

A woman with curly hair, wearing a light blue denim jacket over a black top, is looking at a smartphone in her right hand. Her left hand is touching the strings of an acoustic guitar. The background shows a music store with several acoustic guitars hanging on a wall.

# **Digitalization at the POS:** How Electronic Shelf Labels Are Going to Revolutionize the Shopping Experience

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wirecard

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## 1. The challenges that physical stores are facing

Celebrated by some and feared by others, digitalization is the number one topic in debates on the future of retail. For several years now, competition from e-commerce has been confronting brick-and-mortar stores with major challenges. Global e-commerce sales already totaled some 1.6 billion euros in 2018, and the figure is expected to reach 2.3 billion euros by the year 2022.<sup>1</sup> Many merchants are concluding that the only way for them to survive is to go online themselves and take advantage of digitalization to sell merchandise over the Internet as well. However, this is spawning online shops that are strategically divorced from their hosts' original physical outlets. The new, disjointed reality therefore falls considerably short of achieving the much-praised vision of orchestrated omnichannel content. Instead of merely striving to copy online competitors, brick-and-mortar retailers should think about ways to leverage digitalization in their physical stores. When properly implemented, digitalizing the point of sale (POS) has potential for changing and improving customers' shopping habits in myriad ways — and richly rewarding retailers in the process. It's important for merchants to keep in mind that their online competitors also suffer from weaknesses, which include a lack of personal contact and advice for cus-



tomers and the fact that these are unable to touch and feel a product before deciding whether or not to buy it. As shoppers become steadily more demanding and sophisticated, physical retailers are actually in a superior position for meeting them face to face and satisfying their expectations. By combining the best of both worlds — online and offline — in their stores, merchants can improve the user experience to the point that their online rivals cease to be an existential threat. This white paper goes into detail on how to successfully digitalize the POS by integrating the best features of the online world into offline business-

<sup>1</sup> Statista Digital Market Outlook: 'E-Commerce weltweit', 2018

es. One example for such a digital tool in stationary retail are electronic price tags, which enable the customer's self-checkout directly at the shelf and which thus might change shopping behaviour drastically.

## 2. Adding value by merging online and offline

Accelerating digitalization has been driving change in the retail sector for quite a while. It's second nature for today's buyers to take advantage of all available channels to make purchases. They switch fluidly between online and offline sources as they please, depending on which is most convenient and meets their needs and wishes best. However, there are clear tendencies regarding the preferred channels for individual product categories. The demand for electronic entertainment media (videos, CDs, etc.), books and consumer electronics is especially great online. Clothing, shoes, and accessories are also increasingly being bought online. Other items continue to be mainly sold offline, such as food, flowers, furniture, and health and beauty products.<sup>2</sup> Although e-commerce definitely has some clear advantages — including constant availability, a large choice of merchandise, and detailed information on products — in other respects online stores have a hard time competing with their offline counterparts. Traditional brick-and-mortar stores allow customers to directly experience and touch products, can present merchandise much more attractively, and score points with in-depth, interactive advice and information on specific products provided by human sales staff.

Yet despite the inherent advantages of physical stores, some of them are still struggling. In one survey, around 75% of the respondents thought there would be significantly fewer brick-and-mortar retail outlets in the year 2030.<sup>3</sup> Technological advances are also magnifying customers' expectations. It's a fact that shoppers demand more of online outlets than of physical shops.<sup>4</sup>

Merchants can survive by using digital technology to enhance conventional stores. A large majority of shoppers anticipate that "most stores will also offer digital services

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in the years ahead."<sup>5</sup> To meet their burgeoning expectations, it's paramount to focus on delivering tangible customer benefits when implementing digital services.

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## 3. Boosting the potential of brick-and-mortar stores with electronic shelf labels

The convenience of online shopping solutions has increased shoppers' expectations. They are no longer willing to sacrifice features that they have become used to on the Internet, such as detailed product information, user reviews, etc. Many physical retailers are wary of technological solutions such as endless aisles, tablets for ordering not-in-stock items online, and Click & Collect (for ordering things online and picking them up in the shop). But the possibilities for digitalizing the point of sale are virtually endless. One of the options is electronic shelf labels (ESLs), which are a kind of digital price tag. At first glance, these may seem to be a

<sup>2</sup> Bitkom: 'Online-Shopping beliebter als Einkaufen im Laden', 2018. <https://www.bitkom.org/Presse/Presseinformation/Online-Shopping-beliebter-als-Einkaufen-im-Laden.html>

<sup>3</sup> Comarch / Kantar TNS: 'Future of Shopping. Latest Trends in Retail Today and 2030', 2017. <https://microsites.comarch.de/survey-future-of-retail>

<sup>4</sup> TeamBank: 'Einkaufen 2017: Die zwei Gesichter des Handels', 2017. [https://www.easycredit-ratenkauf.de/download/whitepaper\\_einkaufen\\_2017.pdf](https://www.easycredit-ratenkauf.de/download/whitepaper_einkaufen_2017.pdf)

<sup>5</sup> Comarch / Kantar TNS: loc. cit.

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relatively low-key technical innovation. However, smartly deployed, they have the potential to give physical stores a new face and revolutionize how people shop.

It often takes time for a new technology like this one to unfold its potential. But quite a bit has already happened around electronic shelf labels in recent years. The market for them is forecast to swell to more than US\$1.7 bn by 2023, with average annual growth exceeding a whopping 28%. European retailers currently account for around a third of all ESLs in use, and they are especially common in shops in France, the United Kingdom and Germany<sup>6</sup>. It can definitely take quite a while for customers to adapt to a new offline technology, a case in point being self-check-out registers. While these long ago became a normal feature of stores in countries such as the United States, the UK and Sweden, they are only now beginning to really catch on in Germany.

Electronic shelf labels were initially used only to digitally display the prices of individual products. So at first they were little more than a slightly different price tag. Today, however, they are capable of far more.

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When a customer scans an ESL, they receive additional information on the product, can place it in their shopping basket, and then easily purchase it whenever they like, no matter where they happen to be in the store. Standing in line to pay at the register thus becomes a thing of the past. Loyalty, couponing, and in-depth analysis functions additionally expand the potential of this technology; they are presented in detail below.

<sup>6</sup> Research and Markets: ‘Electronic Shelf Label Market – Global Outlook and Forecast 2018-2023’, 2018. <https://www.researchandmarkets.com/reports/4465733/electronic-shelf-label-market-global-outlook>

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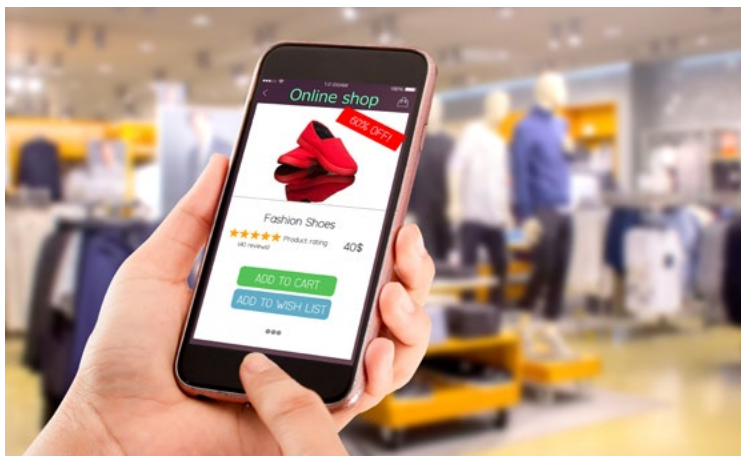
## How electronic shelf labels work

Electronic shelf labels are controlled by a communication platform linked to the store's merchandise management system. New prices are sent via access points to the register systems and electronic shelf labels by pressing buttons. E-paper displays are typically used to show prices on ESLs. Logos can also be depicted to call special attention to brand-name products. Near-field communication (NFC) is used to provide additional information for customers, and iBeacon technology can even guide them to a product they are looking for.

## 3.1. Customers benefit from easier, more convenient shopping

Now practically everyone encounters electronic shelf labels while shopping. Customers can rely on them to provide accurate, up-to-date information. This means an end to unpleasant surprises at the register when products have been incorrectly labeled. When ESLs are integrated into a store as part of a comprehensive digital solution, they result in an all-round enjoyable shopping experience. Store employees no longer have to spend much of their time printing out and changing paper price tags, so they are available to give shoppers better and more thorough advice and assistance.





Used in combination with an integrated payment solution, ESL also does away with one of the greatest annoyances that customers have traditionally had to endure in physical stores: the need to spend time in long lines to pay at the register. 18% of customers say that they would rather go to another store where the lines are shorter and the general checkout experience is better. Apart from location and price, this is one of the main reasons why people shift their loyalty.<sup>7</sup> But when a merchant uses electronic shelf labels, shoppers can pay right at the shelf by tapping their smartphones and then simply walk out of the store without wasting time at the register. And by offering personalized recommendations and discounts to all customers, the merchant can fully tap the potential of ESLs and make a lastingly positive impression on them.

### 3.2. Merchants benefit from time savings and real-time prices

The days of paper price tags are nearing their end; the benefits that the digital model offers merchants are simply too great to ignore. A supermarket can easily have up to 50,000 differentiable items on its shelves, and each and every one of them has to have its own price tag attached. The workload this imposes is huge. Every time an item's price changes, it's necessary to print out a label, then search for the item and swap it for the old one. With electronic shelf labels, the same thing can be accomplished in a split

second. This saves enormous amounts of time and money. What's more, ESLs are a sustainable solution. With one price change per day, the ESL battery will last an average of 5 years. The physical labels are produced only once and then reused a virtually unlimited number of times, while conventional paper price tags have to be reprinted for every sale and change in price, no matter how small. Centralized control of prices by a system that also integrates the registers greatly reduces the risk of human error and results in more satisfied customers — after all, when the price on a product differs from what is charged at the register, this results in complaints and dissatisfied customers, who would like to be able to depend on the information they receive. Through price automatization it is also possible to adapt prices from other channels, for example online shops, without further effort.

Electronic shelf labels let merchants set prices in real time to nimbly respond to trends at competitors, and especially in online stores. Particularly in the consumer electronics sector, these adjustments can be necessary on an almost daily basis. Day-by-day tweaks can also enable food and convenience stores to compete more successfully. For example, dropping the prices of fruits and vegetables just before closing time can reduce the quantity of unsold produce that has to be thrown away. And by recommending products that are a good fit to each customer's profile, merchants improve their upselling and cross-selling prospects while improving customers' overall experience and increasing their loyalty. The benefits of this shouldn't be underestimated; experts believe that the customer experience will overtake price and product as the key brand differentiator by the year 2020.<sup>8</sup>

By introducing electronic shelf labels, store owners gain access to data-based insights on what makes customers tick, something that has so far been mostly confined to online businesses. Which products do consumers frequently ask about but only rarely wind up buying? Where in the store do customers spend more time, and which paths do they take through it? How well do they respond to personalized discounts? Which shelves need to be restocked? Electronic shelf labels help answer many relevant questions like these and draw conclusions on what needs to be improved.

<sup>7</sup> Forrester: 'Consumers Cringe at Slow Checkout', 2018. <https://www.digimarc.com/resources/forrester-study>

<sup>8</sup> KPMG: 'Global retail trends 2018', 2018. <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2018/03/global-retail-trends-2018.pdf>

## 4. A solution for every retail sector

**There is a huge range of uses for electronic shelf labels.**

### **Clothing:**

In the clothing sector, fashion tags are replacing RFID tags as the preferred means of thwarting shoplifters. They also allow customers to conveniently view other appropriate products to go with a selected item or previous purchases. Choosing a different size or color is also easy without having to laboriously search for it in the store.

### **Consumer electronics:**

Merchants in this sector face especially great competition from online dealers and need to be able to react quickly to changes in price. Customers, for their part, can use ESLs to get more information or product evaluations or watch product videos.

### **Food and beverages:**

Here ESLs greatly increase efficiency, because staff no longer need to spend hours a day printing out and swapping hundreds or even thousands of price tags. Specials and discounts can be quickly offered with minimal effort. Flexible price adjustments can also reduce the share of unsold perishable goods that have to be disposed of.

### **Hardware:**

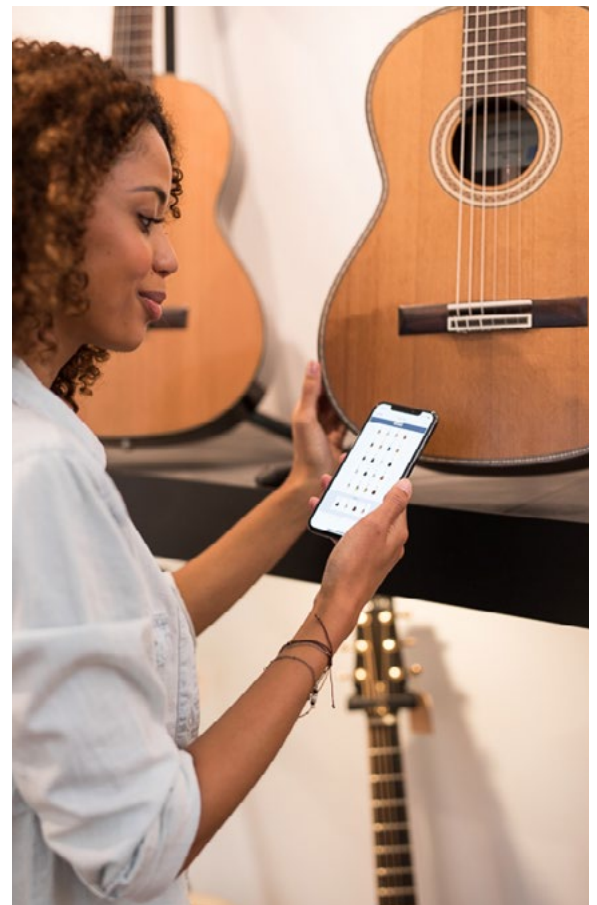
The need to inform and advise customers is particularly great in this sector. Electronic shelf labels leave store employees more time to perform this very important task. They can also be used to access additional information (e.g. on the use and care of products).

### **Convenience products:**

Many customers appreciate being able to quickly purchase snacks, beverages and other items for immediate consumption. If they can pay for them right at the shelf, they no longer have to spend time waiting in line at the register and their shopping experience is elevated to a new level. Thanks to price automation and mobile self-checkout, this is also conceivable for unmanned stores.

## 5. Conclusions

The digitalization of physical stores is making steady headway as the distinctions between online and offline blur. Brick-and-mortar retailers need to offer their customers an offline shopping experience that is comparable to the digital world in terms of ease and convenience. The spread of electronic shelf labels is also helping to drive this evolution. Due to their diverse benefits and the fact that they are networked, they are ideal for enabling physical stores to catch up with their online rivals. Comprehensive solutions, like those that Wirecard is crafting in cooperation with SES-imagotag and Wirecube, are transforming physical retail. They create a more pleasant shopping experience for customers while facilitating the work of retailers.



## 6. Wirecard: partner for innovative payment solutions

Together with its partners SES-imagotag and Wirecube, Wirecard offers a comprehensive system for enabling mobile payment everywhere within a store with electronic shelf labels. It brings together the unique strengths of all three companies to provide the smart price tags, an app or browser solution, and complete handling of payments with further functionalities such as voucher and loyalty services and data analytics.

Retailers benefit from a wide range of Wirecard services that help them understand the needs of their own customers. Via a straightforward interface, they can integrate fast, secure payment methods like those their customers are familiar with from e-commerce. Naturally backed by appropriate fraud prevention. Data analyses give them valuable insights and let them draw entirely new conclusions about what drives their customers. Thanks to device recognition, this applies not only to registered customers who use the app, but also to customers who use an ESL to call up additional information or pay.

### Wirecard: a partner you can depend on

#### ☑ Everything from one source:

As an experienced and fully licensed acquirer, we handle the entire payment process for you. For everything from the required acceptance agreements across integration of payment methods all the way to final processing with integrated risk management, we are your ideal partner.

#### ☑ Everything for stronger customer loyalty:

Benefit from new marketing approaches while offering genuine value. Our services for boosting your clients' loyalty are seamlessly integrated in the shopping process and help you get an edge on the competition.

#### ☑ Everything in your own design:

Make your brand better known while reinforcing your customers' allegiance by issuing your own credit cards. Wirecard Bank offers you innovative, customizable solutions for doing this in the best, most effective way.



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## About Wirecard

Wirecard AG is a global technology group that supports companies in accepting electronic payments from all sales channels. As a leading independent supplier, the Wirecard Group offers outsourcing and white label solutions for electronic payments. A global platform bundles international payment acceptance and methods with supplementary fraud prevention solutions. With regard to the issuing of own payment instruments in the form of cards or mobile payment solutions, the Wirecard Group provides companies with an end-to-end infrastructure, including the requisite licences for card and account products.

Wirecard (GER:WDI) is one of the world's fastest growing digital platforms in the area of financial commerce. We provide both corporate clients and consumers with a constantly expanding ecosystem of real-time value-add-

ed services built around innovative digital payments by using an integrated B2B2C approach. This ecosystem concentrates on solutions in the areas payment and risk, retail and transaction banking, loyalty and coupon programs in addition to data analytics and conversion rate enhancement across all sales channels (online, mobile, ePOS). Wirecard operates regulated financial institutions in several key markets, in addition to holding issuing and acquiring licenses from all major payment and card networks. Wirecard AG is listed on the Frankfurt Stock Exchange (DAX, TecDAX, ISIN DE0007472060). Visit us on [www.wirecard.com](http://www.wirecard.com), follow us on Twitter @wirecard and on Facebook @wirecardgroup.

*For further information about Wirecard solutions for the retail industry, please visit [www.wirecard.com/retail](http://www.wirecard.com/retail) or contact [SalesTeamRetail@wirecard.com](mailto:SalesTeamRetail@wirecard.com).*

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