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RetailWeek
CONNECT
REPORTS

The European connected consumer

A life lived online

RETAIL WEEK FOREWORD



LAURA HEYWOOD
COMMERCIAL EDITOR, RETAIL WEEK CONNECT

Think you know the European connected consumer? Well think again.

While a mounting number of people across Europe are embracing connected technology – from wearables and contactless payments, to virtual fitting rooms and AI-powered bots – their usage and levels of acceptance fluctuate massively from country to country.

Critical to the differing consumer habits and attitudes is the varying legal regulations and data privacy regimes in the countries where they live. Which is why this report is invaluable.

Based on extensive consumer research in Belgium, France, Germany, Italy, the Netherlands, Spain and the UK, this up-to-the-minute insight is critical in helping your businesses anticipate the consumer trends and the associated legal challenges in the markets that matter to you.

By discovering the game-changing shifts in European consumer behaviour we believe your business will be better equipped to navigate

the digital revolution and drive future innovations. The quicker you know, the quicker you can act.

Last year, *Retail Week* and Osborne Clarke predicted the rise in popularity of wearable technology and contactless payments in the UK, both of which have exploded onto the consumer landscape in the past 12 months.

This year we explore how that uptake is provoking questions around ways digitally collected consumer data is used and shared.

Consistent with our findings around data sharing concerns, this year's results look at how comfortable consumers are sharing their personal details when making a purchase.

We reveal which European consumers are most and least happy to entrust online vendors or other internet service providers with their personal data, plus what they value in exchange.

What's clear is that discounts and personalised offers are helping boost people's willingness to

share to varying degrees across the seven major European countries, but fraud and security concerns still take centre stage.

Later in the report we identify the innovative technologies impacting businesses' future strategies. Controversial and sci-fi-esque tech including drones and driverless vehicles are put under the microscope as we seek to find out what European consumers think about them and how likely they are to adopt them as mainstream fulfilment options.

In last year's foreword our valued partner Osborne Clarke perceptively wrote: "What was considered sci fi yesterday is the norm tomorrow."

This statement couldn't be closer to the truth – only by keeping up with futuristic innovations and consumers' views on them will businesses be able to keep up with the sheer pace of change we're experiencing in an increasingly connected and dynamic digital world.

PARTNER VIEWPOINT



SIMON BESWICK
INTERNATIONAL CHIEF EXECUTIVE, OSBORNE CLARKE

Our report reveals the nuances and divergences in connected consumers' behaviour and perceptions across Europe. If your business interacts with connected consumers in any way, be it in retail, digital health, transport and logistics or emerging innovations, you will appreciate that these differences create great opportunities.

Take contactless payment technology. Just two years ago, when a major retail chain took money from the wrong cards, it appeared that consumers might take fright. But you cannot stop innovation that offers connected convenience.

Businesses grasped the opportunity to strengthen the technology and today the UK sits at the top of our league table for the use of contactless cards, with almost half of respondents saying they have used them in the past three months.

Demand for virtual health consultations using artificial intelligence is also on the rise. In Italy consumers are more than twice as likely as their Belgian counterparts to want this over a face-to-face consultation with their doctor. Whether that's a matter of consumer preference, a cultural point, or a love of technology, there's clearly an opportunity for some businesses to take commercial advantage of this difference.

Finally, a warning. The opportunities we explore in our report may be valuable but they are also short term: that's the nature of the data.

So, in order to take advantage of the insights this report offers, you'll need to move quickly. But if you're considering where to run a pilot or initial launch, it's sure to help shape your ideas. Let us know how we can help turn those into reality.

For more on connected consumer developments, visit occonnectedconsumer.com



You cannot stop innovation that offers connected convenience



RETAIL WEEK CONNECT: THE EUROPEAN CONNECTED CONSUMER

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WHAT IS A CONNECTED CONSUMER?

Connected consumers use their connected devices to interact with each other and the environment in consuming products and services.

WHAT IS MEANT BY EUROPE AND EUROPEAN?

In this report, Europe and European are, generally speaking, terms confined to the seven countries that are the focus of this report: Belgium, France, Germany, Italy, Spain, the Netherlands and the UK.

WHAT IS A RETAILER?

This is not a narrow definition of a store or online shop, but refers to the many businesses that connected consumers interact with.

WHAT IS MEANT BY A FITNESS TRACKER?

A device or application for tracking fitness-related metrics

such as distance walked or run, calorie consumption and heartbeat.

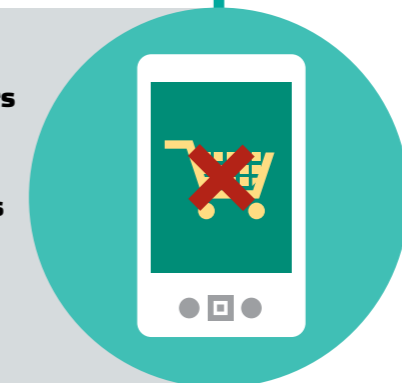
WHAT IS MEANT BY A HEALTH MONITOR?

A device for monitoring physiological data for medical purposes.

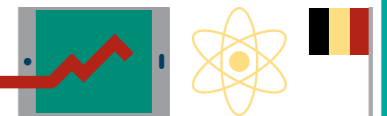
KEY DATA

67% of UK consumers and

60% of Dutch consumers do not use mobile payment apps



58% of Italians would prefer a virtual consultation over a face-to-face with their doctor, compared with **38%** across Europe



28% of Belgians are willing to have virtual health consultations

80%

of Belgian consumers shop mostly in store, compared with online



36%

of Europeans use fitness trackers. Italy has the highest take-up (**48%**)



Of users of fitness trackers and health monitors, the UK has the most people who would be concerned if data from their device was passed outside their country (**71%**)

59% of Germans are not comfortable sharing data to purchase, compared with **47%** of Europeans



83%

of Europeans say cost is important to them when making a purchasing decision. It is most important to UK consumers (**89%**)

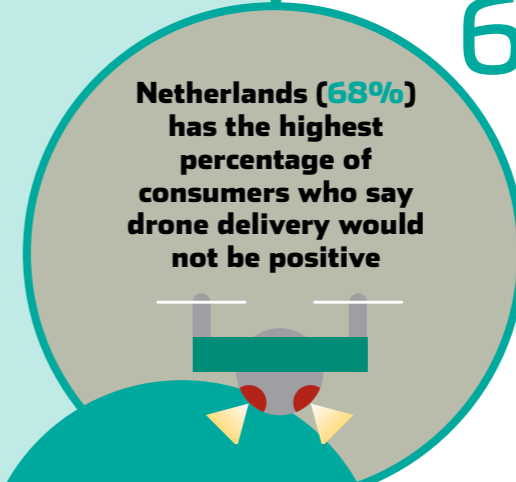
78% of Europeans expect personalised pricing in return for personal data; chosen by the highest number of people in France (**85%**)



45%

of Europeans used contactless payment technology in the past three months, the highest number of people to do so in Spain (**57%**)

The UK has the highest number of contactless card users (**45%**)



Netherlands (**68%**) has the highest percentage of consumers who say drone delivery would not be positive

67% of Italians and **60%** of Spanish see drone delivery as positive

69% in Germany and

65%

in the UK and France say driverless vehicle delivery would not be positive



Italy (**54%**) and Spain (**48%**) have the most consumers who say driverless vehicle delivery would be positive



▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.

CHAPTER ONE KEEPING TRACK OF THE LATEST LIFESTYLE TRENDS



The world is connected like never before and with growing personal networks of online devices at their fingertips consumers in Europe are among those driving digital evolution.

The tone is set for a dynamic European business environment, making it a magnet for progressive companies with exciting international expansion plans.

However, while today's 'always on' culture is spreading, it is misleading to address European consumers and their habits in blanket terms.

Europeans are united by a desire to connect with those businesses that give them what they want delivered in the way they want it.

However, attitudes towards what this looks like may differ depending on where people live, not least because of varying regulations and data privacy regimes.

Through research that questioned 7,000 consumers, comprising 1,000 from each of our chosen European countries, this report, produced in association with international legal practice Osborne Clarke, identifies consumer trends and the associated legal challenges.

Drawing findings from Belgium, France, Germany, Italy, the Netherlands, Spain and the UK, the report will help businesses anticipate key issues in different countries and highlight how innovations may impact future strategies.

WHAT TO WEAR?

Integral to consumer desires to be constantly connected, the adoption of wearable technologies such as smart watches, fitness trackers and health monitors is on the rise.

Indeed, the global m-health solutions market is expected to grow at a yearly rate of 33% over the next four years, set to reach US\$59.2bn in 2020, according to market research firm Markets and Markets.¹

The popularity of wearable technology was also identified in Osborne Clarke and Retail Week's *The Connected Consumer* report in 2015, which revealed fitness trackers as relatively popular among 2,000 UK consumers, with 12% using a fitness tracker and 5% a health tracker.²

This year's research supports last year's

prediction that wearable technology use would become more widespread.

UK take-up of fitness trackers is now at 28%, and health monitor use remained constant at 4%.

However, UK citizens demonstrate higher reticence to adopt both fitness trackers and health monitors compared with those in other countries. The UK has the lowest ownership – 68% use neither a fitness tracker nor health monitor, compared with 59% across Europe.

TASTES FOR TRACKING

In terms of fitness trackers, Italy has the highest take-up (48%). This is significantly higher than device use across Europe, which is 36%.

Spain closely follows Italy for fitness tracker adoption, with 47% of people saying they use one. Moreover, from their fitness tracker or health monitor use, 87% would like to be contacted about an impending life-threatening health issue, compared with 74% across Europe.

In Germany – the country that ranks third for the number of people who use a fitness tracker – 69% of people want to be contacted about an impending life-threatening health issue.

Delve deeper into Italian attitudes, and of those that use a fitness tracker or a health monitor, 48% say they would be concerned if data collected from their device was passed outside the country in which they live, compared with 61% across Europe. This makes the Italians the least concerned about data being shared beyond their borders. Behind them are the Spanish, with 59% saying they would be anxious if data was passed outside the country.

Consistent with the low take-up of fitness trackers and health monitors in the UK, the British are the most concerned (71%).

A VIRTUAL APPOINTMENT

As technology matures, innovations giving people greater control of their own health are gaining traction. The desire to access services more quickly and conveniently is a driving force

towards more people willing to have health appointments virtually, particularly in countries where the rate of health technologies take-up is high.

But with wearables provoking questions around how data is used and shared, is the concept of a virtual health consultation taking digital health a step too far? Especially given that the consultation would be based on a patient's data and artificial intelligence (AI) without any human intervention.

Last year's *Retail Week* and Osborne Clarke research found that 37% of people in the UK were willing to have virtual consultations.³ That fell slightly this year to 33%, which could correlate with concerns about how digitally collected data is being shared. There have been a number of high-profile data breaches in the UK over the past few years, including a cyber attack on TalkTalk in October that led to almost 157,000 customers' details being hacked.

QUICKER ACCESS

Quick access to the service is the reason most people in the UK (60%) say they are willing to have a virtual consultation, while across Europe there is an even greater desire to access the service quickly, with 69% choosing speed as their primary reason for having a virtual health appointment. This is highest in Spain (85%) followed by Italy (73%).

The second most popular reason, 'I would expect a more accurate diagnosis', was chosen by 44% of Europeans, and by half of the people in Italy who say they prefer an online consultation. Italians consistently reveal confidence in smart-device and connected-service reliability.

The prospect of a more accurate diagnosis from a virtual service was chosen by marginally more Europeans (44%) than those who say the option is less embarrassing (39%).

Once again the greatest number of people open to health and fitness online are in Italy and Spain. Willingness to have virtual

A SMART, HEALTHY FOCUS

According to a 2015 article in the *Independent*, a Bloomberg list (using data from the United Nations, the World Bank and the World Health Organization) that ranks countries on how healthy they are, reveals that Italy is the world's second healthiest country, behind Singapore.³

Spain is seventh, the Netherlands eighth and Germany 10th. The UK lags far behind at 21st.

Recognising the opportunity, Samsung Electronics revealed in June that Italy would be one of few markets chosen for the launch of its Gear Fit2 GPS sports band. Other European countries are Spain, Germany and France. Apple has taken note as well, and last year it

made Italy among seven additional countries where the tech giant's smartwatch is now available.



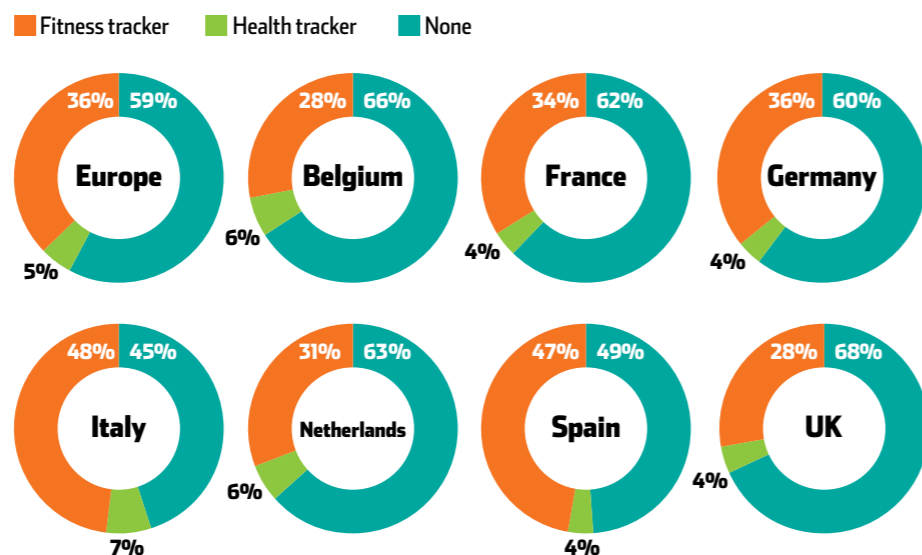
ENHANCING WEARABLE APPEAL

Helping wearable technology slot seamlessly into busy lifestyles is driving product developers.

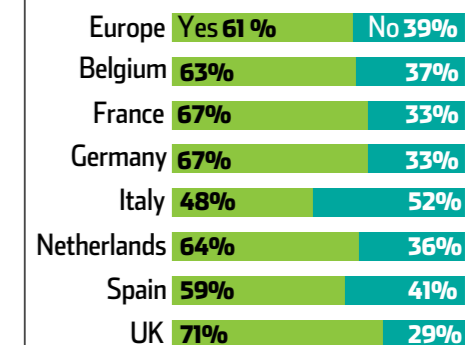
A year after Levi Strauss and Google announced its partnership to develop connected clothing, they unveiled their first saleable product – a smart biker's jacket with a patch of swiipeable conductive fibres in the sleeve that through the programmable interface understands gestures to perform a number of functions – such as block or answer calls, get voice directions, change music and connect to other platforms.

Meanwhile, Athos is developing fitness clothes that measure muscle activity, heart rate and respiration in real time and Italian trainer manufacturer Footmoov has designed a pair featuring built-in sensors that track movement.

Do you use either of the below wearable technologies?



Would you be concerned if data collected from your fitness tracker or health monitor was passed outside the country in which you live?





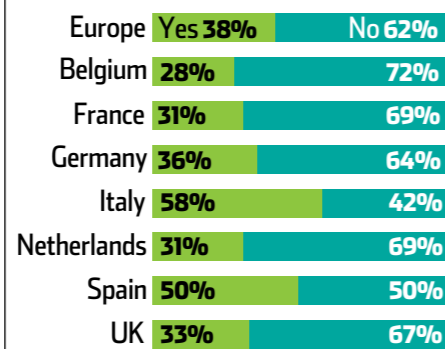
COMMENT
OSBORNE CLARKE'S
EDOARDO TEDESCHI

United by the desire to be constantly connected, Italians are committed to the adoption of new technologies. Although there is certainly an issue with cross-border data sharing, as not all countries have the same level of protection, Italians, nonetheless, look for devices that help improve health and activity levels, including embracing the concept of virtual doctors.

The field of telemedicine is gradually expanding too with the main motivations being to guarantee an equitable access to healthcare, better quality of care by ensuring continuity, and making savings in healthcare expenditure.

We're looking forward to the new General Data Protection Regulation coming into force in May 2018, which is set to harmonise data protection legislation across Europe. It includes a requirement for businesses selling goods and services to European citizens to appoint a Data Protection Officer.

Would you prefer to have a virtual consultation based on your data and a smart database (ie, with no human intervention) over a consultation with your current doctor?



consultations instead of a face-to-face with a doctor peaks in Italy at 58%, compared with the overall European 38%. Half of respondents in Spain say they are willing.

At the other end of the scale, Belgium has the fewest people who would opt for virtual consultations (28%), and sits alongside the UK with the lowest fitness tracker take-up (28%). Analysis from Euromonitor International indicates that both Belgian and Dutch

consumers generally need to be shown the added value of a piece of technology before using it, and tend to favour established habits.

Interestingly, virtual health appointments are more popular among European men (42%) than women (34%), and the highest number of people willing to try the appointments are in the middle age groups, represented by 50% of 25 to 34 year olds, 44% of 35 to 44 year olds. Perhaps unsurprisingly,

the willingness to have a virtual health appointment is least popular among the 55 and over group (29%).

What is clear from the results of the consumer questions surrounding wearable technology and digital health is that rising faith in the accuracy of digital services is in keeping with growing consumer familiarity with advancing technologies that aim to improve health and lifestyle choices.



COMMENT
OSBORNE CLARKE'S
MARK TAYLOR

Data sharing across borders can be complex.

For example, European digital healthcare companies operating internationally face a continuing challenge with evolving EU privacy regulation.

At present, the European Data Protection Directive,

which sets out the current framework for the protection of personal data for all countries within the European Economic Area, is enforced on a country-by-country basis, leading to differing approaches within Europe. However, from May 2018 this will be replaced by the new General Data Protection Regulation. This regulation will effect changes to national privacy laws and a higher degree of harmonisation across Europe – which should be a helpful thing to pan-European operators.

Meanwhile, the regulation of EU-US data transfers remains uncertain. The validity of the newly implemented EU-US Privacy Shield, which replaced the US Safe Harbor regime earlier this year, may be challenged in the European courts.

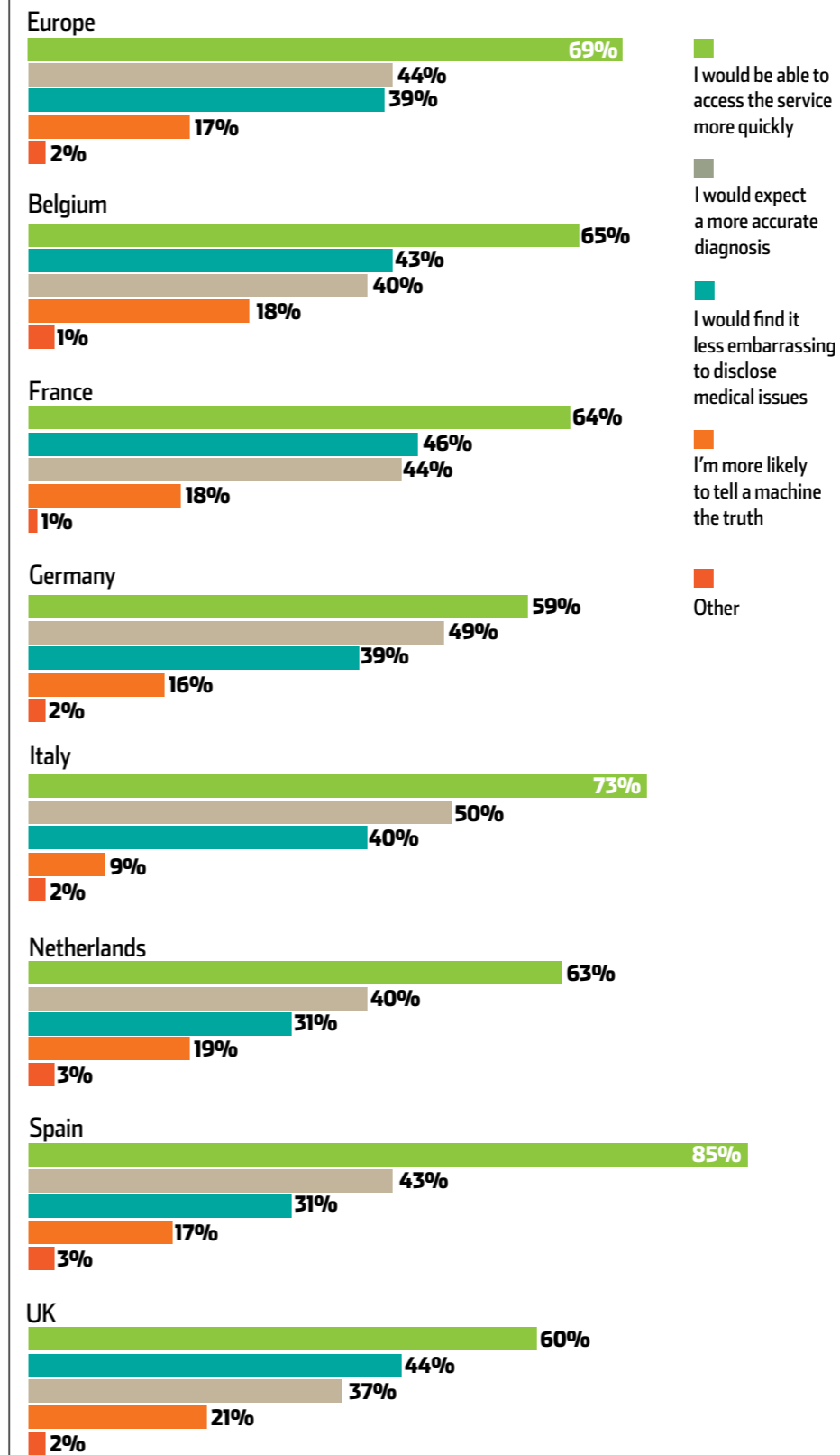
Separately, a request for the European courts to

consider the validity of standard contractual clauses – the other main mechanism used to legitimise transfers of data to the US – is already under way.

In terms of virtual health consultations, rules vary between countries too. While the principle of freedom of movement of services does not prevent cross-border virtual consultations within Europe, local laws vary between EU countries where services are delivered virtually in-country.

For example, the German professional code for physicians levies legal restrictions on virtual consultations, but in the UK no such restrictions apply. Germany is generally considered to be the country within the EU with the strictest rules around the collection, processing and sharing of personal data.

Why would you prefer to have a virtual consultation based on your data and a smart database?



COMMENT
OSBORNE CLARKE'S
HANNAH WILLSON

One of the key challenges to growth for digital health products and services is operating on a cross-jurisdictional basis. While the consumer appetite for using virtual consultations and health monitors and trackers is growing, the international legal framework is lagging behind.

In the EU such cross-jurisdictional services benefit from the principle of freedom of movement of services and the provision of digital health is no exception.

The Cross-Border Healthcare Directive (Directive 2011/24/EU) also establishes that a licensed health professional may practise medicine in other member states without the need to obtain a licence in that member state.

This provides the start of some certainty for pan-European digital health services such as virtual consultations, however, no such digital health legal framework operates on a global basis.

The question is who will step up to help drive the establishment of such international standards to help this sector grow.

ECOMMERCE AND BELGIUM

Belgians describe their shopping habits as mostly in store (80%), including those who research online then buy in store, compared with 20% mostly online, including those who research in store and then buy online. However, the country's relatively small but buoyant ecommerce market shows signs of growth.

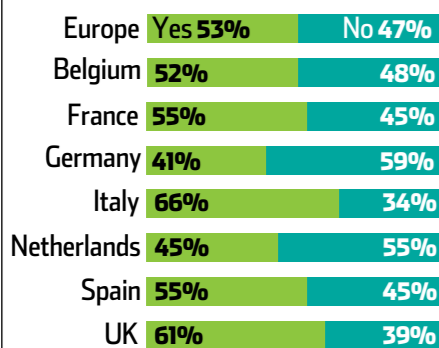
The share of ecommerce in Belgium's GDP has more than doubled since 2010, now making up 2% of total GDP, according to Ecommerce Europe and Asendia.⁴ The number of people shopping online is now 74% of the total population.

CHAPTER TWO

ADVANCES IN SHOPPING AND PAYMENT OPTIONS



Are you comfortable sharing your personal data (for example, your name, email address, mobile telephone number, date of birth) when making a purchase?



Connected device proliferation means individual shopping journeys comprise more touch points than ever before. But how do Europeans feel about the multitude of shopping and payment options available to them?

When asked what best describes people's shopping behaviour, across Europe mostly online (31%) lags behind shopping mostly in store (69%).

Belgium's result stands out, coming top for those who say they shop mostly in store (80%), compared to just 20% mostly online.

Analysis from Euromonitor International indicates that Belgian consumers are relatively conservative, and that heavy retail regulation, as well as the political and linguistic divide, make it harder for advanced technologies to enter the country and can result in few online shops specifically tailored to Belgian consumers.

SECURITY MATTERS

When asked what's most important to consumers when making an online purchase, security stands out as a chief concern

across Europe, with 54% voting it their number one priority.

Ranking higher than availability of different payment methods, convenience, speed and reliability, this reveals just how vital an issue it is for consumers to feel safe when transacting online.

French consumers are most keenly aware of the importance of security, with 71% saying it is most important, while behind them is the UK, with 63% voting it most important, followed by Germany (59%).

DETERRED BY DATA SHARING?

The cost, quality and convenience that Europeans value in this connected world all entail data exchange. But how comfortable are consumers with sharing personal data – such as their name, email address, mobile telephone number and date of birth – when making a purchase?

Just over half of Europeans (53%) are comfortable sharing personal data when purchasing. Italians are most confident, with 66% saying they will share, followed by 61% in the UK.

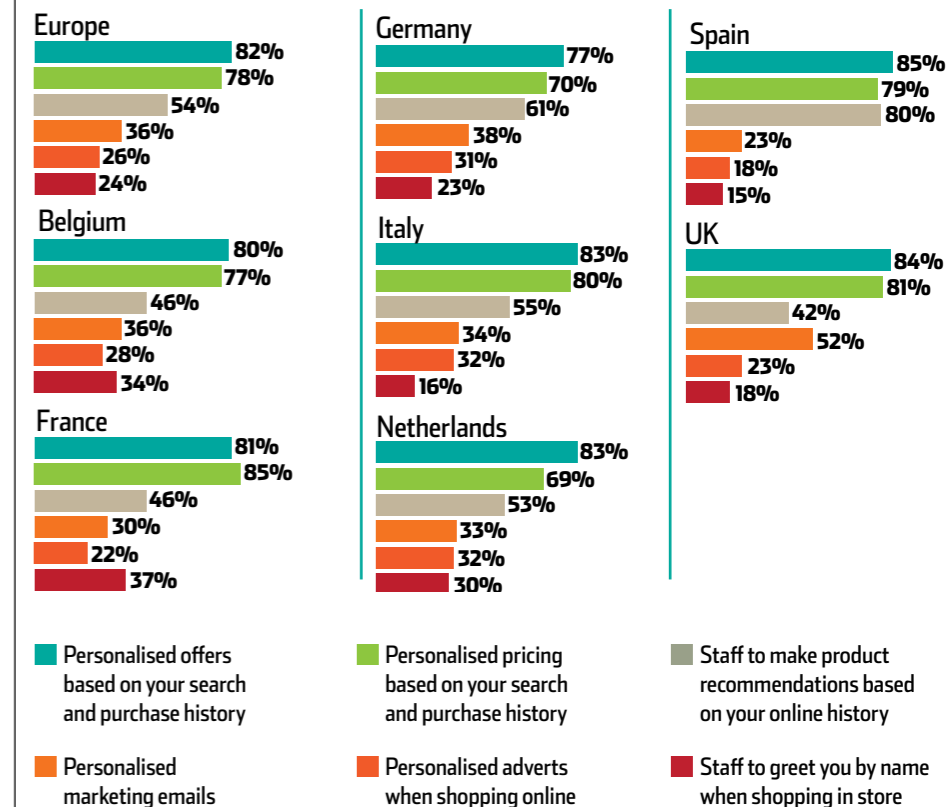


COMMENT OSBORNE CLARKE'S FLEMMING MOOS

In the light of several high-profile privacy and security breaches within the last few years, customers have increasingly become more tentative to entrust online vendors or other internet service providers with safely and adequately handling their personal data.

However, experience tells us that market participants can earn customers' trust with transparency and by establishing appropriate safeguards for customers' personal data. For instance, by committing not to export personal data outside the EU or specifically detailing how customers' personal data is being processed have proved to be business enablers, rather than business killers. Many of our clients have had success with self-service portals allowing consumers to edit their privacy preferences.

Which of the following services would you expect/value in exchange for sharing your personal data?



The British are significantly happier sharing information when buying something compared to sharing health data that could be passed to other countries, reflecting the maturity of UK ecommerce.

German respondents reveal most reluctance, with 59% stating they are not comfortable sharing data, compared to 47% across Europe.

Second most reticent to share are people in the Netherlands, where 55% are uncomfortable.

Consumers today are more at ease – and in actual search of – personalised buying experiences.

However, businesses that also address data security anxieties with transparent policies will stand out from competitors.

DATA EXCHANGE EXPECTATIONS

Trust between retailers and consumers is imperative and while some shoppers are willing to share their data when making a purchase, others are only prepared to do so in exchange for offers, discounts and more personalised experiences.

Those saying they are comfortable sharing personal data when making a purchase were asked what services they expect and value in exchange. Personalised offers based on search and purchase history is chosen by the highest number of Europeans (82%). In our 2015 research this was selected by 52% of people in the UK, 43% in Germany and 38% in the Netherlands.

Although the question format was slightly different this year, the results reveal that these personalised offers are growing in popularity, with the highest number of people in all countries except France choosing this as their most preferred option.

With the exception of Belgium and France, in the majority of countries fewest people say they wish to be greeted by staff by name when shopping in store in exchange for their data.

In Belgium and France, for those who are willing to share information, it is personalised adverts when shopping online that holds the least attraction (28% and 22% respectively). Personalised adverts consistently score weakly across Europe, indicating that there is still

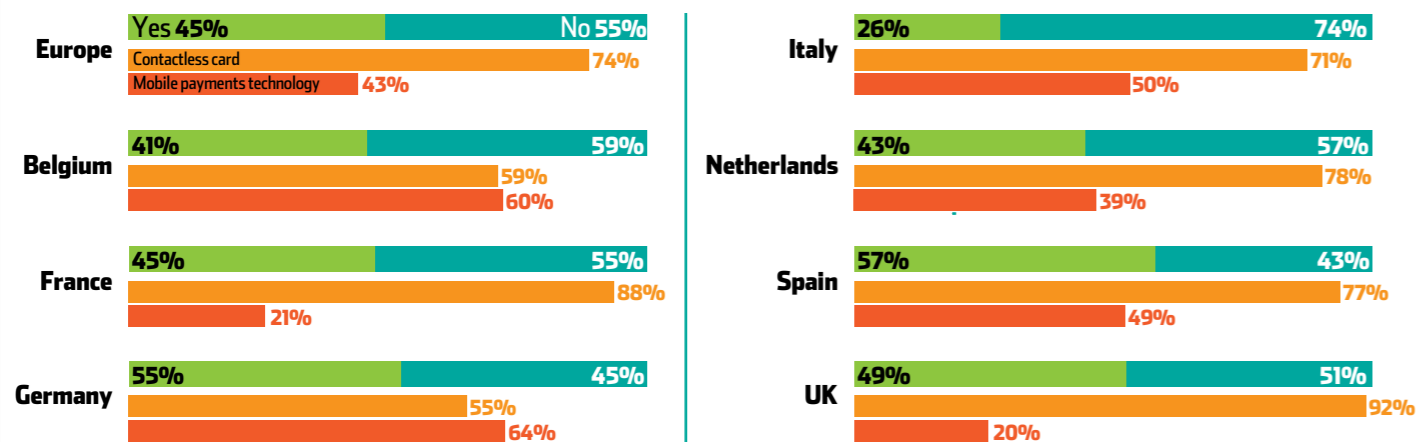
SWAPPING DATA FOR SAVINGS

Discounts and personalised offers are key influencers in boosting people's willingness to share personal details. Across Europe, 78% say they expect or value personalised pricing in exchange for access to their personal data. French shoppers prove even more keen, with 85% happy to make the exchange.

Euromonitor International's *Retailing in France* report 2016 explains that French retail has suffered from price wars in recent years, driven predominantly by supermarkets. Although consumer confidence has picked up since the recession, price slashing in France during the recession may explain why consumers are now drawn to personalised pricing and discounts. App growth and increasingly efficient price comparison sites could see French consumers continue to shop around.

Have you used contactless payment technology in the past three months?

If yes, which do you use?



scepticism around targeted advertising during consumers' online browsing.

KEEPING CONTACTLESS

Driven by support from technology developers, card issuers, retailers and other service providers, contactless payment methods are advancing.

Data from card issuer Visa Europe in 2015 revealed that more than one billion Visa Europe cardholders made contactless payments over the preceding 12 months.²

When our respondents were asked whether they used contactless payment technology in the past three months, 45% overall say yes, with the highest use in Spain (57%).

Last year's report also highlighted German willingness to try alternative payment methods. When asked what in-store technology people find valuable, tills that accept contactless payment/

cards were chosen by 45%.

This was interesting in light of Germany's notoriety for its payment culture where cash – considered safer – is more popular for purchases than cards. Indeed, this year's research reveals that contactless cards are less popular among Germans than other mobile payments technology. Of those people who used contactless payment technology in the past three months, Germany has the highest number of people who used mobile payments technology (64%), compared to 55% who used contactless cards.

According to Visa Europe's 2015 Growing Appetite for Mobile Contactless Payments in Germany, the number of contactless terminals will grow significantly over the next three years.⁴

The payments landscape is shifting following the introduction of Samsung Pay, Google's Android Pay and Apple Pay last year but fraud

UK PAYMENT PREFERENCES

Last year's report showed contactless payment to be growing in popularity in the UK. Of UK respondents, 33% had used contactless payment technology in the past three months. Of those, 86% had done so via contactless cards. More than a quarter (27%) said they used mobile payments technology.

Last year's report correctly predicted that these figures would rise. This year's research found that almost half (49%) of respondents in the UK used contactless payment technology in the past three months. Of the people who have used the technology, the UK had the highest number of people (92%) who did so using a contactless card, while 20% used mobile payments technology.

This finding is in line with the increase in the number of cards in circulation with contactless capability, as well as more tills that can process contactless payments.

According to the UK Cards Association's report, £7.75bn was spent in 2015 using contactless cards, compared with £2.32bn in 2014.³

How often do you pay for purchases using a mobile payment app?

	Europe	Belgium	France	Germany	Italy	Netherlands	Spain	UK
Daily	3%	1%	3%	3%	4%	3%	2%	5%
A couple of times a week	8%	5%	5%	9%	10%	9%	11%	8%
Once a week	8%	7%	6%	9%	8%	8%	11%	5%
A few times a month	16%	15%	14%	19%	18%	12%	22%	9%
A few times a year	12%	15%	16%	13%	16%	8%	13%	6%
Never	53%	57%	56%	47%	44%	60%	41%	67%



and security concerns continue to cause unease. When asked what would worry people if mobile payments completely replace cash in the future, security (75%) and fraud (70%) are dominant anxieties across Europe.

Despite customer apprehension around security, spreading smartphone use, near field communication contactless payment system availability and cloud technologies will continue to fuel growth in these payment methods.

RISE OF THE APPS

Europe is undoubtedly a battlefield for new technologies and mobile payment apps are increasingly seen as key weapons in retailers' armoury.

Vying to remain competitive, many plan to launch their own apps, or are already doing so, allowing them to avoid costs associated with new contactless payment technologies and helping them keep customer data to themselves.

Retailers and banks may be investing in mobile payment apps but are customers using them?

Despite significant contactless payment use, our research reveals that the UK falls behind

other countries in mobile payment app use.

Last year's research found that 23% of UK consumers used mobile purchasing apps a few times a month or more, while 70% said they never use them.

This year, the number that never use them drops marginally but, at 67%, the UK has the most people who have never used a mobile payment app, compared with just over half (53%) of Europeans.

The Netherlands is close behind the UK for infrequent use, with 60% of people saying they never pay for purchases using an app. However, Euromonitor International says retailers in the Netherlands tend to be slower to launch apps.

While Dutch respondents have not completely embraced mobile payment apps, the concept could gather pace. In December, bank ING introduced a contactless mobile payments app for Dutch customers.⁵

According to Atos 80% of the Worldline payment terminals in the Netherlands are capable of accepting contactless payments, indicating that mobile payment methods could become more widespread in the future.⁶

At 59%, Spain has the most people who use mobile payment apps and popularity is likely to receive a boost as more retailers introduce the technology. This September, fashion giant Inditex launched a mobile payment app across its Spanish stores.⁷

European consumers show mixed enthusiasm for different payment methods but time will tell whether the future is cashless.

CASE STUDY – THE NETHERLANDS OSBORNE CLARKE'S JOHANNES DE JONG

The Netherlands is somewhat slow to adopt mobile payment apps. Firstly, retailers and banks face a relatively small market of, at best, 17 million people. Secondly, credit cards take second place with a market share of 12% of all e-payments in the Netherlands.

In contrast, the Dutch e-payment method iDEAL has a market share of 56% (2015) and that number is still growing. This means retailers and banks wishing to implement payment facilities in their mobile apps should not rely solely on credit card implementation.

Larger Dutch retailers such as bol.com have iDEAL as a payment method in their mobile app to secure high conversion.

By contrast, foreign retailers mostly port their international app to the Netherlands. Those apps often focus on credit card payments, although some (such as H&M) also allow for payment methods such as giro collection, cash on delivery or even a consumer credit facility.

In most cases, iDEAL integration is cheap and simple and its impact on conversion in the Netherlands should not be underestimated.

RETAILER COMPETITION FOR APPLE PAY AND ANDROID PAY?

In March this year *Retail Week* reported on supermarket Tesco's plans for its own mobile payment service.⁸ The new app, called PayQwiq, gives shoppers the ability to store their debit card and Tesco Clubcard details and pay for baskets worth up to £400. With Apple Pay maintaining a £30 spending limit, the Tesco app could prove a popular alternative.

After shopping, Tesco PayQwiq users present their mobile phone at the checkout and the cashier scans a code for instant payment, which also adds loyalty points to the shopper's Clubcard account via the digital wallet.

Developed by Tesco Bank, the app is being tried at numerous stores after initial tests proved successful.

Other retailers that have developed their own mobile payment options include Sainsbury's and Walmart in the US.

Meanwhile, embracing the popularity of contactless payments in the UK, supermarket Waitrose opened its first cashless store in August.

² Visa, '1 billion Visa contactless purchases made in last year', July 6, 2015
³ The UK Cards Association, UK Card Payments 2016
⁴ Visa Europe, 'Growing appetite for mobile contactless payments in Germany', June 15, 2015

⁵ ING, 'Contactless mobile payments now available for Dutch customers', December 2, 2015
⁶ Atos, 'The Netherlands is ready for contactless payments', April 16, 2014
⁷ Retail Week, 'Inditex launches payment app across all Spanish stores', July 21, 2016
⁸ Retail Week 'Tesco lays down gauntlet to Apple with PayQwiq mobile payment app', March 30, 2016

CHAPTER THREE FUTURE INNOVATIONS



So what about future innovations? How might we see these impacting consumers and shopping habits? Concepts such as 3D body scanning and virtual fitting rooms are becoming more accepted features of physical stores, while there is clear appetite for drones and driverless vehicles to become logistic realities.

When consumers are asked whether they would be willing to use virtual fitting rooms that show garments superimposed on a video feed of them, with different size and colour options then suggested, 57% of Europeans say they would. Willingness is equal among men (58%) and women (57%).

With a keen 82%, the Spanish are most in favour of the innovation, and at 70%, Italy is second most open to the concept. The same two countries rank first and second for using fitness trackers, affirming a positive attitude towards adopting practical and image-related technologies.

The Netherlands has the lowest number of people in favour of trying virtual fitting rooms, with 58% saying they would not want to. The UK also scores low, with just over half (52%) rejecting them.

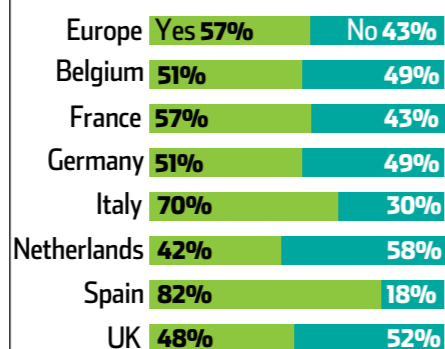
Hesitation from the Dutch to use virtual fitting rooms is consistent with previous indications of conservatism and reluctance to embrace technological devices, such as fitness trackers, despite the country being one of the fastest growing for m-commerce.

Dutch respondents imply keen awareness of how data from such devices might be handled, with 63% conscious of how data collected from fitness trackers or health monitors will be used and shared, which is just above the European 61%.

Across the countries, the prospect of fewer sizes and colours available on the shop floor for people to try on, but more stock held in the stockroom for purchase, makes little difference to respondents' attitudes about the use of virtual fitting rooms.

Looking ahead, sizing and fitting solutions to enhance online experiences, such as 3D virtual fitting through websites, and mobile apps that allow an image of a person to 'try on' clothing, will be an interesting space to watch.

Would you be willing to use a virtual fitting room that shows a garment superimposed on a video feed of you and that suggests different sizes and colours?



PHYSICAL MEETS DIGITAL IN SPAIN

Spanish consumer confidence is recovering post-recession. While ecommerce needs some investment, particularly around delivery and logistics infrastructure, according to property consultancy Knight Frank the high street remains vibrant, with big fashion groups, including H&M, Inditex and Mango, dominating.¹

With that in mind, and given the 82% willing to try virtual fitting rooms, combining the digital and physical could pay off for Spanish retailers. Indeed, Knight Frank's report explains that many retailers are providing in-store access points to their online platforms.

Customers can order out-of-stock product themselves and become familiar with the website, while still having sales assistant support near at hand.

Adoption of this technology would have clear benefit for retailers by helping improve stock management and potentially minimising returns.

PEOPLE VERSUS TECHNOLOGY

Respondents are divided when asked whether they would consider using interactive in-store technology to discuss shopping requirements, make selections and pay for goods and services rather than speaking to a shop assistant. Just under half of Europeans (47%) are willing.

Spain and Italy once again stand out as pro-technology, with 64% and 63% respectively saying they will consider the systems as alternatives to human interaction.

Despite enjoying shopping in store, Dutch consumers are relatively averse to new in-store technology, ranking fourth for willingness to use the interactive options (40%). The French and Belgians are more tentative, with 61% of respondents from each country saying they are not open to trying artificially intelligent technology.

Most loath to try the in-store technology are the Germans (63% will not).

There is evidence of interest in smart devices and connected ways of living growing across Europe. Results from the Netherlands, Belgium, Germany, and to a lesser extent France and the UK indicate a loyalty to in-store shopping cultures, although many of today's shops are far from traditional. Retailers are adopting various technologies to enhance the shopping experience.

DRONE DELIVERY

Delivery is today's necessary strategic obsession. Across Europe, businesses are being strategic about not only the carriers they partner with but the agility and flexibility of their infrastructures and supply chains.

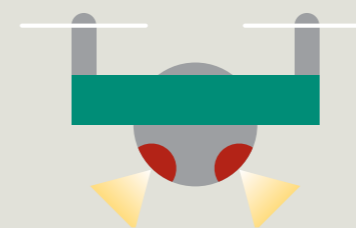
In the battle to satisfy consumer demand for faster, more precise, convenient and cost-friendly fulfilment, the once sci-fi concept of airborne drones to deliver parcels could soon be reality if we can overcome certain legal obstacles.

DRONE CONCERNS

A closer look at the reasons given by people who say drone use would not be a positive development finds one UK respondent citing the clogging of airspace as an issue, while another asks: "What's wrong with humans?"

A respondent in Italy says they foresee problems with drones in city centres while a Spanish respondent has concerns about the drone's battery life running out before delivery.

On a more positive note, a respondent in Belgium predicts fewer mistakes from drones; a Dutch person speaking in favour of drones says it would be fun.

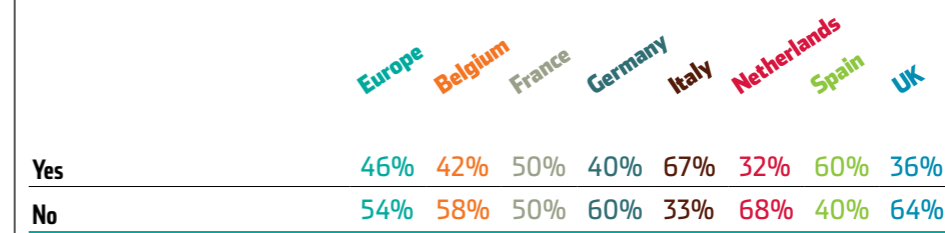


DRONE DEMAND IN ITALY AND SPAIN

More than 100,000 drones were sold in Italy in 2015, according to global market research and analysis specialists GfK, suggesting that they are beginning to move from a hobbyist activity to more general use.²

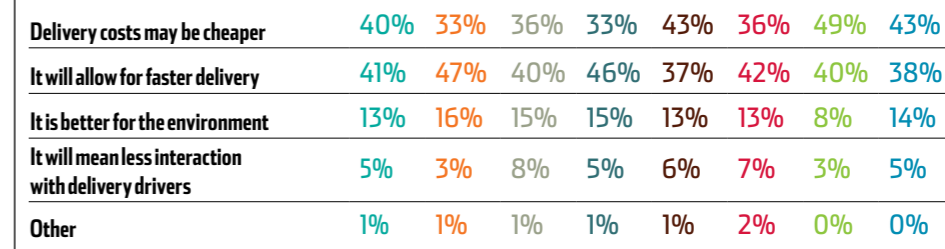
Age has an impact, with drone popularity highest in Italy among 25 to 34 year olds (78%), followed by the youngest 18-24 group (72%). The 55-and-over age group show least enthusiasm for drones (58%).

If drones were to be used in the delivery of your parcels, would you consider this a positive development?



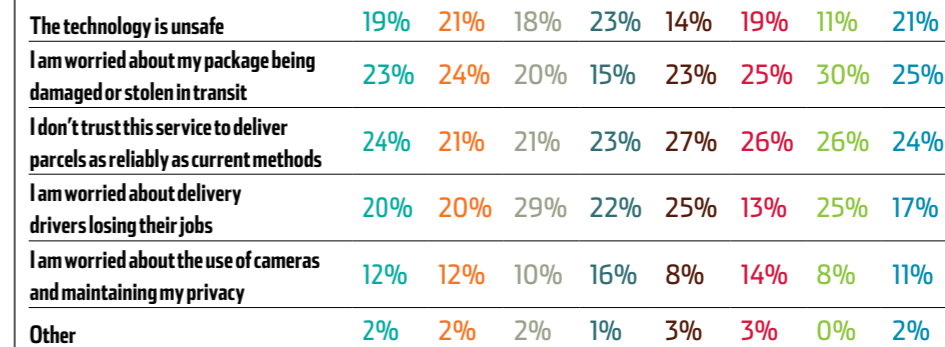
of those who said yes...

Why do you believe this would be a positive development?



of those who said no...

Why do you believe this wouldn't be a positive development?



¹ Knight Frank, The Spotlight on Retail Spain 2015

² GfK drone survey using 2015 data by GfK Tech Trends, press release published, Droni: le vendite prendono il volo anche in Italia, March 2016



COMMENT
OSBORNE CLARKE'S
RAFAEL GARCIA DEL POYO

The Spanish results confirm the reality in Spain where there is general positivity towards new technology such as drone delivery and a willingness to further develop ecommerce. From a legal standpoint, the 'last mile drone delivery' has been stirring the melting pot for a while now in Spain, particularly as it refers to downstream expansion by huge players in the ecommerce arena, which could raise interesting competition law questions. Likewise, technologies such as virtual fitting rooms that show garments superimposed on a video feed of users can raise questions regarding image and IP rights, let alone the personal data that can be contained in the video feeds and the sensitive nature of that information.

In August, Google received the green light to test delivery drones in the US. The news came a week after online rival Amazon, with the support of the UK's Civil Aviation Authority, was given permission to carry out drone tests around Cambridge in the UK. The unmanned, autonomously flying aircraft divide opinion. On the positive side – as well as the environmental benefits of battery operation – Amazon says drones will allow it to get packages to customers in 30 minutes or less and that the delivery method will be safer and more efficient. However, critics maintain concerns regarding the impact on airspace and collision-related risks. When Europeans are asked about drones, opinion is divided. Less than half (46%) say that if drones were to be used in parcel delivery they would consider this a positive development. Italy demonstrates the most favourable reaction, with 67% deeming the concept to be positive, followed by 60% of Spanish respondents. At the other end of the scale, and once again revealing some hesitation regarding innovation, is the Netherlands and the UK, where 68% and 64% respectively say they would not consider drone delivery as positive. Reluctance in the UK and Netherlands could be owing to the fact that infrastructure in these countries is already sufficiently robust to provide satisfactory delivery services compared with other countries. However, local delivery has changed, along

If driverless vehicles were to be used in the delivery of your goods, would you consider this a positive development?

	Europe	Belgium	France	Germany	Italy	Netherlands	Spain	UK
Yes	40%	37%	35%	31%	54%	40%	48%	35%
No	60%	63%	65%	69%	46%	60%	52%	65%

of those who said yes...

Why do you believe this would be a positive development?

Delivery costs may be cheaper	52%	49%	51%	39%	55%	49%	60%	55%
It will allow for faster delivery	24%	23%	23%	30%	24%	25%	25%	20%
It is better for the environment	15%	16%	15%	19%	10%	21%	11%	17%
It will mean less interaction with delivery drivers	8%	11%	11%	11%	10%	4%	4%	7%
Other	1%	1%	0%	1%	1%	1%	0%	1%

of those who said no...

Why do you believe this wouldn't be a positive development?

The technology is unsafe	29%	34%	23%	35%	21%	37%	16%	33%
I am worried about my package being damaged or stolen in transit	14%	12%	11%	11%	20%	14%	18%	15%
I don't trust this service to deliver parcels as reliably as current methods	19%	17%	19%	18%	23%	18%	16%	21%
I am worried about delivery drivers losing their jobs	32%	32%	42%	24%	32%	23%	47%	25%
I am worried about the use of cameras and maintaining my privacy	5%	5%	3%	12%	3%	6%	2%	5%
Other	1%	0%	2%	0%	1%	2%	1%	1%

with increasingly flexible and agile supply chains, no longer relying on warehouses within a certain radius from shoppers. Key carriers now share the delivery space with dynamic start-ups, in which drivers close to the consumer can pick up items from retail stores, acting as mini-warehouses, allowing people distant from transport routes to receive goods quickly.

AIRBORNE POSITIVITY

Europe splits when respondents in favour of drone delivery are asked why. Consumers in Belgium (47%), Germany (46%), the Netherlands (42%) and France (40%) choose faster delivery over cheaper costs as key, while lower costs are

more important for those in Spain (49%), the UK (43%) and Italy (43%). Cost (overall 40%) and time saving (overall 41%) stand out in every country as the main benefits for those who welcome drone parcel delivery.

DRIVERLESS DREAM?

Feeling the strain of consumers' diverse fulfilment demands, businesses' logistics and operations teams are understandably embracing the possibilities of supply-chain innovations that push the envelope, such as driverless lorries for delivery.

The percentage of Europeans who say they would consider driverless vehicles to deliver

COMMENT OSBORNE CLARKE'S TOM SHARPE

While the media limelight may largely be on driverless cars, driverless lorries are arguably leading the technology race.

Silicon Valley has clearly realised the potential of driverless lorries with recent deals including Goldman Sachs investing US\$10m investment in CargoX, which aims to be an "Airbnb for freight trucks" (connecting businesses that need to ship freight with truckers who have excess capacity) and Uber announcing the acquisition of Otto, which makes autonomous driving equipment for lorries.

their goods as positive is 40%, just shy of the 46% who welcome drone delivery. Once again the number of people in favour of driverless vehicles is highest in Italy (54%) and Spain (48%) where delivery is more frequently available regionally rather than nationally, according to Mintel, making delivery more complicated for people outside built-up areas. For those living outside urban areas, delivery may not always be possible, which may result in Italian and Spanish consumers seeing driverless vehicles as an opportunity to improve delivery coverage.

The British and French are the least convinced about the cutting-edge technology, with 65% from each country respectively saying they would not consider it a positive development.

Lower costs are again chosen by most people as the greatest potential benefit, selected by more than half (52%) of Europeans who say that driverless vehicle delivery would be positive, and by the highest number of people in Spain (60%).

Similarly to drones, the possibility of faster delivery features strongly, but for driverless vehicle delivery it is the second most chosen top factor across Europe and at 24% falls far behind the 41% figure for drone delivery.

Interestingly, concerns about delivery drivers losing their jobs (32%) is selected by most Europeans as the number one concern. This anxiety outweighs worries about safety in Spain and France. This could be owing to the volatile job markets in those countries following the economic crisis and ongoing nervousness about jobs and economic stability.

For people against driverless vehicle delivery, fears about the technology's safety are selected as the number two concern by 29% Europeans. Safety concerns are highest in the Netherlands (37%) and Germany (35%), where trials are making the concept more real.

LOOKING AHEAD

Europeans are connected and expect convenient lives at the swipe of a screen or touch of a button – from payments to delivery, and from in-store information to interactive experiences.

Although levels of scepticism towards emerging technological developments vary

Volvo and Scania are prime examples of OEMs focusing on driverless lorry technology. Both have been developing driverless lorries for a number of years and in April 2016 a set of Scania trucks completed a largely autonomous journey of more than 2,000 km across Europe.

When trucks 'platoon' (follow each other autonomously) they are connected by wi-fi and are able to leave much smaller gaps between vehicles than when humans are at the wheel. Platooning has numerous advantages, including reduced congestion and cutting fuel use by up to 15%, according to

depending on where people live, there is little doubt that Europe will be at the centre of the exciting changes to come.

Contactless payments and e-wallets are constantly being updated as firms look for quicker and more convenient point-of-sale methods. Mastercard announced a roll-out of its selfie pay app in 12 European countries, in October, ahead of a planned worldwide release next year.³ The technology lets shoppers use the fingerprint scanner on their smartphone or a selfie taken by their phone to identify themselves. The picture is then scanned using facial recognition technology to confirm the identity of the user. Thereby negating the need for a password or pin, which may be forgotten.

TECH OF THE FUTURE

Retailers are looking to create the shops of the future. Interactive mirrors that let people video and share clips of themselves in different outfits, digital fitting room requests, aisle technology that orders out-of-stock items via an in-store tablet, and shop bots to tell customers more about products are just some of the technologies being used in store.

Amazon, in a bid to accelerate conversational artificial intelligence (AI), has put up a US\$1m prize for students to develop a 'socialbot' that can hold a 20-minute conversation with a person. The aim is ultimately for this to be used on the retail giant's voice-enabled devices.

Some future gazers believe bots could mean the end of smartphone apps entirely. Thanks to AI software, hosted in the cloud, the bots can talk to humans via text, understand the meaning and then act on it. Commentators believe bots are the natural successors to apps for companies that want meaningful interaction with customers. They have many advantages over apps, the main one being the speed they can be developed, deployed and updated.⁴

One report estimates that the massive amount of interest in bots has unleashed a £3bn flood of venture capital funding into big and small bot developers.⁵

Development in drone and driverless vehicle delivery is just as rapid as businesses invest

a study by research firm TNO.

This year's Queen's Speech announced the Modern Transport Bill to "cut red tape" and create "conditions that drive innovation" in order to make the UK a global centre for the development, testing and implementation of autonomous technology and vehicles.

It was reported earlier in the year that the government would allow trials of driverless lorries on UK motorways in late 2016.

It will be interesting to see whether lorries or cars win the driverless race.



COMMENT
OSBORNE CLARKE'S
JON FELL

It is clear that there is a growing appetite for connected living and the perceived benefits it brings. Not surprisingly then, the EU Commission has identified in its telecoms reform package the need to provide widespread access to and take up of 'very high capacity fixed and mobile connectivity'.

Among the proposed directives and regulations is the EU 5G Action Plan. This sets out the Commission's aim for every Member State to have at least one major city 5G enabled by the end of 2020 and that all urban areas and major terrestrial transport paths have uninterrupted 5G coverage by 2025. An ambitious plan driven by the greater connectivity needs associated with the fast paced developments in autonomous vehicle and internet of things technology.

heavily in warehouse technology to keep pace with fulfilment demand. 3D printers that manufacture customers' online purchases in their own homes could also be a delivery solution of the future, helping quash location issues.

Meanwhile, some trend forecasters predict wearable devices and a growing acceptance of the Internet of Things could be responsible for completely revolutionising consumers' day to day lives.

Pressure to constantly adapt to consumer demand and react to emerging trends is coming from all directions. What's certain is that new realities such as smart connected devices, AI-powered bots, driverless vehicles and last-mile disruptors are altering the game for businesses across Europe.

³ Mastercard introduces facial recognition mobile payments in Europe, www.biometricupdate.com, October 2016
⁴ Are killer bots about to do away with smartphone apps?, www.bbc.co.uk/news, October 2016
⁵ Introducing the Bots Landscape: 170+ companies, \$4 billion in funding, thousands of bots, Venturebeat.com, August 2016

TOPLINE RESULTS BY COUNTRY

BELGIUM

37% say driverless vehicle delivery would be a positive development



20% shop mostly online



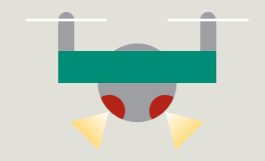
41% used contactless payment technology in the past three months. Of those, **59%** used contactless cards and **60%** mobile payment technology



28% would prefer to have a virtual consultation over a face-to-face with their doctor



42% say drone delivery would be a positive development



Of users of fitness trackers or health monitors, **63%** would be concerned if data from their device was passed outside their country

69% use neither a fitness tracker nor health monitor

34% use a fitness tracker or health monitor



51% would be willing to use a virtual fitting room



52% are comfortable sharing personal data when buying

39% would use interactive in-store technology to discuss shopping requirements



43% use mobile payment apps



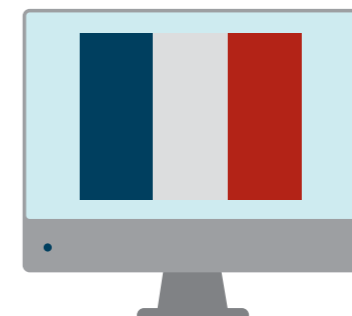
▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.

FRANCE

35% say driverless vehicle delivery would be a positive development



34% shop mostly online



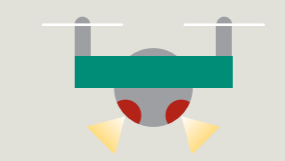
45% used contactless payment technology in the past three months. Of those, **88%** used contactless cards and **21%** mobile payment technology



31% would prefer to have a virtual consultation over a face-to-face with their doctor



50% say drone delivery would be a positive development



Of users of fitness trackers or health monitors, **67%** would be concerned if data from their device was passed outside their country

62% use neither a fitness tracker nor health monitor

38% use a fitness tracker or health monitor



57% would be willing to use a virtual fitting room



55% are comfortable sharing personal data when buying

39% would use interactive in-store technology to discuss shopping requirements



44% use mobile payment apps



▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.



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A DESIRE FOR HUMAN CONTACT

"Belgians attach significant importance to maintaining human contact," explains Yves Stans, counsel. "This is evidenced by 80% describing their shopping behaviour as mostly in store compared with mostly online (20%) and 72% of Belgians preferring a face-to-face appointment with their doctor over a virtual consultation based on their data and artificial intelligence.

"Belgium is the nation with the highest percentage of respondents in each of these categories across Europe. Furthermore, 61% prefer to speak to a human shop assistant rather than using interactive in-store technology to discuss shopping requirements, compared with an average of 53% of Europeans.

"Taking the importance of human contact and a preference for maintaining existing habits, it is unsurprising that Belgians are slightly more hesitant in adopting some new technologies, for example 41% have used contactless payment technology in the past three months, compared with an average of 45% of

Europeans. And when it comes to more futuristic developments, such as driverless vehicle parcel delivery, 63% of Belgians (compared with 60% of Europeans) have yet to be convinced of the benefits, and over a third (34%) of them say that their primary concern is that they believe the technology to be unsafe. Again, unsurprisingly, the second highest concern in Belgium was delivery drivers losing their jobs (32%).

"Sharing personal data is also of significant importance to Belgians, with 63% (61% of Europeans) saying they would be concerned if their personal data were to be passed outside Belgium and 48% (47% of Europeans) feeling uncomfortable about sharing personal data when making a purchase. Security is of most importance to 55% of Belgians (54% of Europeans) when making an online payment.

"Belgians may be hesitant towards some new technologies, but Belgium is experiencing significant growth in both m-commerce and e-commerce and the market shouldn't be ignored," concludes Stans.



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APPETITE FOR INNOVATION AND DATA SHARING

"Remarkably, French connected consumers combine both an appetite for innovation and a reluctance to change good old habits," says Lise Breteau, partner. "Numerous examples could be cited. For example, through regulation passed in the summer this year, the government is opening up real-life testing of driverless vehicles and thereby encouraging adoption, however our survey shows that the French are not ready for their use in the delivery of goods. In the area of payments, our survey confirms that the French are adopting new habits, which is consistent with the push by the payments sector and the government for contactless cards and point-of-sale devices to become more widespread. The National Strategy for Payments of October 2015 actively promotes the development of innovative payment solutions to renew the classical French 'CB' payment card transactions.

"With respect to personal data, public policies treat privacy as a major concern in terms of civil liberties for data subjects: the Digital Republic Act of October 8, 2016 strengthens the cornerstone Act of January 6, 1978 on the protection of privacy, without waiting

for the European GDPR to become effective. However our survey surprisingly shows that the French are comfortable with sharing their data when buying," concludes Breteau.

ATTRACTIVE ECOSYSTEM FOR DIGITAL INDUSTRIES

Beatrice Delmas-Linel, partner, explains: "Generally, the French legislator considers that setting up robust protection for consumers will benefit businesses: the trust it creates among the public secures consumers in their shopping practices and facilitates the adoption of new digital habits as 'connected consumers'.

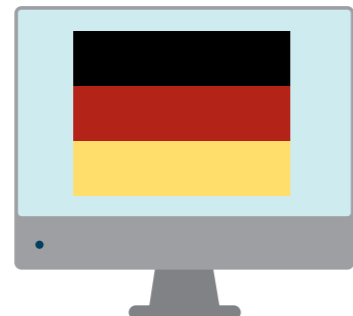
"The French tendency is to favour innovation-oriented policies in a broad sense. In particular, the above mentioned Digital Republic Act allows for the improvement of the deployment of web networks on the French territories, and it promotes the opening of public data. It also adopts a series of regulations regarding digital business such as on net neutrality, online platforms, online gaming, digital payments through advance implementation of some of the provisions of PSD2, etc."

GERMANY

31%^v say driverless vehicle delivery would be a positive development



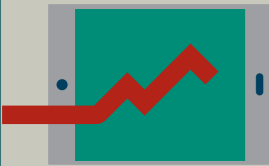
36%^v shop mostly online



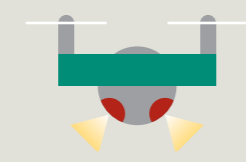
55%[▲] used contactless payment technology in the past three months. Of those, **55%[▲]** used contactless cards and **64%[▲]** mobile payment technology



36%^v would prefer to have a virtual consultation over a face-to-face with their doctor



40%^v say drone delivery would be a positive development



Of users of fitness trackers or health monitors, **67%^v** would be concerned if data from their device was passed outside their country

40%^v use a fitness tracker or health monitor

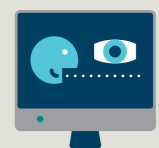


60%^v use neither a fitness tracker nor health monitor

51%^v would be willing to use a virtual fitting room



41%^v are comfortable sharing personal data when buying



37%^v would use interactive in-store technology to discuss shopping requirements



53%^v use mobile payment apps

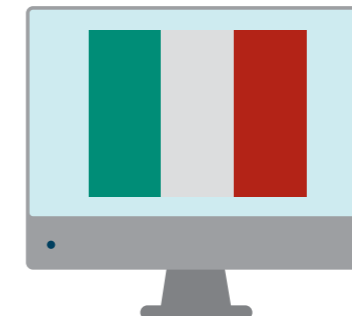
^v Lowest percentage of consumers of the seven countries surveyed. [▲] Highest percentage of consumers of the seven countries surveyed.

ITALY

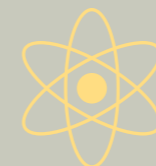
54%[▲] say driverless vehicle delivery would be a positive development



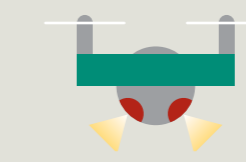
37%[▲] shop mostly online



58%[▲] would prefer to have a virtual consultation over a face-to-face with their doctor



67%[▲] say drone delivery would be a positive development



Of users of fitness trackers or health monitors, **48%^v** would be concerned if data from their device was passed outside their country

55%[▲] use a fitness tracker or health monitor



45%^v use neither a fitness tracker nor health monitor

70%[▲] would be willing to use a virtual fitting room



66%[▲] are comfortable sharing personal data when buying



63%[▲] would use interactive in-store technology to discuss shopping requirements



56%[▲] use mobile payment apps

^v Lowest percentage of consumers of the seven countries surveyed. [▲] Highest percentage of consumers of the seven countries surveyed.



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FITNESS TRACKERS – A NEW ERA

Ulrich Baumgartner, partner, explains: “With two-thirds of those aged between 25 to 34 in Germany wearing fitness trackers or health monitors, this technology is now an established part of many people’s private lives.

“We are now seeing cases which herald this new era and raise a number of interesting legal questions.

“If, for instance, a company incentivises its staff to use company-provided fitness trackers and in so doing has access to personal data collected by these devices, this not only raises questions from an employment law perspective (think employee monitoring), but also from a privacy law angle.

“Even more interesting is health insurance companies offering particularly attractive premiums to those customers who can ‘prove’ a healthy lifestyle by granting the insurer access to their activity tracker data.

“The latter is one of the first real-life examples of how private individuals can monetise their personal data. I would expect

that people will increasingly demand real value in return for their personal data – a development which goes way beyond the legal questions.”

MOBILE PAYMENTS INCREASINGLY POPULAR

“Contactless payment is becoming increasingly important,” explains Dr Matthias Terlau, partner. “It is interesting to observe that mobile payments have become more relevant than contactless card payments, especially in small-amount retail transactions, which will increase speed and convenience.

“The European regulator has noticed this and may allow – once all ancillary acts to PSD2 have been implemented – small amounts to be paid contactless without time-consuming authentication requirements.

“As a whole, the new PSD2 regulation of mobile payments still poses a challenge for the industry. However, given the speed of developments we have seen during recent years, solutions may be available soon.”



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“The Internet of Things (IoT) promises to change our lives for the better, including bringing new levels of efficiency and safety,” says Edoardo Tedeschi, partner.

“The Italian population has declared its interest in objects and devices that further simplify their lives, from fridges that tell you which contents are close to expiry, to washing machines that suggest the opportune wash. Such interest is also confirmed by the boom in e-commerce, which has attracted the scrutiny of the Italian Antitrust Authority, drawing attention to certain unfair practices applied by producers and retailers that enter into agreements detrimental to the consumer and market competition.

HIDDEN DANGERS

“These new technologies have been developed to resolve problems in daily life, but they also expose us to new dangers that, as yet, are little known,” explains Tedeschi.

“Such is the case of IoT devices that monitor energy consumption in real time: where data, sent over the internet, may be of interest to

hacker-thieves who, from the data, could decipher whether there is anyone at home. This could also be true of drone parcel delivery.

PRIVACY CONCERNS

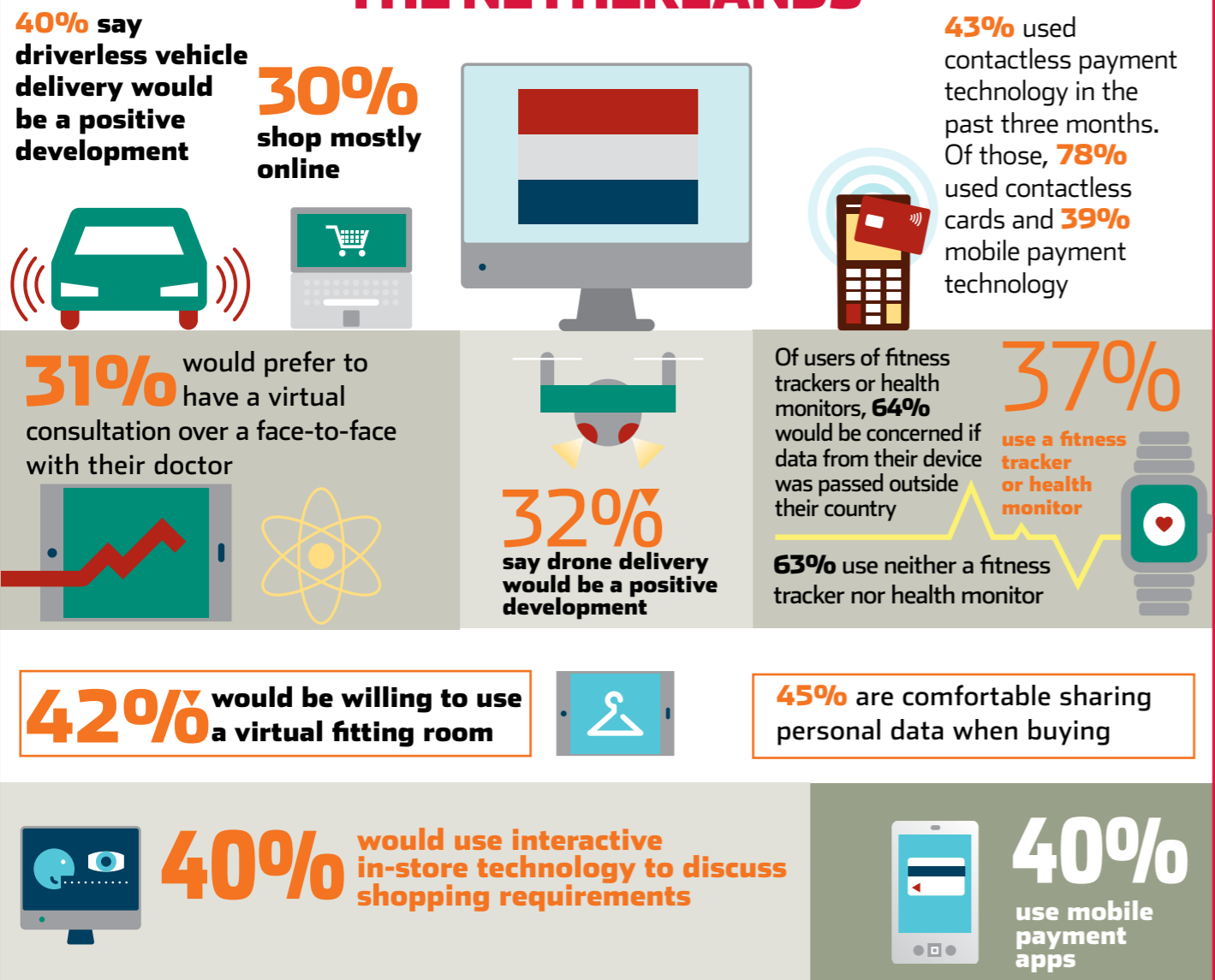
“While Italy is among the leading countries in terms of sales of drones for photography and videos, consumers remain concerned about their right to privacy, which would inevitably be affected if e-commerce companies knew where they were at any given time.

“Consumers need to be protected and want to know with certainty how data relating to them is used.

“What worries consumers above all is the collection of personal data over the internet. There is an increasing awareness of online risks. However, in order to increase trust, companies need to be completely transparent in their actions.

“For this reason, new instruments are required not only to improve the quality of advice and information, including regarding data protection and product and service quality, but also business practices and contractual relationships,” concludes Tedeschi.

THE NETHERLANDS



▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.



CONTACTLESS PAYMENT TECHNOLOGY

"Most payment terminals in the Netherlands now accept contactless payments and the number of payments with contactless enabled cards is growing rapidly," explains Johannes de Jong, head of regulatory. "Contactless payments by mobile phone are somewhat lagging behind contactless card payments, but the outlook is good."

"Several Dutch banks and one Dutch telecom provider have already enabled contactless payment for a variety of Android phones."

"Further, existing obstacles are being ironed out by important stakeholders, including the Dutch Central Bank and the Dutch Payments Association. The latter has set up a test ecosystem, enabling testing of all kinds of combinations of telephones and payment apps. This should result in guidelines for setting up a platform enabling development of contactless payment services, regardless of the type of telephone used or the underlying technical specifications."

"Given these developments, we expect the number of mobile phone contactless payments to increase exponentially over the coming year. And when Apple finds a way to launch Apple Pay in the Netherlands, a further boost in mobile payment can be expected."

HEALTH TRACKER DATA CONCERNS

Kevin van 't Klooster, associate, says "Wearables and fitness trackers are becoming increasingly popular in the Netherlands."

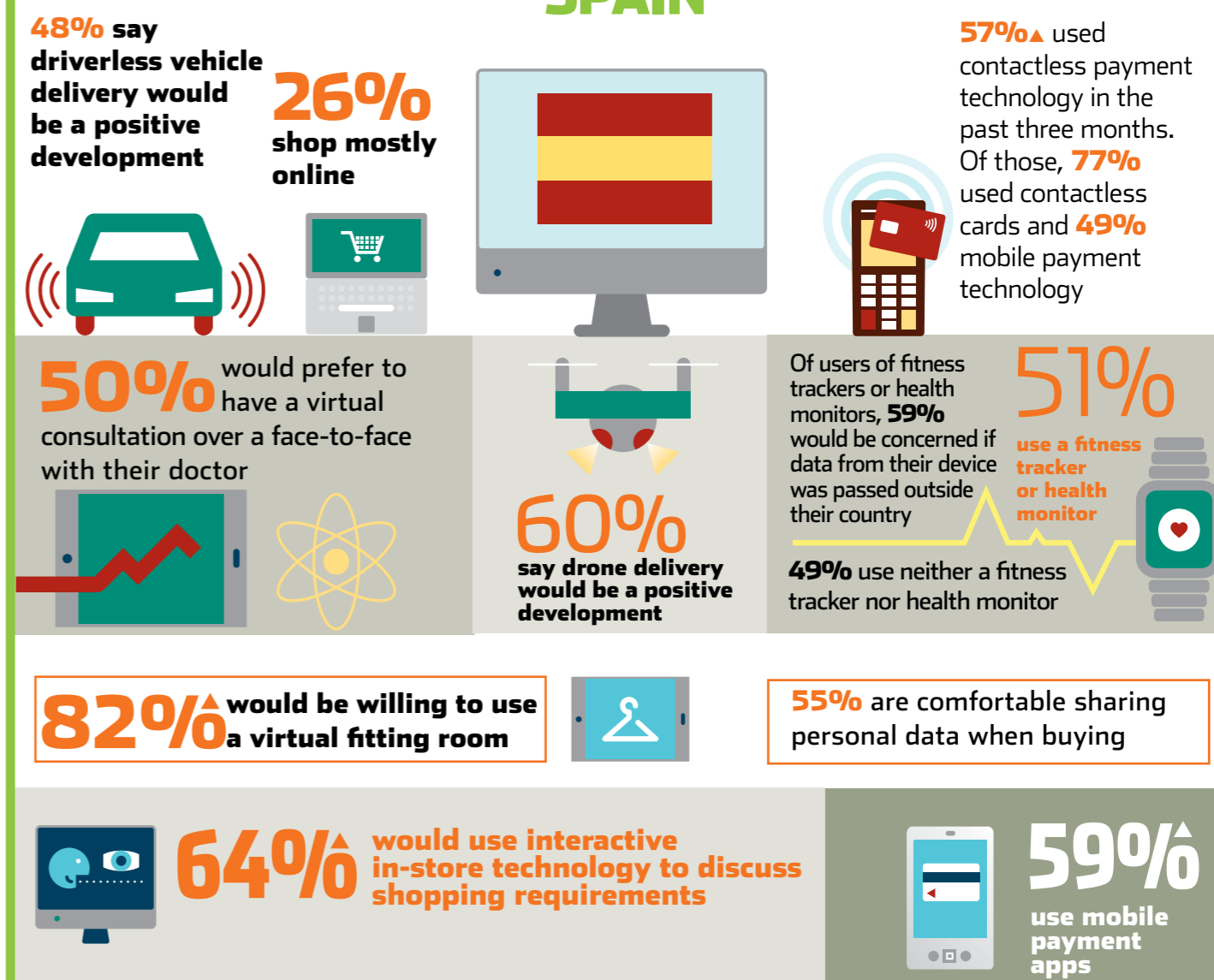
"Consumers welcome the great insights they provide, but consumers are also concerned about international transfers and data sharing."

"The Dutch Data Protection Authority (DPA) shares these concerns and not surprisingly the enforcement of health data is a recurring topic on the DPA's agenda."

"Earlier this year the DPA showed its teeth by ordering two companies to cease the collection of employee health data via wearables and sanctioned a popular running app to amend its terms to comply with the Dutch Data Protection Act."

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SPAIN



▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.



"Although there is a relatively low percentage of Spanish consumers shopping online (26%), the results show a willingness to share personal data when buying (55%)," explains Rafael Garcia del Poyo, partner.

"The Spanish also demonstrate the highest level of awareness across Europe of how data collected from fitness trackers and health monitors is used and shared – 76% compared with 60% of Europeans."

REWARDS FOR SHARING DATA

"The results show that the Spanish are willing to share personal information but in exchange for a benefit, e.g. personalised offers and discounts. However, there is some reluctance to receiving marketing emails and adverts based on personal information. The reason for this may be the especially active role that the Spanish Data Protection Agency has regarding marketing communications and spamming,

which may have led to a greater level of awareness among data subjects in this regard.

"This can lead us to conclude that, among those who shop mostly online, there is an acceptable degree of knowledge about data protection issues and about the relevance of having due control over one's own personal information."

EXPECTED DEVELOPMENTS

"The Spanish Data Protection Agency issued a document in which it proposes a number of strategies to be followed until 2019. Among the strategic plans proposed, studies and reports on the data protection concerns posed by wearables and the use of drones can be expected to follow."

"The Agency is very aware of the increasing use of these new technologies and is keen to show its willingness to be ready to face the legal challenges that may arise from the expansion of these devices."

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UK

35% say driverless vehicle delivery would be a positive development



37% shop mostly online



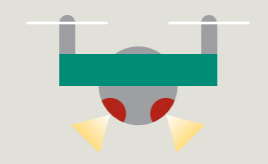
49% used contactless payment technology in the past three months. Of those, **92%** used contactless cards and **20%** mobile payment technology



33% would prefer to have a virtual consultation over a face-to-face with their doctor



36% say drone delivery would be a positive development



Of users of fitness trackers or health monitors, **71%** would be concerned if data from their device was passed outside their country

68% use neither a fitness tracker nor health monitor

32% use a fitness tracker or health monitor

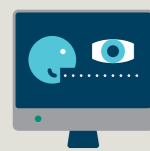


48% would be willing to use a virtual fitting room

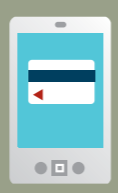


61% are comfortable sharing personal data when buying

43% would use interactive in-store technology to discuss shopping requirements



33% use mobile payment apps



▼ Lowest percentage of consumers of the seven countries surveyed. ▲ Highest percentage of consumers of the seven countries surveyed.



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EMBRACING DRONES

"While UK consumers may be reticent about receiving deliveries by drone, with only 36% of those surveyed seeing it as positive, the UK Government is enthusiastic about promoting commercial drone usage, including drone delivery", explains Claire Temple, associate director. "They are keen that the UK is seen as a world leader in embracing drone technology and safely incorporating it into UK airspace. The UK's Civil Aviation Authority's permission to Amazon to carry out drone delivery tests is testament to that."

"However, much needs to be done to make drone delivery a way of life. There are major hurdles to overcome such as clarifying trespass and nuisance law, establishing fail-safe anti-collision technology, finding a way to safely operate drones beyond the pilot's line of sight, and developing a system whereby multiple drones can be flown by one pilot, safely. For example, currently a delivery driver delivers multiple parcels by vehicle, so a delivery pilot will want to be able to replicate that model."

"And if the timeline on that testing is anything like that on driverless vehicles, which is understandable given the safety risks, it could be years

before the CAA is satisfied the technology is safe enough to allow it to become widely available."

DEMAND FOR ARTIFICIAL INTELLIGENCE (AI) IS SOLID

"Early demand for virtual consultations using AI is solid in the UK at one in three Britons," says Tom Harding, associate director. "The figure is unsurprisingly skewed to younger respondents though, with 52% of 18 to 34 years olds preferring virtual consultations based on their data and AI over a consultation with their current doctor."

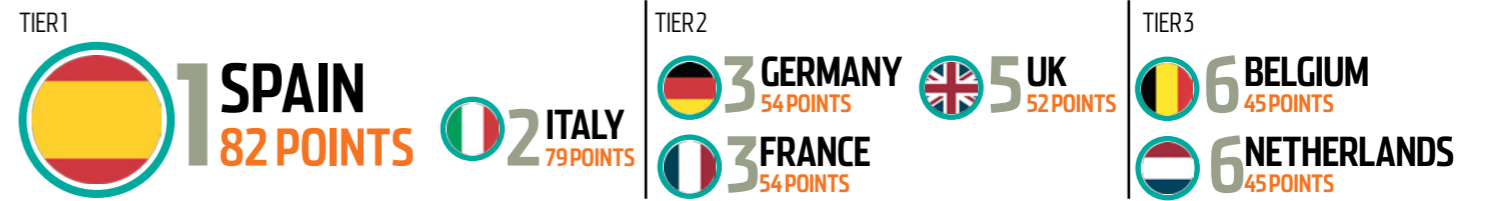
"This will be welcome news for companies like Babylon in attracting investment and consumer take-up of their AI consultation service."

"Clearly the industry needs to build on this strong start with practical demonstrations of the technology and pilot services targeted at this age range may prove particularly successful."

"With a nationalised health service, investments now will lead to savings in the future. Although, will AI ever replace a human doctor's intuition and the reading of patients' non-verbal clues? Nonetheless, the future of the technology and likely consumer adoption looks bright."

LEAGUE TABLE
WHO RANKS WHERE?

POSITION / TOTAL POINTS*



*To calculate the position, points were awarded 1-7, where 1 is the least connected (ie, lowest percentage of consumers) and 7 is the most connected (ie, highest percentage of consumers)

	Wear fitness tracker		Wear health monitor		Share fitness/health data outside country		Prefer virtual consultation over current doctor		Shop online		Share personal data when online shopping		Use contactless payment	
Spain	47%	6	4%	5	41%	6	50%	6	26%	2	55%	5	57%	7
Italy	48%	7	7%	7	52%	7	58%	7	37%	7	66%	7	26%	1
France	34%	4	4%	5	33%	3	31%	3	34%	4	55%	5	45%	4
Germany	36%	5	4%	5	33%	3	36%	5	36%	5	41%	1	55%	6
UK	28%	2	4%	5	29%	1	33%	4	37%	7	61%	6	49%	5
Belgium	28%	2	6%	6	37%	5	28%	1	20%	1	52%	3	41%	2
Netherlands	31%	3	6%	6	36%	4	31%	3	30%	3	45%	2	43%	3
Europe	36%		5%		39%		38%		31%		53%		45%	

	Use contactless cards		Use mobile payment tech		Use mobile payment apps		Would use virtual fitting room		Would use interactive in-store tech		See drone delivery as positive		See driverless vehicle delivery as positive	
Spain	44%	6	28%	6	59%	7	82%	7	64%	7	60%	6	48%	6
Italy	19%	1	13%	3	56%	6	70%	6	63%	6	67%	7	54%	7
France	40%	5	9%	1	44%	4	57%	5	39%	3	50%	5	35%	3
Germany	30%	3	35%	7	53%	5	51%	4	37%	1	40%	3	31%	1
UK	45%	7	10%	2	33%	1	48%	2	43%	5	36%	2	35%	3
Belgium	24%	2	24%	5	43%	3	51%	4	39%	3	42%	4	37%	4
Netherlands	34%	4	17%	4	40%	2	42%	1	40%	4	32%	1	40%	5
Europe	34%		20%		47%		57%		47%		46%		40%	

APPENDIX ABOUT THE RESPONDENTS

In the following seven countries a nationally representative survey of 1,000 consumers were asked the same 15 questions during June and July 2016. The respondents were split as follows:

BELGIUM

GENDER

- Male: 49.2%
- Female: 50.8%

AGE

- 18-24: 11.4%
- 25-34: 16.6%
- 35-44: 19.6%
- 45-54: 18.8%
- 55+: 33.6%

REGION

- Antwerp: 15.1%
- Brussels Hoofdstedelijk Gewest (Région de Bruxelles-Capitale): 11%
- Henegouwen (Hainaut): 12.8%
- Limburg: 8.2%
- Luik (Liège/Lüttich): 10.3%
- Luxembourg: 2.8%
- Namen (Namur): 4.8%
- Oost-Vlaanderen: 12.6%
- Vlaams-Brabant: 8.2%
- Waals-Brabant (Brabant wallon): 3.8%
- West-Vlaanderen: 10.4%

FRANCE

GENDER

- Male: 49.2%
- Female: 50.8%

AGE

- 18-24: 12.2%
- 25-34: 16.3%
- 35-44: 18.4%
- 45-54: 18%
- 55+: 35.1%

REGION

- Alsace: 2.5%
- Aquitaine: 5.2%
- Auvergne: 1.9%

- Basse-Normandie: 2.3%
- Bourgogne: 3.3%
- Bretagne: 5.4%
- Centre: 4.5%
- Champagne-Ardenne: 2.7%
- Corse: 0.1%
- Franche-Comté: 0.8%
- Haute-Normandie: 3.2%
- Île-de-France: 16.8%
- Languedoc-Roussillon: 4.1%
- Limousin: 0.8%
- Lorraine: 4.9%
- Midi-Pyrénées: 4.5%
- Nord-Pas-de-Calais: 7.9%
- Pays-de-la-Loire: 5.6%
- Picardie: 2.6%
- Poitou-Charentes: 2.6%
- Provence-Alpes-Côte d'Azur: 8.1%
- Rhône-Alpes: 10.2%

GERMANY

GENDER

- Male: 50.6%
- Female: 49.4%

AGE

- 18-24: 10.5%
- 25-34: 15.1%
- 35-44: 18.6%
- 45-54: 18.4%
- 55+: 37.4%

REGION

- Baden-Württemberg: 10.8%
- Bayern: 13.7%
- Berlin: 6.8%
- Brandenburg: 3.6%
- Bremen: 0.8%
- Hamburg: 3.7%
- Hessen: 8.9%
- Mecklenburg-Vorpommern: 1.9%
- Niedersachsen: 8.2%
- Nordrhein-Westfalen: 20.7%
- Rheinland-Pfalz: 5.2%
- Saarland: 1.6%
- Sachsen: 4.6%
- Sachsen-Anhalt: 2.9%
- Schleswig-Holstein: 4.3%
- Thüringen: 2.3%

ITALY

GENDER

- Male: 51.2%
- Female: 48.8%

AGE

- 18-24: 9.2%
- 25-34: 18.5%
- 35-44: 20.2%
- 45-54: 16.6%
- 55+: 35.5%

REGION

- Abruzzo: 2.6%
- Aosta Valley: 0.1%
- Apulia: 6.5%
- Basilicata: 1%
- Campania: 9.5%
- Calabria: 3%
- Emilia-Romagna: 6.4%
- Friuli-Venezia Giulia: 2.3%
- Lazio: 10.2%
- Liguria: 3.2%
- Lombardy: 16.8%
- Marche: 2.9%
- Molise: 0.6%
- Piedmont: 7.9%
- Sardinia: 3.1%
- Sicily: 8.6%
- Trentino-Alto Adige: 0.9%
- Tuscany: 6.2%
- Umbria: 1%
- Veneto: 7.2%

THE NETHERLANDS

GENDER

- Male: 50.9%
- Female: 49.1%

AGE

- 18-24: 11.1%
- 25-34: 16.2%
- 35-44: 19.9%
- 45-54: 18.2%
- 55+: 34.6%

REGION

- Drenthe: 2.8%

- Flevoland: 3.5%
- Friesland: 4.1%
- Gelderland: 10.1%
- Groningen: 2.9%
- Limburg: 7.9%
- Noord Brabant: 14.7%
- Noord Holland: 16.5%
- Overijssel: 6%
- Utrecht: 7.2%
- Zeeland: 2.8%
- Zuid Holland: 21.5%

SPAIN

GENDER

- Male: 51.7%
- Female: 48.3%

AGE

- 18-24: 10.5%
- 25-34: 21.8%
- 35-44: 20.6%
- 45-54: 16.2%
- 55+: 30.9%

REGION

- Andalucía: 16.2%
- Aragón: 2.1%
- Asturias: 2.8%
- Cantabria: 1.4%
- Castilla-La Mancha: 3.5%
- Castilla y León: 5.3%
- Cataluña: 18.2%
- Ceuta y Melilla: 0.2%
- Comunidad Valenciana: 9.9%
- Extremadura: 2%

- Galicia: 5.8%
- Islas Baleares: 1.9%
- Islas Canarias: 4.3%
- La Rioja: 0.5%
- Madrid: 17.8%
- Murcia: 2.6%
- Navarra: 1%
- País Vasco: 4.5%

UK

GENDER

- Male: 50.8%
- Female: 49.2%

AGE

- 18-24: 12.3%
- 25-34: 16.1%
- 35-44: 17.4%
- 45-54: 17.3%
- 55+: 36.9%

REGION

- East England: 8.7%
- East Midlands: 7.5%
- London: 11.7%
- Scotland: 8.7%
- North East: 4.4%
- Northern Ireland: 3.4%
- North West: 11.7%
- South East: 13.5%
- South West: 9.1%
- Wales: 5.1%
- West Midlands: 8.2%
- Yorkshire: 8%

ABOUT OSBORNE CLARKE

Osborne Clarke (OC) is an international legal practice. We have 1,200 employees, including 200 expert partners and more than 500 lawyers, working in nine countries. Our offices are located in Amsterdam, Barcelona, Berlin, Brescia, Bristol, Brussels, Cologne, Hamburg, Hong Kong, London, Madrid, Milan, Munich, New York, Padua, Paris, Rome, San Francisco, Silicon Valley and Thames Valley.

The business issues raised by the connected consumer are relevant across several industry sectors in which OC is an established leader, including digital business, financial services, retail, transport, life sciences and real estate.

OC is at the cutting edge of connected consumer developments, including in the areas of autonomous vehicles, data, digital health, drones and payments.

We help our clients succeed in tomorrow's world.

NB – Throughout the report, all figures are rounded to the nearest whole number. The figures in this Appendix are not.

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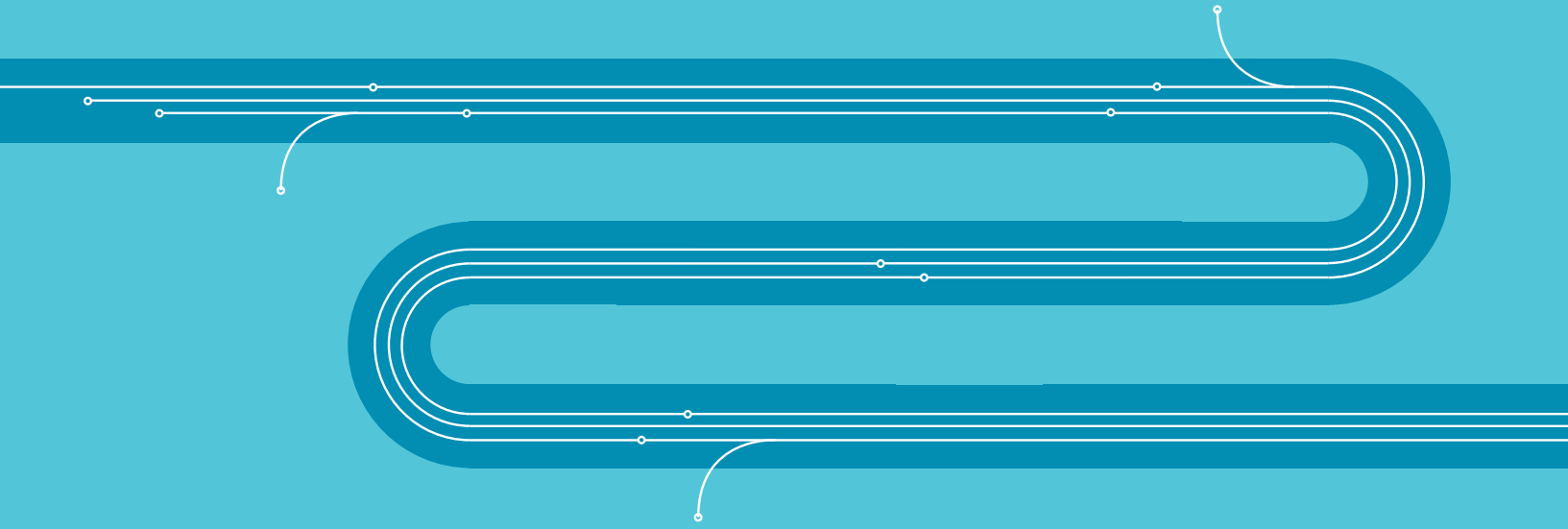
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