

interact



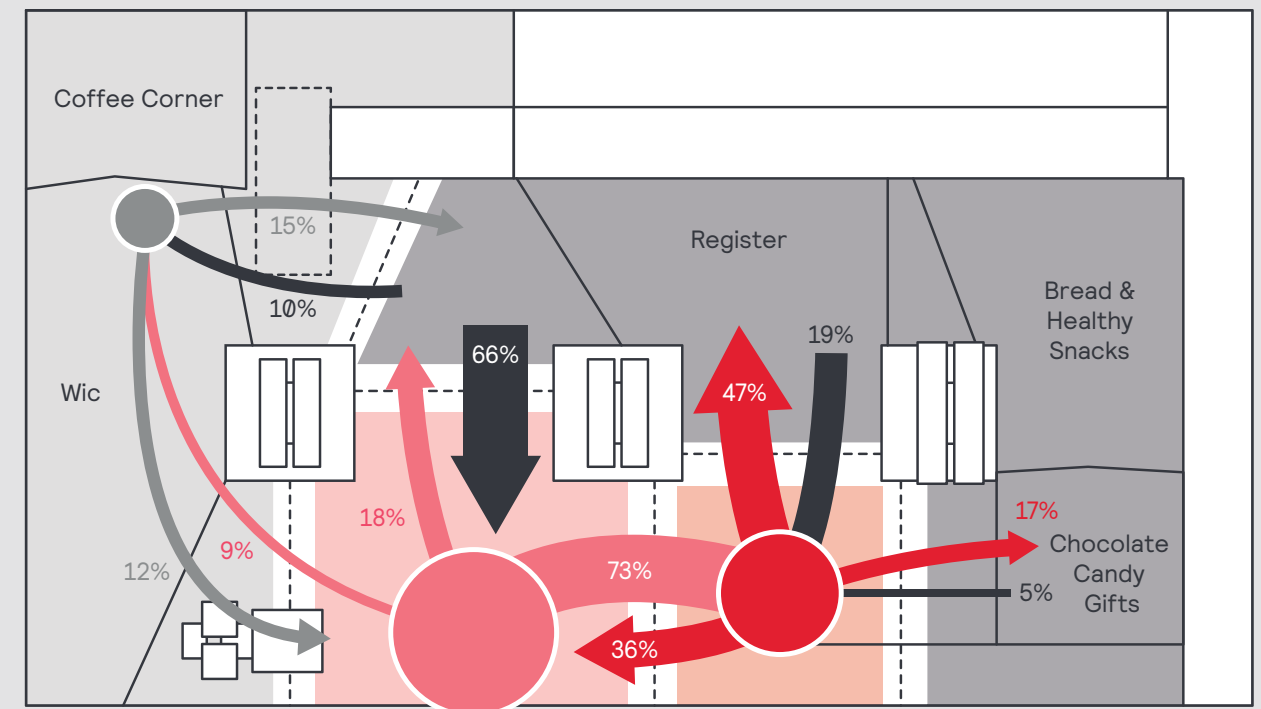
Retail analytics – White paper

Optimizing brick-and-mortar stores through data analytics

Find out more about Interact www.interact-lighting.com/retail

The digital transformation of brick-and-mortar stores

Retail lighting infrastructure and sensor networks allow retailers to gather and analyze extremely valuable data on shopper location and behavior. This enables them to optimize store formats, raise levels of personalization and engagement, and ultimately enhance sales.



Brick-and-mortar stores aren't dead

Although e-commerce is growing much faster than traditional retail, the vast majority of purchases still happen in brick-and-mortar stores. Digital shopping lets shoppers buy from almost anywhere and lets retailers profile and track shoppers, generating insights to personalize their offer and optimize their portfolio. Yet brick-and-mortar stores have enduring appeal thanks to their strong social aspect. People can go with friends, and interact with other shoppers or sales staff. They can taste new food, experience product demos or try on shoes to see how they fit... And, of course, if they see something they like, they can have it right away.

Brick-and-mortar stores are going digital too

One approach, known as omni-channel, is for retailers to seamlessly bring together physical shopping experiences with digital channels and services, so that each strengthens the other. A Forrester Consulting research paper² backs this up, saying that physical retail will continue to thrive if it is increasingly influenced by digital. "Shoppers may prefer researching products online, but when it comes to making purchases, brick-and-mortar stores remain a vital piece of the buyer journey". And this goes beyond taking an omni-channel approach to serve shoppers better. By applying digital technologies it's possible to better understand shopper behavior, and to then optimize store formats and operations in a way that enhances and even personalizes the shopping experience.

Removing the guesswork in format and store optimization

In other words, brick-and-mortar retailers can now work towards becoming as data-rich on shopper behavior as online stores. In this way they remove the guesswork, and reduce the risk when implementing or refining new store formats in a single store or throughout a chain.

This makes perfect sense. In most physical stores, transactional data is only gathered at the cash register. But everything that happens before that moment, both outside and inside the store, is also valuable information. What did they look at but not buy? What path did they take through the store? Which store departments are visited during the same shopping trip? By applying e-commerce-style analysis to these, and hundreds of other similar questions, stores can significantly improve business results.

The power of lighting, sensors and data analysis

The big question is; what's the most effective way of transforming a store? How can retailers know what works and what doesn't? How best to collect the data necessary for enriching the shopping experience while bringing the online and offline worlds closer together?

This white paper explains two ways brick-and-mortar retailers can achieve this.

More than 90% of US retail sales in Q1 2017 happened offline.¹

1. US Census Bureau News, MAY 16, 2017
2. Forrester Consulting: Real-time data drives the future of retail, January 2016

Two ways to transform
your store using data

Sensor-based insights for more effective store configuration

Our first approach is to work with retailers to analyze and then further optimize the format of one or more stores.

Sensors are set up inside the store to gather anonymized information on shopper behavior/flows. They also measure how this is influenced by alterations in factors like store layout, routing, lighting and staff allocation. In this way it becomes possible to generate concrete data on which approach is most suitable. This can then lead to reconfiguring certain parts of the store, altering the positioning of products and/or adapting the lighting. This in the knowledge that the changes will positively impact the bottom line.

A typical example of this would be to set up different lighting scenarios and then measure the impact each one has on shopper footfall and sales. At German hypermarket and electronics chain Globus, one lighting scenario led to 15% more visitors and 6% higher sales (see Globus case study).

**By attracting 15% more
shoppers into a zone,
Globus was able to
increase sales by 6%.**



Case study

Globus uses analytics to prove lighting attracts and converts shoppers

The German hypermarket and electronics chain Globus was looking for ways to attract more shoppers into a promotions area. This was achieved by combining spotlights that enhance product appearance and with soft-pastel colored up-lighting to differentiate the area from the rest of the store.

Intelligent motion sensors and sensors in shopping carts, provided by partner DFKI (German Research Center for Artificial Intelligence), were used to validate this new lighting system. These sensors made it possible to count the number of shoppers passing by, but also entering, the area. This allowed quantitative information on the attractiveness of the area to be collected in real time over a period of several months. Working with the DFKI, we analyzed the results.

Special thanks to EIT for collaborating on this case study.

Valuable insights were revealed. For example, the popularity of the area varied strongly throughout the day. These variations could be explained by the profiles of shoppers who were present at different times. It wasn't possible to measure this before in such a direct way.

The data showed that the new lighting was very effective. Up to 15% more shoppers entered the area when the spotlighting and colored up-lighting was active as opposed to uniform lighting. Analysis of transactional data for the same period showed a 6% uptake for sales of products out of the promotion area.

Case study

Shell uses sensors to better understand customers in Luxembourg

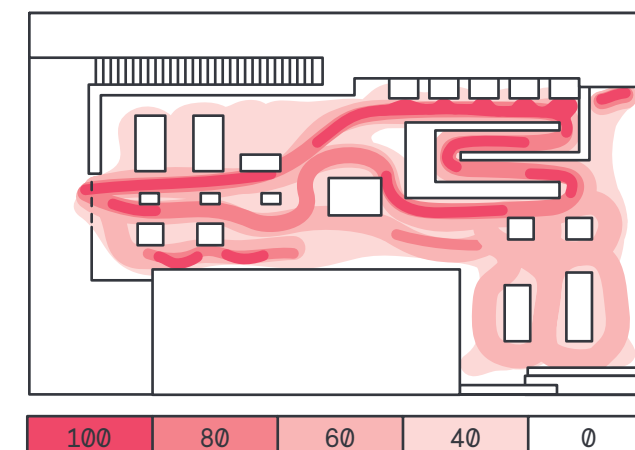
Shell wanted to optimize store layout at its largest petrol station in the world in Berchem, Luxembourg. To learn more about in-store shopping behavior, Shell asked us to install movement sensors. The store was divided into 14 subzones – for example, coffee, confectionery and gifts, promotion and cash register – to ensure the most relevant insights.

The sensors captured basic metrics like routing, dwell time and presence, revealing to Shell the general rhythms of the store so they could improve the store lay out. Deep dives on the subzones provided detailed information to validate the format, answering questions like: Is the cash register management optimal? Did the changed entrance have the right effect?

Advanced analytics provided even more insights to optimize the format. By identifying typical instore journeys, we established correlations between zones.

This helped answer deeper questions such as: How likely are people who visited the deli to visit the coffee area? What zone do they visit after promotions?

Dominant routes of customers in the store



Two ways to transform
your store using data

Using user-generated location data for more effective store configuration

The second way to use data to optimize the shopping experience is by generating format and store insights through user-generated data. Interact Retail Indoor navigation and location-based services (see box) enables such an approach. It makes smart devices (such as phones, tablets, scanners or trolleys) location-aware inside the store. By emitting Visible Light Communication (VLC) or Bluetooth Low-Energy (BLE) signals from the lighting fixtures, in combination with software integrated into a mobile application, the location of these devices can be determined to within 30 cm. Retailers can use this information to offer shoppers location-based services such as in-store navigation and promotion of products in their direct proximity.

When people activate this service on their smart device, the anonymous location data gathered is stored and can be used to generate insights into shopper movement. It's then possible to see how this is impacted by changes in for example store layout, assortment, lighting, staff allocation and marketing campaigns.

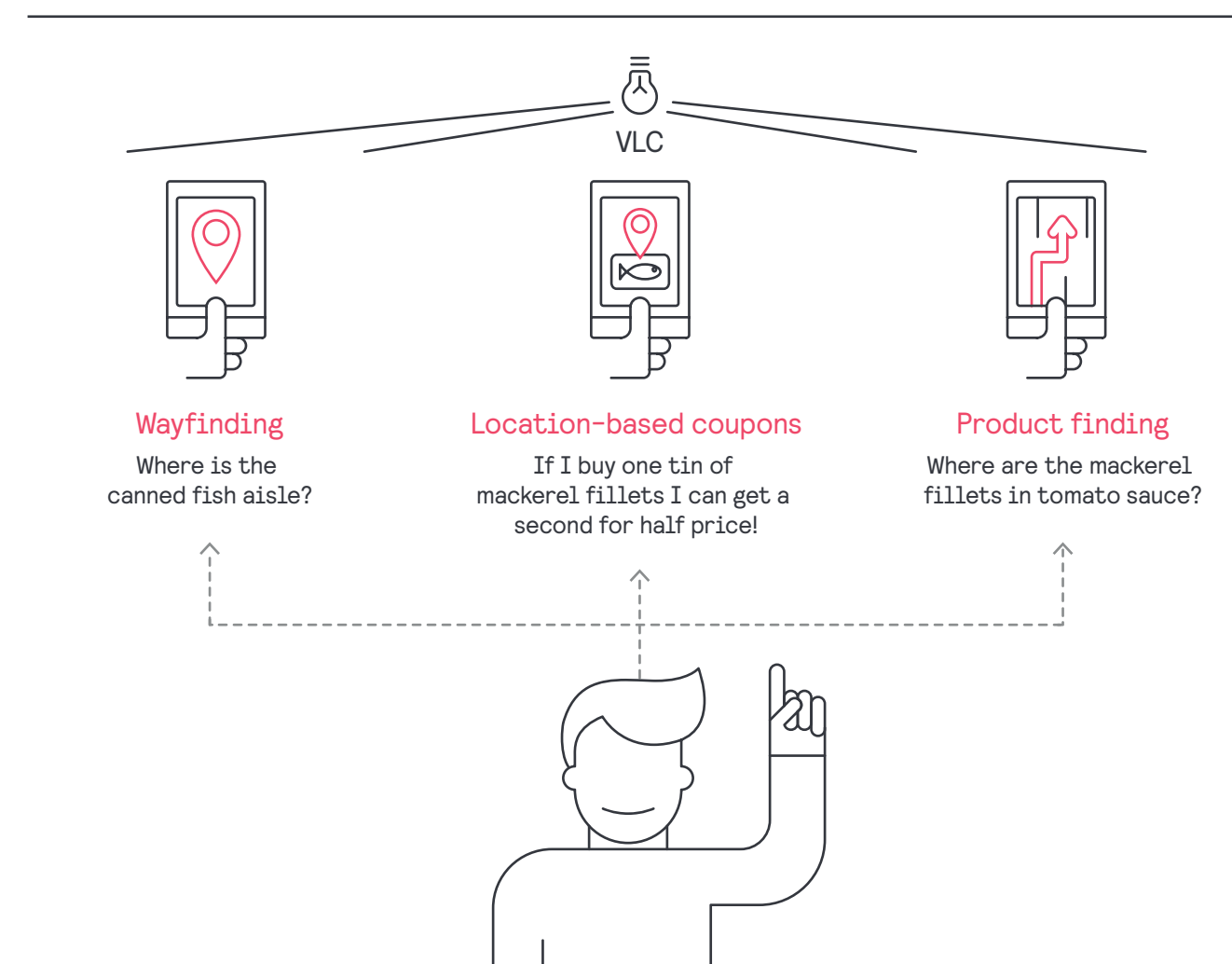
This data can also be coupled with in-app behavior data to generate even more insights. By identifying where people use wayfinding, retailers can discover which products are difficult to find. Or by knowing where people accept coupons retailers can validate promotional placement.

How does it work?

Using indoor positioning data for analytics services

Not only do we provide energy-efficient and high quality light within a store, but when combined with Interact Retail Indoor navigation and location-based services it also provides one of the most accurate indoor location systems on the market.

Yet it requires no additional hardware other than the lighting. It supports a range of location-based services such as wayfinding, product finding and location-based coupons.



This makes shopping a more straightforward, personalized and enjoyable experience, ultimately driving sales and encouraging brand loyalty.

The system comes with a location analytics dashboard that turns the location data generated

by users into valuable insights on shopper traffic. The dashboard provides zone-specific footfall, dwell time and density data. It also allows retailers to filter out data for specific time slots and compare zones and stores.

What about privacy?

Shoppers say they'll give retailers their data
– as long as they get something of value in return.

Always respecting privacy

Whichever method is used to gather data, both retailers and their shoppers expect data safeguards. In response, we have made privacy a key consideration in developing data analytics services.

For sensor-based insights the sensors generate only a randomly-assigned object ID, together with the time and geo-location. Also our Interact Retail indoor navigation software does not generate any user-related information such as IP addresses, user names, digital IDs or any other back-traceable items. In addition, any information provided to customers is aggregated from reports and analyses. It's impossible to identify individuals using this data. Privacy is guaranteed.

Shoppers are happy to provide data – if they think it's in their interest

And while privacy is of the utmost importance, it's also worthwhile noting that a very high proportion of shoppers are prepared to participate in analytics processes if they will benefit from doing so.

Shoppers are increasingly aware that their digital information has inherent value. They want to get value back in exchange for brands using their data.

Asking people to opt in for next-level personalization

It would seem that the best way of striking a balance between privacy and offering enhanced, location-based services for shoppers is to simply ask people if they are willing to opt in. If they're not, fine. But if they are, their location data can then be combined with personal profiles, purchasing data and even relevant online behavior, such as which products interested them on the shop's website.

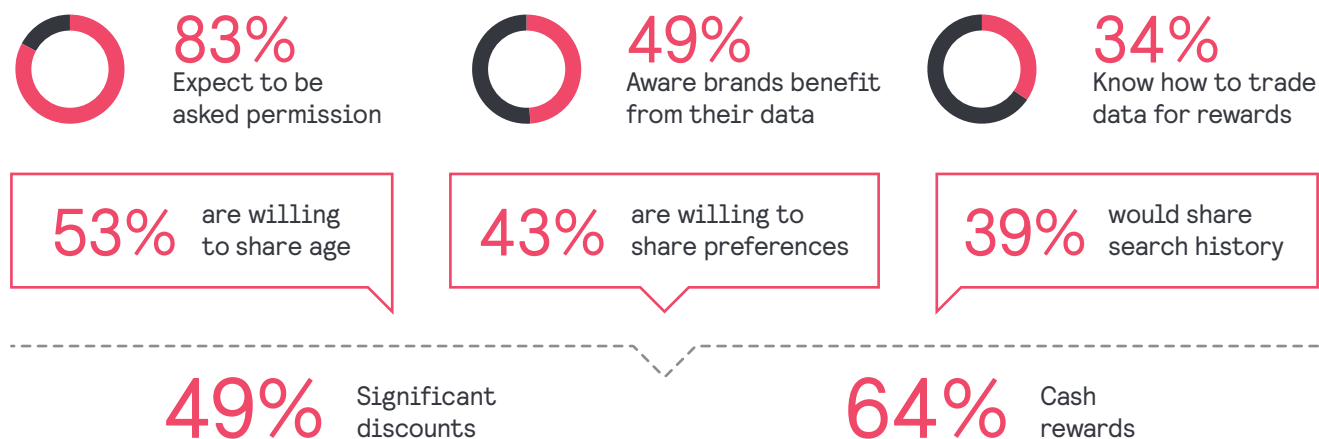
Linking purchasing data to a person's identity already happens on a wide scale through loyalty cards; combining loyalty insights with in-store behavior can be considered as the next level. It helps bring online and offline interactions together more seamlessly, and in a way that is relevant for both retailer and the shopper.

An example of retargeting would be to alert someone who was browsing jeans in the store – but didn't purchase them – that a special promotion on jeans starts next week. This, in essence, is what happens to us already when we see advertisements and promotions online that are based on our browsing behavior.



43% of global consumers in a recent Microsoft study³ were willing to share preferences, with 64% expecting cash rewards, 49% discounts and 29% streamlined processes in return.³

The data value exchange³



Case study

Fairprice enables wayfinding, recommendations and offers using indoor navigation

Singapore's leading grocery retailer Fairprice is driving personalized, digital-enabled shopping by integrating its loyalty app with the Interact Retail Indoor navigation and location-based services. Shoppers use the app to browse the store's products remotely and create a shopping list.

Once in the store, they can locate (or be guided to) the products they are looking for quickly and easily. Personalized recommendations, such as targeted offers tailored to personal preferences or buying history, can be sent and redeemed via the app.

³. Microsoft Consumer Value Exchange Study 2015

Conclusion

As a PricewaterhouseCoopers report⁴ states; “There is unprecedented change sweeping across the retail industry... as both the demands of the modern shopper and advances in technology become ever greater catalysts.”

In fact, both retailers and brands share many challenges in embracing digitization, omni-channel shopping and advanced analytical methodologies. But what’s the best way for them to develop seamless, sustainable and engaging customer relationship while delivering higher returns on in-store investments?

We believe that as lighting systems become connected, they will play a key role in blurring the distinction between online and offline shopping technology in stores. So we’ve evolved our systems and services to help retailers realize an omni-channel vision in their stores. Fact-based evaluation of in-store shopper behavior is central to this vision. In this new world, sensors and the lighting infrastructure will offer ways for retailers to collect the data they need to dramatically optimize their store formats – without compromising shopper privacy.

We are helping retailers to gather and analyze extremely valuable data on shopper behavior, both through sensors integrated into lighting infrastructure, Bluetooth Low Energy (BLE) beacons and through indoor navigation & location-based services. This information can enable retailers to learn more about shoppers, so they can optimize store formats and enable targeted communication on general or individual level.

“There is unprecedented change sweeping across the retail industry... as both the demands of the modern shopper and advances in technology become ever greater catalysts.”⁴

Why choose Interact Retail?

Through our data analytics services we now support our format expertise with a higher degree of fact-based insights than ever before. Interested in discovering how our solutions can help your store achieve greater insight? Then visit:

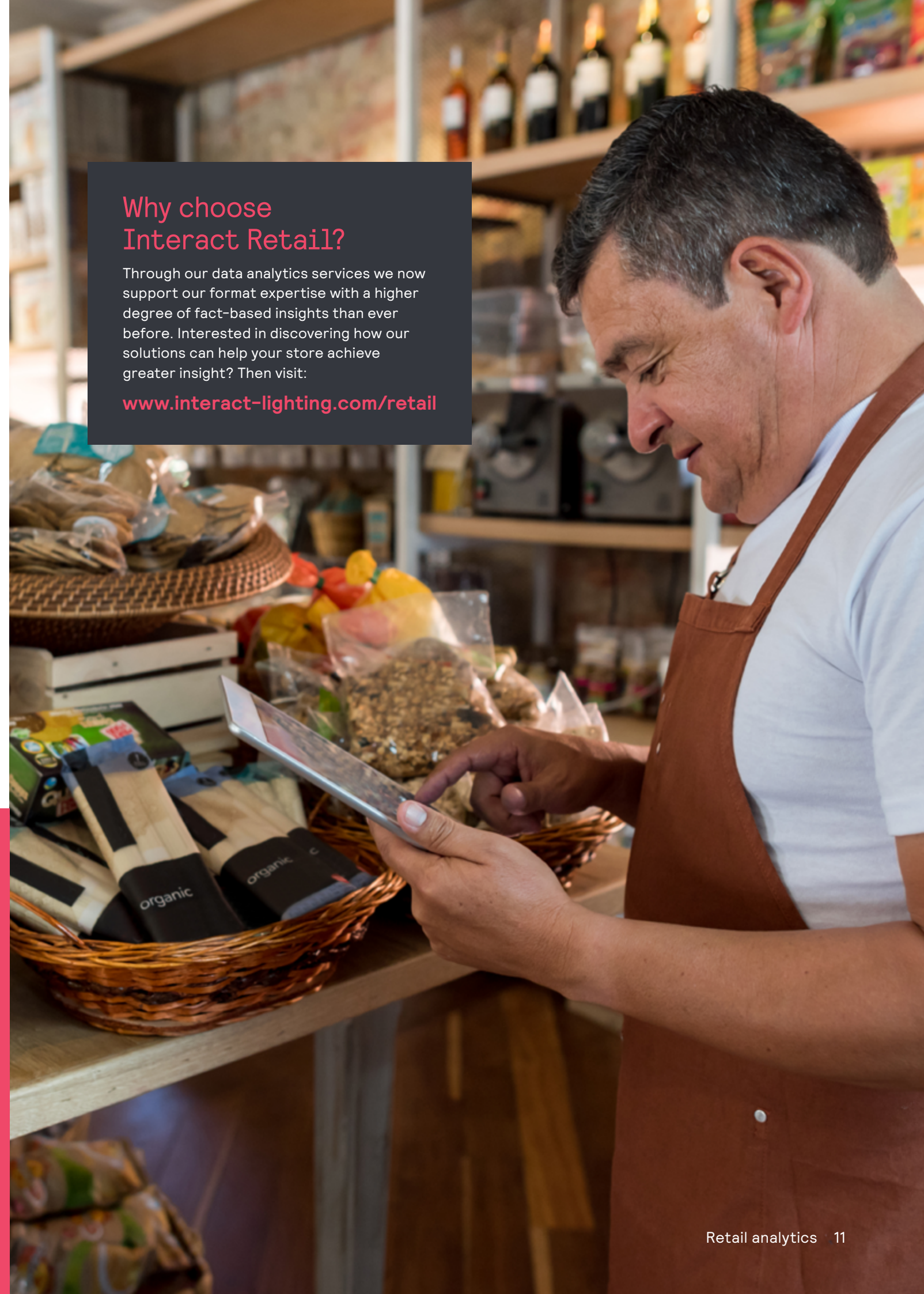
www.interact-lighting.com/retail

Why choose Interact Retail?

For over a century, we’ve been at the forefront of innovations that help shape the in-store experience, working with retailers to optimize the performance of their stores. During that time, lighting has transformed from a source of illumination in brick-and-mortar stores to a medium

by which retailers can add real value in their stores in other ways using the lighting infrastructure, sensors and location-based services. With global leadership and local presence, we’re helping retailers all over the world take the next step toward data-driven decision making.

4. PricewaterhouseCoopers report for JDA: The transformation of retail, 2017



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**Find out how Interact can
transform your business**
www.interact-lighting.com/retail

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