela, Spain*





Engineering expert Simone Poort has examined the science behind meat discoloration.

Rober Delver, Format Manager of Dutch retailer PLUS, has seen positive results from the installation of LED Rose from Philips.



Light level @ equal shelf life (4.5 hours)\*

Shelf life @ equal light level (500 lx)\*



\*Based on 50% acceptance level of discoloration of liver sausage as tested by Stegeman

# The meat counter

## beefed

# up

### How LEDs can cure discoloration blues

**Lab and field tests have lifted the lid on the meat counter and demonstrated the key factors that influence discoloration of products. The findings are leading to a new generation of ingenious lighting solutions.**

Any food retailer will tell you that meat discoloration is a hot topic. It's all too easy to lose a sale if customers mistakenly believe that your meat isn't fresh.

And when the product languishes on the counter unsold, it's inevitably going to be wasted, which is a direct hit on profits. Once you consider the time, inconvenience and bad PR of having to deal with complaints, it's not surprising that store managers are looking around for effective solutions to what has become a long-standing problem.

Although the science of discoloration is complicated and there are more parameters involved than just lighting, two facts are well observed: the higher the light levels and the longer the exposure, the greater the impact on the meat. And there's another interesting point documented by scientists: UV filters don't stop the discoloration process.

There's still a need for ongoing research in this area, which is why Philips recently teamed up with Dutch supermarket PLUS to experiment.

"Today's consumers really like to buy fresh food," says Rober Delver, the chain's Format Manager, "but we didn't have the correct lighting, which caused discoloration of the meat. The discoloration resulted in waste, so loss of profit. To prevent this from happening, we were actually almost turning off the lights!"

Philips Research Engineer Simone Poort takes up the story and explains the thinking behind the project: "Discoloration

of sliced meat is not a quality issue but more a cosmetic problem. We investigated light level and light spectrum in laboratory experiments and a field test in a supermarket. In addition, we did a test with Stegeman, a well-known meat supplier to test the acceptance of the level of discoloration and link this to the measured discoloration."

When the results came through, they highlighted some interesting facts. The level of discoloration will vary according to the type of meat, for instance. And the consumer's willingness to accept discoloration varies for different products too. "Our conclusions," says Poort, "were that light level was the largest parameter, but that spectrum also plays an important role. When you choose the spectrum in the right way, you have a beneficial effect, which can be translated either into longer shelf life or a higher light level." The solution in this case was LED Rose – a Philips solution which gives excellent light output and makes the meat look more appealing to the consumer.

With food wastage becoming a bigger issue than ever for retailers, there's a strong financial imperative for store owners to act. And an EU goal to cut food waste in half by 2025 is certain to add to the pressure for innovative lighting solutions.

"The concept and pilot were very successful," says Delver from PLUS. "Also in terms of sales. We plan to apply this lighting solution in all our new stores. Actually we plan to go one stage further. We're looking at all our fresh product groups that suffer from discoloration to implement this lighting solution."

The success of the project at PLUS has certainly grabbed the attention of other retailers, with Philips being asked to plan a number of other installations elsewhere.

 <http://philips.to/1gDs8kg>

### The Philips LED Rose Food range

An optimized spectrum is the best way of slowing down light-induced discoloration. Retailers have a choice between longer shelf life (up to 30% longer with LED Rose than with conventional white SON lights) or, alternatively, higher light levels.

Creative options for accent and general lighting: the Philips LED Rose Food range



StyliD



LuxSpace Accent



UnicOne LED



FreshFood Pendant

# Shelf service

## our tips for keeping food fresh

Of course, there are a whole range of factors that have an impact on the freshness of food. Temperature, humidity and packaging are all vitally important. Not to mention the initial product quality. All the same, it's important not to underestimate the role of light. Here are some tips and advice on how it affects different types of food.



### Lettuce and leafy vegetables

High light levels on pre-packaged leafy vegetables will significantly decrease their shelf life, but will improve the shelf life of fresh crop products and stimulate the growth of potted herbs. So if you're looking for firmness and greenness in your fresh crops, it's important to keep light levels up.

Infrared is the other part of the equation. With traditional light sources, radiation increases the temperature on the surface of salad leaves. That means you'll see faster dehydration and deterioration in appearance. It's a problem easily avoided with LED technology, which has no infrared light.

### Light sensitive products

Any products that grow beneath the ground – tubers (such as potatoes), onions, garlic and root vegetables – need to be stored in dark conditions. If you want to maximise shelf life and avoid the risk of deterioration, it's important to keep light levels down.

White asparagus, white mushrooms and chicory are other products that benefit from being stored in the dark to prevent discoloration.



## Reddening of products

It's generally recommended to lower the light level if you're worried about your products reddening too much. Take a green pepper, for instance. If you're selling it in a 'traffic light' pack, you don't want it to ripen too fast under the light and become orange or red. In a highly lit environment that's a real possibility.

Ultraviolet light is an issue too, as it can lead to an undesirable darkening of your red products. And high doses may also damage the surface texture. A safe choice is to avoid UV, which is possible with using LED.



## Green vegetables

Although most vegetables won't suffer from medium-level lighting, a high light level can often lead to faster discoloration of specific greens such as cucumbers and bróccoli (which you may be surprised to know is technically a flower). Every product on the supermarket shelf is different though. Because an iceberg lettuce has such a high level of water content, it's usually not affected by light in the same way as other varieties of the popular salad staple. And recent research suggests that Brussels Sprouts may even benefit from the extra light, staying fresher longer.

## Meat

Although discoloration of meat doesn't necessarily mean that the product has deteriorated, customers may choose not to buy for cosmetic reasons, which can lead to wastage. Lowering light levels will generally lead to a longer shelf life.

Infrared will increase the surface temperature of the meat, which is a more serious issue, as it speeds up the process of decay. It's therefore recommended that meat should be kept out of infrared light.

With sliced meat, the emphasis should be on optimizing the spectrum. Research shows that this can lead to an increased shelf life. See page 56.



## And remember... light isn't the only factor in discoloration

If you see foods such as broccoli turning yellow, light may not be the only issue. Ethylene is commonly used as a ripening agent or 'plant hormone' – particularly on bananas and avocados. If other sensitive fruit and vegetables are placed too closely alongside the ethylene-treated products, it can start to ripen prematurely too.



A photograph of a forest path with trees and fallen leaves. The path is covered in dark brown leaves and branches, leading into a dense forest of green trees. The lighting is soft and natural, suggesting a sunny day with some shade.

# A **taste** of the **spectacular**

Romans are well known for their sophistication, but even shoppers of the Eternal City have been taken aback by the size and grandeur of Eataly's flagship store on Piazzale XII Ottobre 1492.

>>



**Beautiful, yet undeniably functional, the 17,000m<sup>2</sup> mall is home to a whole range of culinary temptations. Illuminated in style by Philips LED lighting.**

“Eataly’s model is unique in the world,” says Oscar Farinetti, the entrepreneur behind the international brand, which can be found as far afield as Tokyo and New York City. “We brought a market, eateries and teaching together. All focused on high-quality food.”

The concept is, in fact, very straightforward and makes perfect sense. You’re able to shop for high-quality ingredients, while also sampling them in a wide range of different restaurants incorporated into the store. And if you’re keen to pick up useful hints for your own cooking, you have the option to enrol in ‘La Scuola di Eataly’, where chefs demonstrate recipe preparation step-by-step and sommeliers help you develop your wine-tasting palate.

#### **Following a dream**

The Philips experts who worked with Sig Farinetti on the new building in Rome describe it as a very challenging assignment. Eataly’s founder not only had a clear vision what he wanted to achieve, but he was determined to see his dream delivered to very tight timescales. The window from the initial briefing in September 2011 to the grand opening in June 2012 was just nine months.

Despite the pressures, Philips were able to add huge value at a number of levels: helping showcase the high quality of the food, creating a unique ambience for shoppers and even persuading the boss of Eataly to incorporate a changing color sequence to the exterior facade of the building.

#### **Dutch expertise and Italian inspiration**

“It seemed odd to ask to ask Dutch people to create an Italian design,” observes Farinetti. “But we knew that Philips had acquired Luceplan, an extraordinary Italian design company.”

In fact, it was this marriage of Dutch technological ingenuity and Italian flair which made the final results so striking and original. And at the same time as the LED technology is used to create remarkable lighting effects, it also delivers substantial energy savings. Mario Giordano, a Product Manager at Philips, describes lower consumption as ‘a very powerful element’ in the use of LED. “You are saving costs and also maintenance because there is a very long life time,” he observes.

“Lighting shows us things in a different way,” says Farinetti. “You can imagine how important it is for food. The LEDs are a great choice because they don’t generate heat. All our visitors compliment us on the lighting. I’d prefer if it was the food, but the lighting is also good!”



“ All our visitors compliment us on the lighting. I'd prefer if it was the food, but the lighting is also good!”

Oscar Farinetti, owner Eataly



#### A manifesto for better food

The Eataly business is built around a ten-point manifesto, which outlines the company's philosophy. First point on the list? Their sheer love of food and drink. "We love the stories about it, the people who produce it, the places it comes from."

The brand also believes that food is a unifying force. It brings people together and helps them to find a common point of view. In fact, 'one of the greatest sources of joy is what happens around a dinner table'.

Perhaps the most striking statement of intent is the fourth declaration of the manifesto: "Our target audience is everyone." Eataly believes that we all have the potential to embrace great ingredients and superb cuisine. It's certainly an approach to life the residents of Rome appear to share.

#### Lighting up Eataly Rome

Right from the impressive entrance of Eataly's flagship store in the Italian capital, the light draws us in. Each area is given its own unique ambience. We find a subdued level of lighting in the wine store, for instance, while the restaurant areas benefit from warm white light in a variety of different colors. Floor lamps in the reading rooms provide a cosy and welcoming feel for visitors.

The effects are created by a variety of Philips products including:

**Luminous textile** integrating multi-colored LED modules within acoustic textile panels to show dynamic content and soften sound.

**StyliD** LED range bringing a great choice of size, light, output, appearance, functionality and mounting.

**Maxos LED panels** efficiently directing light where it is most needed.



“

We wanted the most modern option and the most natural one too.”





How Jumbo thought

# bigger

**Thanks to an innovative partnership between Jumbo and Philips, the company's 6,000m<sup>2</sup> store in Breda – roughly 40 km south-east of Rotterdam – has a truly unique ambience. On the one hand, there's the coffee roasted in store, the bread baked in a brick oven and some 40 chefs preparing fresh, seasonal food to order. On the other, there's high-contrast, atmospheric lighting that really enhances the overall shopping experience.**

The project was born out of in-depth research, with Philips Account Manager Joost Flanagan accompanying Jumbo representatives to the US to examine possible design options. The supermarket already had a clear vision of what they wanted to achieve with the largest store of its kind in the Netherlands.

"Our concept employs lots of exterior materials for its interior, like facades and bricks," says Herman Beldman, Jumbo's Manager of Technical Format Development. "We had to go in search of natural lighting to match it. We wanted the most modern option and the most natural one too."

#### **LED creates visual impact and saves money**

Joost Flanagan, says the company recommended four different sources of light for the store: Maxos LED in the grocery aisles; LuxSpace downlights in the checkout and traffic areas; LuxSpace Compact Power to highlight particular product groups and ExactEffect for general lighting in the fresh produce areas. "We're really very pleased with the results," reveals Beldman, "because we managed to achieve lots of areas of light and shade, so that there is a natural balance in the play of light on the products."

He also recognizes the positive environmental and cost benefits of the direction in which Jumbo has chosen to move, with 100% use of LEDs. "A big advantage of LED lighting is the saving in power consumption. A second advantage is the longer lifecycle. From the point that you change to LED, the lifecycle doubles at the very least, reducing the costs. I'm talking about many thousands of euros per year."

#### **How Breda's Jumbo store was transformed**

The solutions at the giant-sized Jumbo supermarket were the brainchild of Philips lighting designers Ruud Bagen and Wibeke Vandeveldel-Pollé.

Fresh food has been given a lift with the use of LED Rose to prevent discoloration of meat and Authentic White to enhance the natural appearance of other produce. And the hallmark of the whole project has been customization. Right down to the decision not to recess the LuxSpace downlights in the ceiling, but to make them visible through the creation of bespoke casings.

The designers specified LED spotlights that have never previously been used in a retail environment anywhere in the world. As a result, they were able to ensure optimum light distribution and accents. Spotlights hang from a rail grid and give each individual kitchen its own identity. Meanwhile, an anti-dazzle LED light line was used in the grocery section to create an atmosphere which is both clear and calm.

 <http://philips.to/1cAAUO8>



“

**Mount Oberon  
combines the best  
of two worlds:**

the specific character of a physical store with direct customer contact, but with the typical broad offering of a webstore. Philips lighting makes an important contribution to this project. There is no way anyone can miss us.”

**Steven Decerf, Managing Director  
of Mount Oberon**





# From virtual store to real—world showcase

## LEDs bring the style of Mount Oberon to life

As Managing Director of a well-recognized and successful web store, Mount Oberon's Stephen Decerf was determined that his brand could cross over to bricks-and-mortar retail. But as he planned to open in Herent, some 20 km east of the center of Brussels, he knew there were a number of important issues to iron out.

"Philips Lighting organized a workshop," he recalls. "The question was how could we unlock the potential of our web store in our physical store? Atmosphere was also important. Would it be possible to create an ambience which transforms shopping with us into a unique experience?"

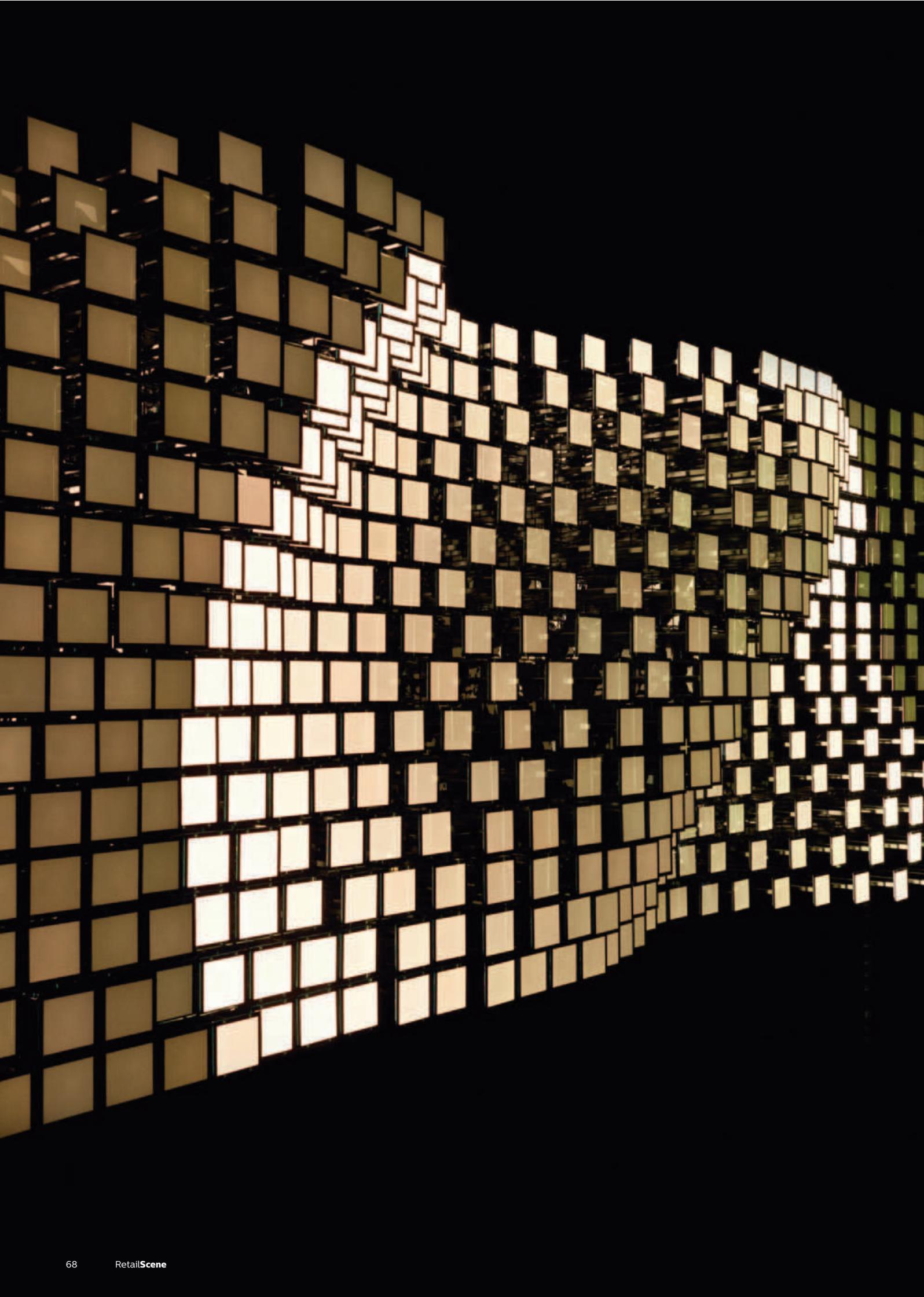
The ambience to which Decerf refers needed to reflect a casual fashion store with a strong outdoor and 'active' feel, which sells a wide variety of high-quality clothing, shoes and accessories.

Philips proposed several small light points throughout the store, which can be controlled for color and intensity. And the solution for the shop window has been described by the retail boss as an 'absolute eye-catcher'. Large 3D letters spell out the company brand name and LED lights allow for different moods or projected images that can change with the season.

As shoppers enter the store, they're greeted by a 'talking poster' projection that makes contact with them. And a touch-screen interactive kiosk allows visitors to browse the Mount Oberon collection, picking up useful information on color, size and stock position.

Decerf describes the Philips technology as being 'a tailor-made solution' which uses 'a clever combination of lighting and an interactive technological masterpiece'. The innovation isn't confined to the store either. Offices and a warehouse on the same site have been given similar thought and attention, creating a building that's a great place to work as well as shop.







Raising lighting to a new level with

# OLEDs

Luminescent carpets and ceilings. Windows that provide bright daylight even when it's dark outside. Clothes that appear to glimmer. When designers and scientists start talking about Organic Light Emitting Diodes (OLEDs), their imagination knows no bounds.

>>

There are infinite ways they might be used in the future. But even today, these ultra-flat light sources have already managed to raise expectations to a brand new level.

So how are they different from existing lights? OLEDs are surface sources, rather than spotlights. A mere 1.8 millimeters thick, they diffuse a warm, pleasant and homogeneous light over the entire surface.

Light from OLEDs is naturally soft, diffuses nicely and doesn't dazzle. Due to their extreme flatness, the lights can be integrated in many different surfaces and products and allow light sources to be designed in a wide range of shapes and sizes. OLEDs are available in virtually all colors including high-quality white light. And alongside standard shapes, Philips has also developed unusual and sophisticated shapes and structures. As a result, dreams of technical light designs can be given wings very easily.

In terms of size, OLEDs have also been gaining ground in recent years, with dimensions exceeding 144 cm<sup>2</sup> becoming increasingly common. OLEDs do not get any warmer than 30 degrees Celsius, which means they can be integrated into materials that never used to be associated with light sources, such as straw or paper, for example. And they can be used close to material which is sensitive to heat, including flowers or fabric.

OLEDs are considered to be *the* surface light sources of the future by experts, architects and designers. With products such as the LivingShapes interactive wall, this new light source has already found its way into bars, restaurants, lounges and shops. By means of a hidden sensor, more than 1,100 OLEDs react to what is happening in front of the wall and translate this into luminous OLED spots. The first time people see this kind of wall, they are mesmerized by the fascinating warmth of the natural light.

Another fantastic product is the LivingSculpture 3D module system, which enables the user to design their own 3D installation – a head turner in every shop or reception area.

The OLED is also making inroads into the field of functional lighting. Which is why, on top of their decorative uses, the new light sources will also be used in practical lighting solutions such as showcase or under-shelf lighting. Another plus is that OLEDs emit their light without any shadow, making them ideal for the presentation of displayed goods.

One thing is certain already: the OLED is just setting out on its journey to fame as a new source of light. It is set to completely transform the way in which we perceive light, allowing new and exciting applications to see light of day. Ideas which were, until today, only a figment of our imagination.

[www.lumiblade-experience.com](http://www.lumiblade-experience.com)



**Christopher Bauder and WHITEvoid designed the LivingSculpture 3D module system in conjunction with Philips Lumiblade. The modular design means that there's no need for technical expertise to create three-dimensional structures and fascinating light sculptures.**



This ingenious modular system from Philips means there's no need to connect individual OLEDs to each other. LivingShapes has been built as 'plug and play'. Each integrated panel has sixteen 5 x 5.5 cm Lumiblade OLEDs and it's possible to create a wall of several square meters very quickly. A hidden sensor allows the lights to react to the movement they detect in front of them.





# From Russia with love



As part of a large expansion programme, Russian energy company Gazprom is creating a network of state-of-the-art petrol stations in Romania, Bulgaria, Serbia and Bosnia. Innovative architecture and high-end building specs are complemented by innovative lighting solutions. RetailScene found out what's fuelling the drive for the new-look sites.





**Petrol stations provide a pretty essential service, but we're unlikely to think of them in anything other than a functional way. Certainly, they're not renowned for their design aesthetics. But those perceptions are set to change thanks to the new breed of stations commissioned by Gazprom's affiliate NIS in south-eastern Europe.**

The Russian energy colossus is determined that customers have the best possible experience when they pull up on the forecourt. And to this end, they've forged a partnership with Philips to employ some of the very latest in lighting and control technology.

#### **Unusual brief called for unique solutions**

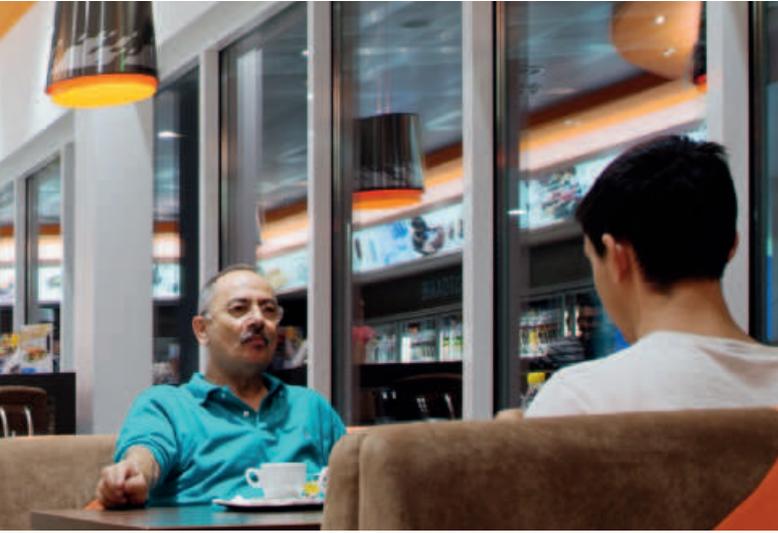
It was the Philips reputation for quality and innovation that made the Dutch company an ideal partner, according to Adrian Balan-Doltu, Business Development Director of NIS Petrol. "Philips is a systematic innovator in this field,"

he says, "particularly when it comes to under-canopy lighting at gas stations. They work to the highest possible standards and are helpful at every stage – right from the initial design through to the implementation."

One of the aspects of the project which made the brief highly unusual was the architecture. Gazprom specified a link between the station canopy and the outlying shop, which is designed to protect customers from both rain and sun. The unusual feature also acts as a motif for the brand and is unique to the Romanian, Bulgarian and Balkan markets.

"We wanted this bridge to be translucent, so that light shone through and customers felt that they were in an open space," reveals Balan-Doltu. "At the same time, we needed it to be a feature as people approached the site. Something which would help our stations to be different and stand out."





### Managing a complex process

For Jan Poot, International Key Account Manager at Philips, it was a programme which needed to be tackled at a regional level. While the solutions were masterminded from Eindhoven, his colleagues Dan Ghita, Dragan Mastilovic and Georgi Kuntchev have been working on the ground in the different territories to ensure the success of the roll-out. The design inspiration originates from Fokke Jongsma, a project manager with a wealth of experience.

“A programme as large as this is complex,” says Poot, “as it involves approvals from governments for the various sites. From our perspective, we also need to ensure that we have the agreement of all the relevant stakeholders within Gazprom for our proposed solutions. The starting point was one site per country as a pilot, but we’re now at the stage where nearly 25 sites have been commissioned in Romania and the first ones in Serbia are coming online.”

Jan Poot and his colleagues started to experiment with different options for the link between the shop and the canopy. “Initially, the light was a little too blinding,” he says, “so Dan Ghita rethought it and lit the structure more vertically. It was still visible from a distance – which was the initial aim – without causing any issues for drivers.”

The challenge in the shop was to create a lighting effect which complemented the upscale appearance and blended with the oranges and browns in the decor. Smart new wooden furnishings are enhanced by LEDs and products are lit in exactly the right way to enhance their appeal.

### Control in the hands of local operators

Jan Poot had another trick up his sleeve though which was set to surprise Gazprom and deliver added value. In September 2012, Philips launched a mobile app for Android, which allows the manager of each petrol station to adjust the settings on the canopy lights themselves by smartphone or another device with Bluetooth capability. Although presence and daylight detectors already ensure that energy is saved when the forecourt is empty or the sun decides to come out, it’s possible to adjust the settings, giving local management complete control.

Another added bonus is that if any maintenance is needed on the lights, contractors can quickly see from the app the current status of the luminaires. The diagnostic job becomes simpler and less disruptive.

“We had three thoughts in mind when we started the project with Philips,” says Balan-Doltu. “State-of-the-art functionality, low consumption and the lowest maintenance cost. Our experience was really fantastic. From the initial specs and design through to the logistics, everything was outstanding. Very professional.”

“

We wanted this bridge to be translucent, so that light shone through and customers felt that they were in an open space.”



### Control via Android – Mini300 LED gen2

Upgradeable and highly efficient, this LEDGINE platform has the added benefit that operators can control canopy lights from the ground via Bluetooth using a smartphone app. The connectivity also allows engineers to read the status of luminaires.

### The growth of Gazprom

Gazprom is involved in the whole energy lifecycle worldwide – from geographical exploration and production through to transportation, storage, processing and sales. One of Russia’s five largest oil producers, the company also holds the world’s largest natural gas reserves and owns the world’s largest gas transmission network. Its strategy is to act as a ‘bridge’ between Europe and Asia, while developing new markets, diversifying business activities and securing the reliability of supplies.

# 1

## **Level one: LED Passport**

This straightforward online test demonstrates that someone understands the essential principles behind LEDs and some of their potential applications.

*Available in multiple languages*

# 2

## **Level two: LED Associate Certification**

Aimed at sales and marketing professionals, this module takes 1.5 hours to complete and gives participants a good grounding in the basics of LED technology and the related terminology, as well as the market opportunities that exist. This level also covers the basics of controls.

*Available in multiple languages*

# 3

## **Level three: LED Professional Certification**

This more advanced course lasts four hours in total and gives sales and marketing professionals the basics of lighting design and solutions for retrofitting lamps and luminaires, along with further background on LED technologies.

*Available in Dutch, English and French*

# 4

## **Level four: LED Specialist**

This more advanced, classroom-based course will recap the fundamentals on LEDs and light, but will also incorporate content on LED training and technology; LED and OLED; light and color; LED and controls and the applications of LED.

---

University makes

# light work

of learning

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**In the modern age, learning isn't just confined to traditional schools. And with technology moving on at a relentless pace, it pays for us all to keep up with the latest technology.**

If you're working in retail sales or marketing, understanding LED lighting is no longer just a 'nice to have'. It's becoming essential if you want to maximise the potential of your brand, save costs on energy or showcase products to their best effect.

The Philips Lighting University offers a wide range of courses, webinars, publications and podcasts for people with an interest in expanding their knowledge. Perhaps most significantly, it's launched a four-part, certification programme, which brings participants right up to date with technological trends and dispels some of the myths that still surround LEDs.

**The Lighting University course is ideal for people in a retail environment who want to maintain a competitive edge and establish leadership in new and innovative markets. Anyone interested in more detail can visit [www.philips.com/lightinguniversity](http://www.philips.com/lightinguniversity)**



# Latest **technology**

Solutions for food and fashion

## Looking good

**AmbiScene Mirrors** Application: *fashion*

With AmbiScene Mirrors there's no more wondering how that new dress will look. Customer controlled light settings create the ultimate fitting-room experience, with settings such as 'beach', 'office' or 'club', giving a true picture of materials and colors. See page 4.



## Attention grabber

**Dynamic shop window** Application: *fashion*

Dynamic shop window is a lighting solution that uses dynamic dimming sequences. Use the solution to attract shoppers to your store and increase footfall. As a visual merchandiser it's the perfect 'moving light' system that supports the story you want to convey. Read more on page 36.

## Ambient wall art

**Luminous textile with Kvadrat Soft Cells**

Applications: *fashion, food*

An easy-to-fit 'plug and play' system, luminous textile integrates multi-colored LED modules within textile panels. The result is an ability to show dynamic content and soften sound – an ambient lighting solution that brings interiors alive. Read more on page 44.

## Low energy star

**GreenStore**

Applications: *fashion, food, petrol station*

GreenStore controls are easy to use and can help reduce energy consumption by up to 40% through a combination of scheduling – lighting is dimmed outside main store hours – and daylight harvesting. Read more on page 12.





## Unique style

### LuxSpace – custom solutions

*Applications: fashion, food, petrol station*

This LuxSpace downlight customized solution was created for supermarket chain Jumbo (see page 64). A wide variety of options are available, giving you the freedom to create something unique for your store.



## Style and space

### StyliD / LuxSpace Accent

*Applications: fashion, food, petrol station*

A winning pairing of energy efficient and stylish accent solutions, available in projector and recessed variants. They have excellent quality and strength of light thanks to a dedicated LED board, with PerfectAccent reflectors providing color uniformity, clean beams and optimum efficiency. Also available in CrispWhite, read more on page 42.



## Hidden beauty

### LuxSpace downlight Applications: fashion, food, petrol station

A recessed luminaire perfect for general illumination, LuxSpace combines high lumen output and low glare with long lifetime and energy efficiency.



## Bring the day inside

### Daylight Panels

*Applications: food, fashion, petrol station*

Research has shown that as humans we crave daylight – more in fact than we realize (see our article on page 10). By using Daylight Panels you can address this need by creating an outdoor ‘market’ feeling indoors.



## Subzero superstars

### Cooler and freezer Application: food

LEDs love the cold, so PrimeSet RDL500 is right at home in your freezer cabinet. Easy to install and IP65 rated, it's completely waterproof, offers less glare and good light distribution through mid-power LEDs. As it features its own connector system, PrimeSet RDL500 is also easy to adapt.



## Fresh food recipes

### LED color variants Application: food

Choose from four different LED color variants to suit different types of fresh food – to keep a product looking natural or to enhance its appeal and to reduce discoloration of sliced meat. Select lighting effects and luminaires which best match your brand identity. Read more on page 54.



	Meat	Fish	Fruit and vegetables	Cheese	Bread and pastries	Wine
LED Rose						
	Less discoloration, extra red enhancement					
LED Authentic White						
	Natural display, slightly enhancing the red		Natural display			
LED Champagne						
			Extra warm atmosphere	Yellow enhancement	Extra warm atmosphere	Nice warm atmosphere
LED Frost White						
	Cool, enhancing the sparkle on ice					

## Fill up in style

### Mini 300 Application: petrol station

The scheduler built into the luminaire helps to save energy in off-peak times, with additional energy savings made possible through a daylight sensor and movement-detection unit. Mini 300 is easily controllable via a smartphone app. Read more about Mini 300 on page 72.



## Pole position

### ProAir Application: fashion

Designed by LAPD UK, these cleanly designed low voltage spots offer excellent color consistency and are easily adjusted by using a specially designed Philips pole. This makes them easy to work with and means there is no need to climb up and down a ladder.



## Longer lasting LED

### Trunking Applications: food, petrol station, DIY

These LED trunking solutions offer clean light lines and clear illumination, with no dark areas and a wide variety of beam angles through a breakthrough optical system. When combined with presence detection and controls you can save up to 75% energy, compared with traditional fluorescent solutions.



## Subtle beauty

**FlexFusion** Application: *fashion*

Flush-fitting FlexFusion makes it possible to have 'a clean ceiling' with spots now as unobtrusive as a downlight. Just click the low voltage spots onto the track and adjust the optics – easily done by using a specially designed Philips pole, so there's no need for a ladder.



## Right on trend

**ExactEffect** Applications: *fashion, food*

Make the most of ExactEffect's distinctive square design. The product features embedded lens technology for more contrast and sparkle and its effective spread of light means that you can reduce the number of luminaires installed in comparison with traditional solutions.

## Traffic lights

**Color Kinetics** Applications: *fashion, food*

Ideal for getting attention and boosting store traffic, the extensive Color Kinetics linear portfolio offers solutions for cove and graze lighting, with millions of possible color combinations. It's perfect for creating colorful dynamic effects in-store, or to enhance your atmosphere by creating a special seasonal mood.



## Accent on style

**InteGrade** Applications: *fashion, food*

Blending perfectly into racks and shelves so it's invisible to the eye, InteGrade is ideal for showcasing products like wine and is easy to install thanks to its standard dimensions. It offers excellent total cost of ownership, with attractive payback times, so you can enjoy a speedy return on investment.



## Flexible magnetic style

**Mago** Applications: *fashion, food*

Mago's magnetic system is on a low-voltage track, which gives maximum flexibility in showcase lighting. This makes it ideal for retail applications. Mago's clever design means flexibility – the magnetic spots can be easily moved and different levels of power, optic beams and color temperatures can be combined on the same track.



# Europe

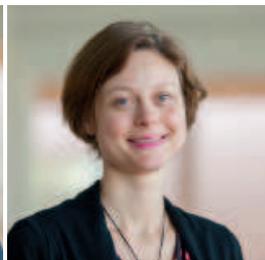
# lit up

## The Philips team behind RetailScene

RetailScene has been on a journey across Europe, from London to Warsaw and from Amsterdam to Sofia. Along the way, we've encountered retailers embracing the true potential of LED lighting in both fashion stores and supermarkets. We'd like to take this opportunity to acknowledge the help we've had from these specialists at Philips in putting the magazine together.



**Menno Kleingeld**  
General Manager  
Retail



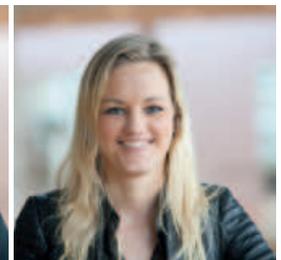
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Fashion



**Tamara Jochemsen**  
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**Charlotte Tol**  
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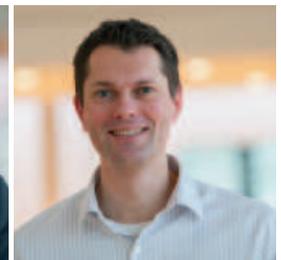
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**Fokke Jongsma**  
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Support Manager



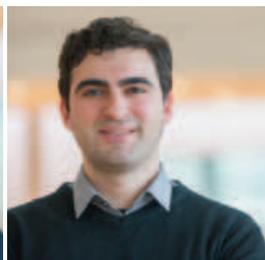
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Manager Petrol Stations



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Business Development  
Manager



**Luc van der Poel**  
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Specialist



**Gorkem Kiziltan**  
Lighting Application  
Specialist



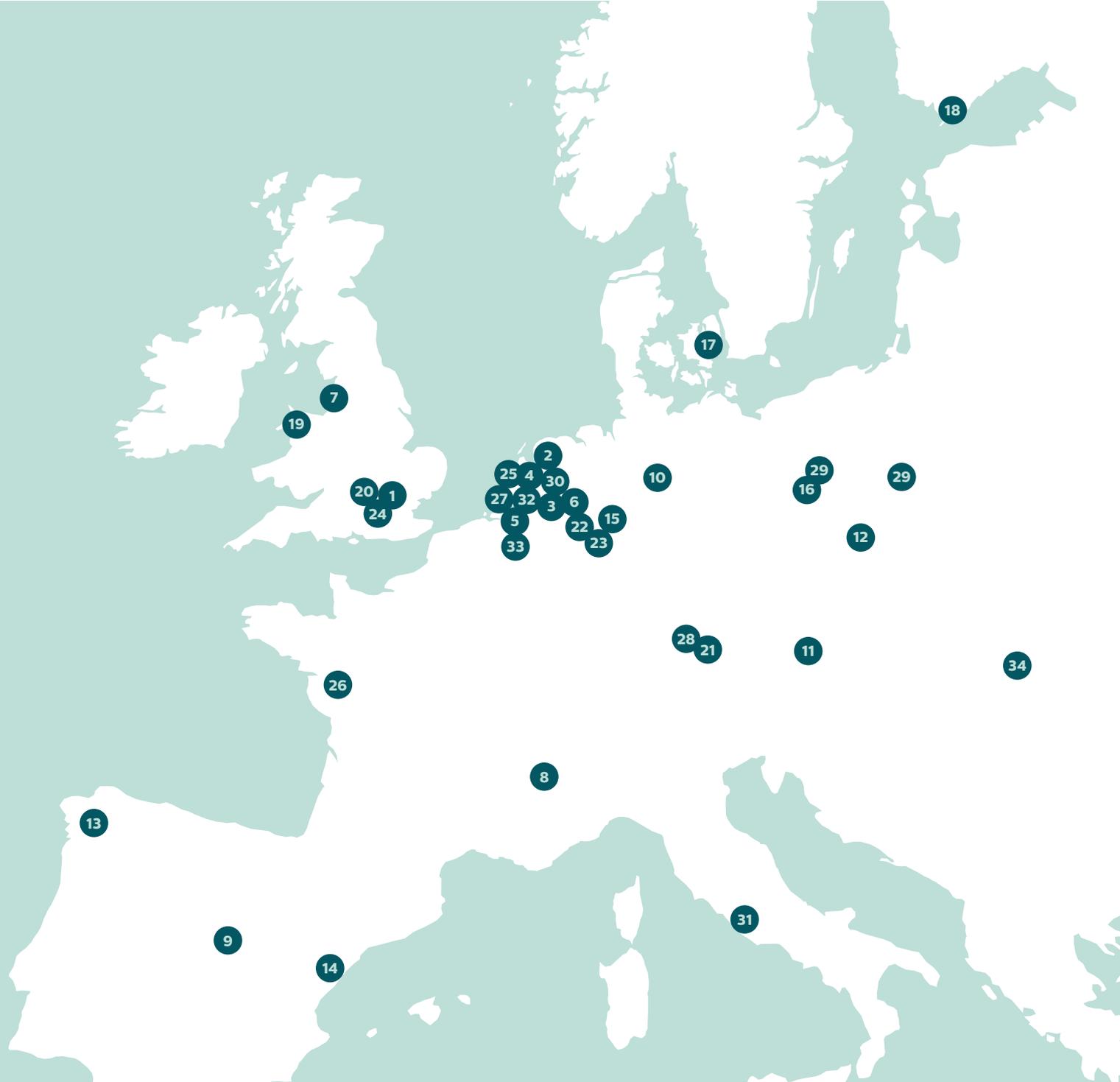
**Wietske Rodenhuis**  
Product Marketing  
Retail



**Lorenzo Feri**  
Product Marketing  
Services and Solutions



**Steven Kardinaal**  
Product Management  
Retail



- 1**  
**House of Fraser**, London, UK
- 2**  
**Lidl**, Heerenveen, NL
- 3**  
**Innovation Village**,  
Eindhoven, NL
- 4**  
**SuperTrash**, Amsterdam, NL
- 5**  
**Hunkemöller**, Antwerp, BE
- 6**  
**CrispWhite**, Eindhoven, NL
- 7**  
**COOP**, Leyland and West  
Didsbury, Lancashire, UK
- 8**  
**Auchan**, Caluire, FR
- 9**  
**Shell**, Azuqueca de Henares, ES

- 10**  
**Edeka**, Hildesheim, DE
- 11**  
**Spar**, Vienna, AT
- 12**  
**BP**, Krakow, PL
- 13**  
**Carrefour**, Santiago de  
Compostela, ES
- 14**  
**Consum**, Bexti & C. Benlloch, ES
- 15**  
**Rewe Kaufpark**, Iserlohn, DE
- 16**  
**Biedronka**, Warsaw, PL
- 17**  
**Superbest**, Esbjerg, DK
- 18**  
**K-Supermarket**, Helsinki, FI

- 19**  
**ASDA**, Bangor, UK
- 20**  
**Morrisons**, Illingworth,  
West London, UK
- 21**  
**Laurèl**, Munich, DE
- 22**  
**Beluga**, Maastricht, NL
- 23**  
**Edeka**, Aachen, DE
- 24**  
**Harrods**, London, UK
- 25**  
**State of Art**, Rotterdam, NL
- 26**  
**L'Occitane**, Nantes, FR
- 27**  
**Esprit**, Antwerp, BE

- 28**  
**Pimkie**, Munich, DE
- 29**  
**Bizuu**, Warsaw/Poznan, PL
- 30**  
**PLUS**, Amersfoort, NL
- 31**  
**Eataly**, Rome, IT
- 32**  
**Jumbo**, Breda, NL
- 33**  
**Mount Oberon**, Brussels, BE
- 34**  
**Gazprom**, multiple sites  
in Romania



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5656 AE Eindhoven  
The Netherlands

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