Courier, Express & Parcel Report

Driver Technology in the Last Mile

Global Trends – Device Types, Deployment, Usage and What Drivers Want

Primary Research Report, Part 2
including European Technology Insight
March 2023

Survey conducted by Opinium on behalf of Scandit

Going to the Heart of the Last Mile

Delivery drivers are the front line of customer service. They are the face of the delivery company and, in the case of e-commerce, the store.

A late parcel or a poor doorstep experience can define the customer's perception of that transaction.

There are many other challenges for last mile delivery companies: keeping hold of experienced drivers, scaling with demand, and even macro-economic events like rising fuel prices.

Implementing the right driver operations technology can make the difference between success and failure. It can keep track of deliveries, enable additional services, and ensure that drivers deliver to the recipient on time.

On top of this, it can also make the driver's job easier, boosting efficiency and increasing employee satisfaction.

For this report – following on from the first in this series 'Driver Views of the Last Mile' – we asked 1,200 delivery drivers across 11 countries (see below) about the technology they use. It's essential reading for any last mile business making technology choices to support drivers and delivery operations.

Delivery drivers need the right technology to be more productive

This report answers questions like:

- What is the number one device for last mile driver operations?
- Which smart device OEMs are the most popular globally?
- What device ownership models are companies using – providing company-owned devices or using the driver's smartphone?
- How are drivers using their technology today, and where is it falling short of expectations?
- What capabilities and technologies would drivers most like to have on their devices?

Last mile businesses need to scale with peaks and troughs as delivery volumes remain volatile. So, how are they using technology to meet this challenge and could they be doing more with it?

The insights in the following pages will provide the answer.

AUS BRA FRA GER IND ITA JPN MEX ESP UK US

SCANDIT

Driver Technology in the Last Mile

For this report, we asked drivers from around the globe about the technology they use for essential driver operations tasks like loading the van, getting proof of delivery, or simply scanning parcels for delivery.

In theory, with a wide set of globally distributed respondents, this should have produced a widely differing response. However, as with 'Driver Views from the Last Mile', there were many similarities. This allowed us to compile a global picture of how driver operations technology is being used.

Looking at the average driver's technology stack

What is the most typical use of the device? Proof of delivery at the customer's front door.

How was the training and onboarding of the applications and devices? The majority of drivers are happy with how their companies do this.

Most-used device manufacturer? Samsung, or Apple if in the US, Australia and the UK.

Most requested feature? The ability to accurately scan damaged or obscured barcodes.

Most-used device for gig workers? Their own personal smartphone.

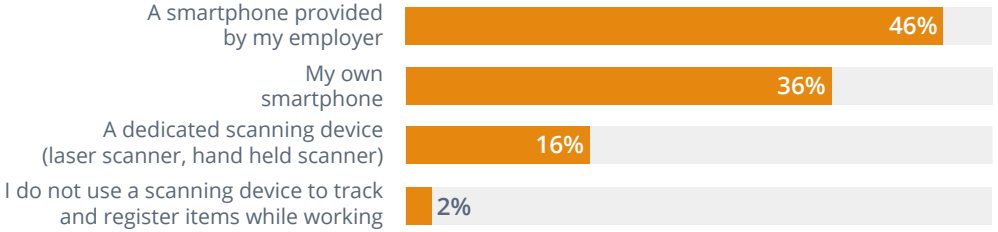
What device is most used by full-time workers? A company-supplied smartphone.

What devices are being used in the last mile

We asked drivers: 'Which of the following best describes the scanning device you use to track and register items as part of your delivery job?'

The smartphone is clearly the number one device for the delivery drivers we surveyed. Over 80% say they use smartphones – provided by their employer or a personal device – as their primary driver operations tool.

What device do you use the most for scanning?

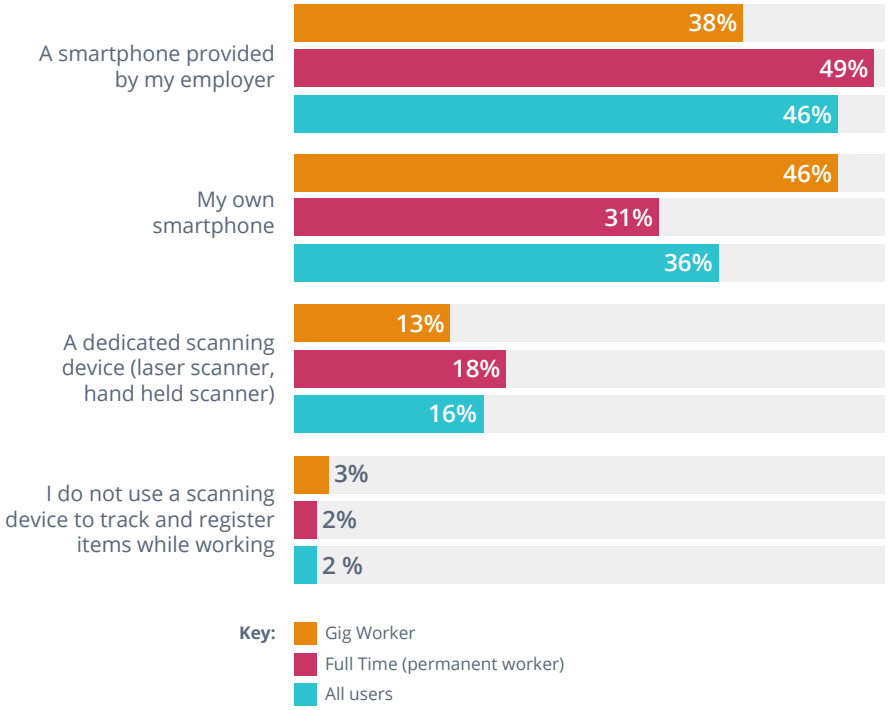


Flexible employment models affecting dedicated scanner usage

A common assumption is that gig workers use their own devices and full-time employees use company-owned smartphones or dedicated scanning devices. But the reality is more nuanced.

Under 50% of respondents are employed on a permanent contract and 38% have more than one job. The popularity of flexible employment models may be having an impact on delivery company technology choices.

What is your primary device during a delivery tour?



Dedicated scanning device usage by country (all drivers)

Overall, only 16% of drivers we surveyed said a dedicated scanner was their main device. Here, the US, UK, Spain (all on 21%), and Germany (26%) use dedicated scanners as their primary device. India and Brazil are lowest (5%).

It is notable that both Spain and Germany have a high proportion of full-time or contracted employees. While in the US, dedicated scanner use was largely restricted to full-time workers. The UK is the exception with around 35% of gig workers using them.

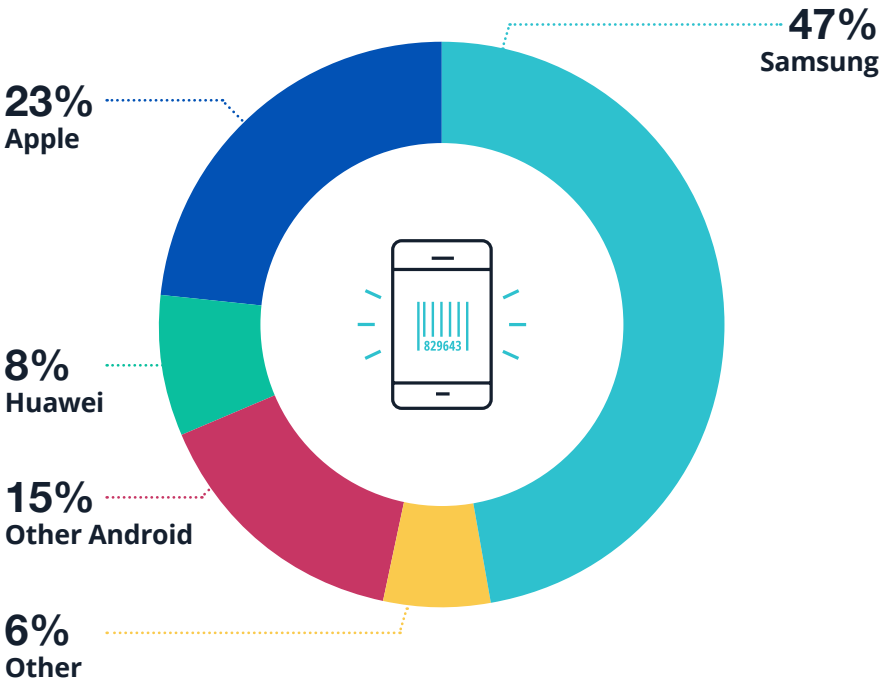
26%	21%	21%
21%	19%	15%
14%	12%	12%
5%	5%	

India, Spain, and Australia come out ahead when it comes to full-time workers using their personal smartphone. Around 30% of drivers in these markets work with this type of bring-your-own-device (BYOD) model.

Most-used smart devices in the last mile

While a wide variety of devices are used in the last mile, there are two original equipment manufacturers (OEMs) that dominate – Samsung and Apple. Our survey revealed Samsung is the most popular manufacturer with around half of smartphone-based drivers using its devices globally. There are exceptions, notably the US (41%) and Australia (45%), where Apple iPhones are the most widely used devices.

Smartphone manufacturer split overall



For both user-owned and company-owned devices, Samsung accounts for 47% of device usage globally. Apple devices are also popular (25%) amongst drivers working in a BYOD ownership model. Notably, Apple is a dominant device in markets like the UK (31%), with a high percentage of gig workers amongst the drivers surveyed.

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In the past, full-time drivers were likely to be equipped with dedicated devices to handle scanning and other delivery-related tasks.

Changing employment models, like the rise in gig working or people holding multiple jobs, have generated a shift towards accommodating flexible ways of working, which affects technology selection.

The need to scale operations up and down with fluctuating demand or peak seasons means that last mile companies need to bring drivers in quickly and get them up to speed. This isn't always easily or cheaply accomplished using traditional dedicated scanning devices.

Smart devices – employee or corporate-owned – can simplify this process. They are cost effective, simple to deploy at scale and intuitive, especially via a BYOD model where drivers simply download an app on their own device.

How Smart Devices are Integrated into Last Mile Delivery Operations

Do you use your own smartphone or one that is supplied by the company?

Last mile delivery companies are typically split between two device smart device ownership models:

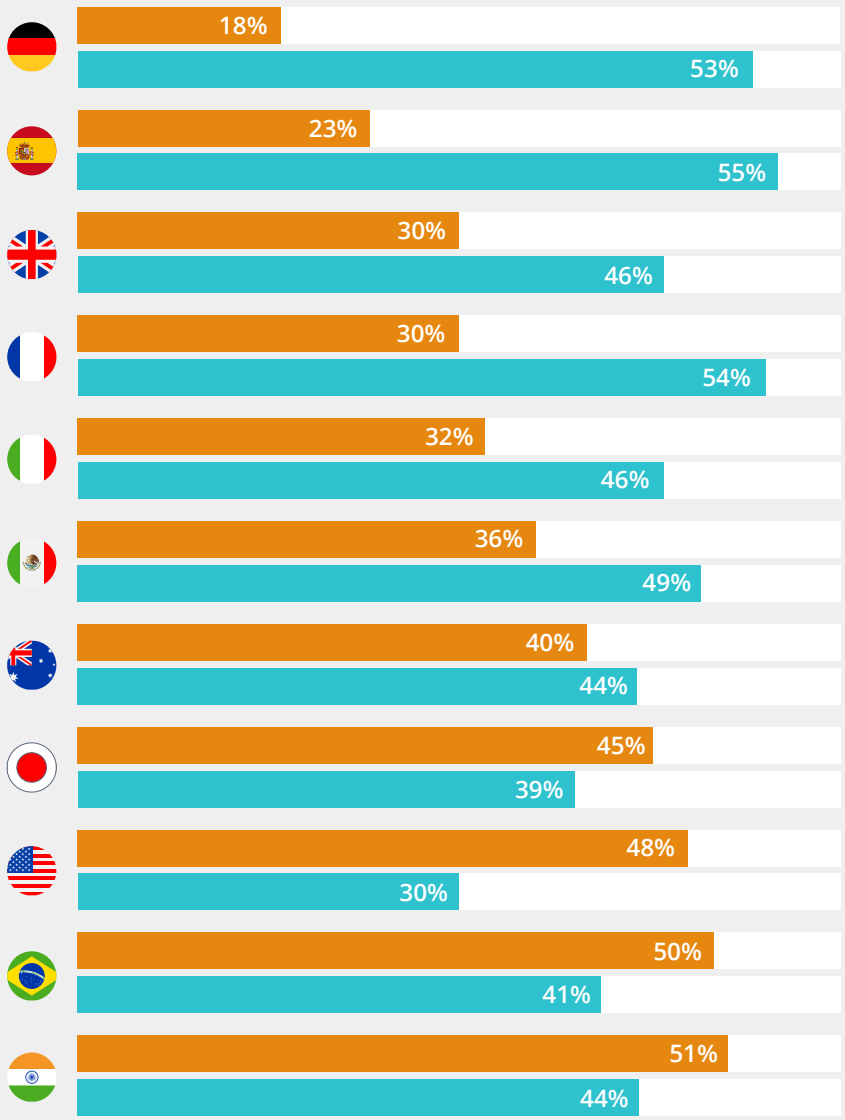
- Issuing a smartphone (company-owned) to the driver.
- Allowing them to use their own smartphone with a company-app (BYOD).

Here, we examine the breakdown of device ownership models by country, as well as investigating personal usage, plus what drivers think of onboarding and application usability.

Device ownership models by country

The use of employee-owned smartphones is widespread globally. India, Brazil, and the USA are home to the highest numbers of BYOD users, approximately half of drivers. There is no direct correlation between contract types.

In Europe, BYOD is less popular. Even in the UK, where gig drivers make up over 40% of the workforce, less than a third (30%) use their personal device. Italy (32%) and France (30%) also have around a third of drivers using BYOD, despite a larger proportion of full-time and contracted workers.



*Does not include employees who use a dedicated scanning device.

Device ownership and usage permissions

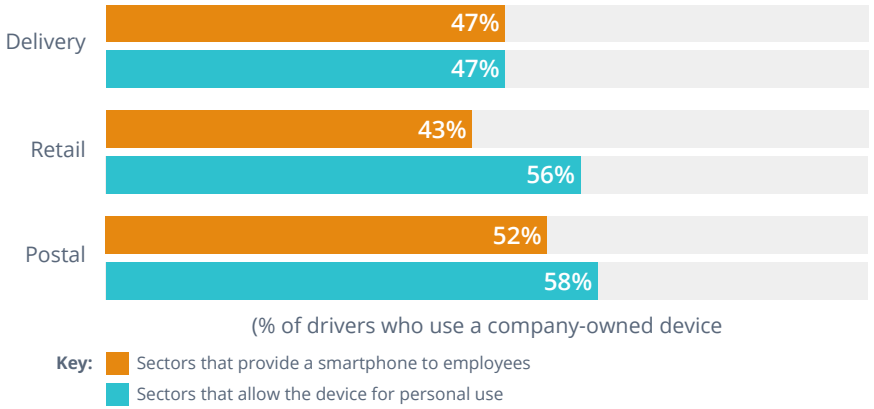
Giving an employee a smartphone with personal use allowed is often viewed as a perk. Nearly half (47%) of drivers we surveyed who use a corporate-owned smartphone reported their employer allows personal usage, like calls.

The remaining 53% said personal use was not permitted. Although 15% of this group, mostly in the UK, Italy, and France, said they ignored this rule.

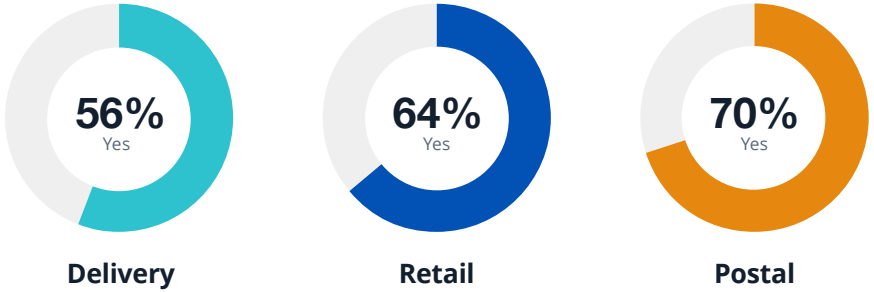
Driver compensation from the employer for using their personal smartphone in daily operations varies across countries. For example, compensation could include the employer paying the drivers data costs.

Compensation was highest in Italy, where 81% of companies pay drivers who use their own device for work.

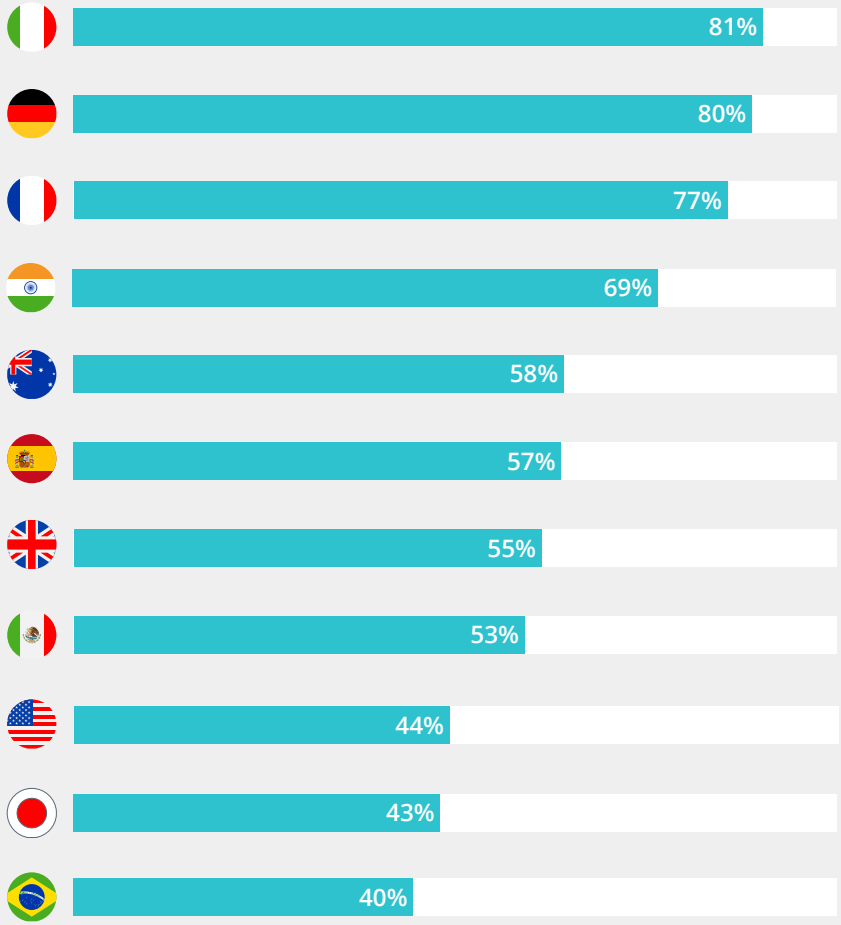
Personal use of a company-provided device (by sector)



Are you compensated for using your own device (by sector)?



Are you compensated for using your own device?



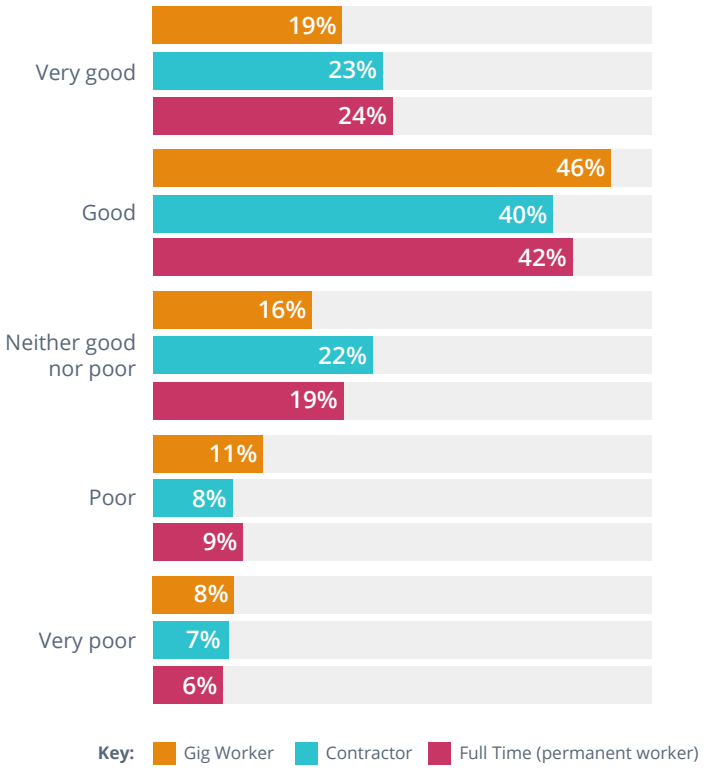
Onboarding experience and technology support

How easy was it to understand the applications and devices at your company?

Onboarding is crucial for both driver productivity and operational scalability. Technology can assist by automating processes and guide new drivers through tasks.

We asked drivers about their initial experience with the applications or devices they use and how user-friendly they found them. One question was whether there was a difference in perception between gig and full-time workers. Here we found that the attitude towards both the in-house training and understanding of the application is broadly positive across all groups.

How easy it was to understand the driver operations device or application in general?



Overall, most drivers are positive about their company's application and how easy it is to use. Driver satisfaction with their applications is lowest in Japan, where 20% rate their experience as poor.

The majority of drivers rate their applications as easy to use

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Smart devices are the most popular form of hardware for driver operations. But there are different deployment models across the world.

In some markets, BYOD is evenly split with the corporate-owned option in markets like Brazil, India, and the US. This runs across the different employment types.

Many businesses that issue smart devices don't endorse or allow personal usage. But are they missing an opportunity? With competition for drivers remaining high, this could be an additional incentive for recruitment.

Differing ownership models mean it is important to ensure applications can run effectively on any device. Rising BYOD levels amongst contracted or full-time employees is a case in point.

Mitigating the risks

Businesses recognize the advantages of BYOD are significant – such as scalability and reduced hardware management. While the risks – such as variable performance across diverse devices – can be easily mitigated.

One way to ensure consistent performance across diverse device estates is to select the right smart data capture technology, which when integrated into an application, can assure scanning reliability across a broad range of makes and models.

And while 64% of drivers were satisfied with how easy it was to understand their devices – rating their experience as either good or very good (22%) – this leaves over one-third of respondents less happy.

Drivers need to be onboarded fast to get them working efficiently and ensure retention.

Use of Technology for Driver Operations

Technology plays a crucial role throughout a driver's delivery route. The graphic on the next page outlines the many ways both smartphones and dedicated devices are used.

What tasks do drivers use devices for?

Besides scanning parcels and letters to track and register deliveries, drivers were asked what other tasks they use their devices for.

Top 3 tasks devices are used for in the last mile

1	Proof of Delivery
2	Navigation and Route Guidance
3	Communication with Customers

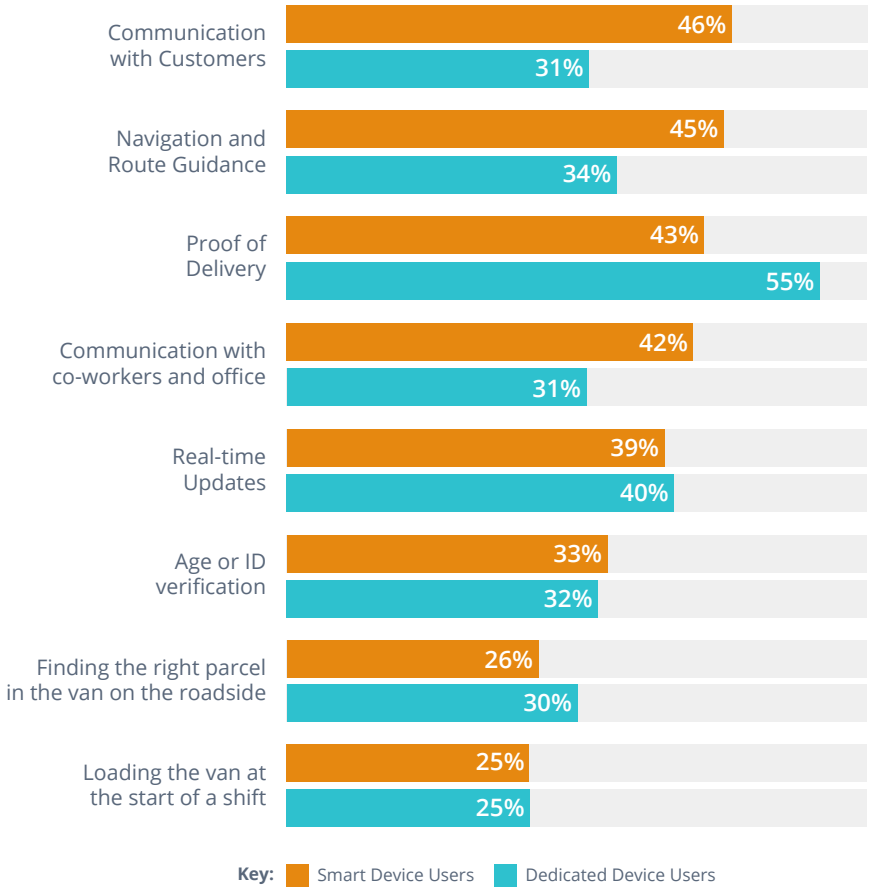
When it comes to dedicated devices, the most common use case is proof of delivery, age verification, and navigation.

For smartphone users – both those who use a company-owned device and their own – communications came out as the most cited usage (46%).

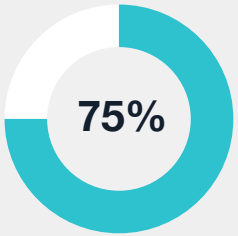
The fact is all drivers will be carrying a smartphone to contact their office or customers. But it's capable of doing much more. For example, proof of delivery is one of the biggest non-communication-related use cases for smart devices.

We found 43% of respondents use a smart devices for 1 or 2 tasks (in addition to scanning individual parcels) when it could take care of eight or more tasks.

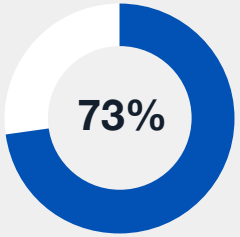
As well as scanning, what tasks do drivers use their devices for besides scanning parcels? (split by % of device users)



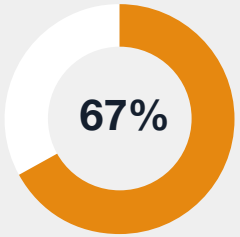
Many drivers could be handing out more tasks to the smart device.



Do not use their device to aid van loading



Don't use their device to find parcels at the kerbside



Don't have ID verification enabled

Smartphones already come with a huge advantage in terms of user interface (UI) and overall familiarity, especially with features like haptic feedback. The right software can utilize modern smartphones' HD cameras and powerful CPU and GPUs with proven smart data capture technology to help transform the ease and accuracy of these tasks. For example, automated ID verification or augmented reality overlays to locate the next package for delivery.

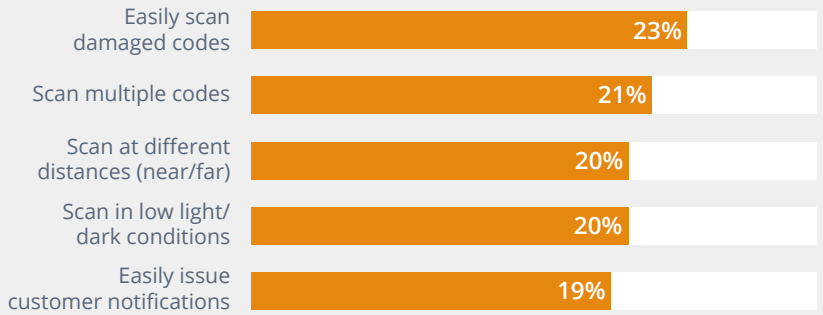
When efficiency and driver experiences are more critical than ever, are last mile businesses missing out by not exploiting the potential that is already in drivers' hands?

What delivery drivers would most like in a device?

There are many functions that a driver operations device can do. But the majority of drivers would prefer improved functionality at a basic level. For the driver on the road, being able to scan effectively is very important and, for some, currently flawed.

It could also be that many drivers are unaware of the power of the devices they use. Especially smartphones, which can easily be enhanced through software to scan IDs and incorporate augmented reality for tasks like search and find in the van.

Top 5 features or improvements wanted across all device types? Drivers selected 3 options (as a total %)

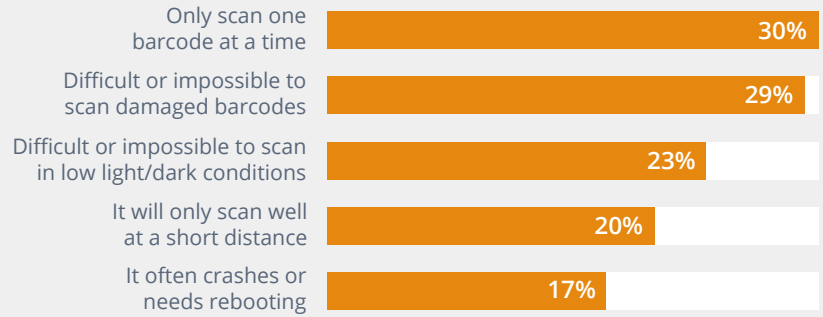


Problems for drivers who use dedicated devices

Drivers were asked about what annoys them the most when working with their dedicated scanning devices. The most common annoyance cited was the inability to scan more than one code at a time (30%), closely followed by difficulty in scanning damaged barcodes and unreliable scanning in poor light.

Additionally over half of dedicated device users said the device had broken, to the point it had to be replaced, at least once in the previous 12 months.

Top 5 annoyances for delivery drivers about dedicated devices? Drivers selected 3 options (as a total %)



Is scanning a problem on dedicated scanning devices?

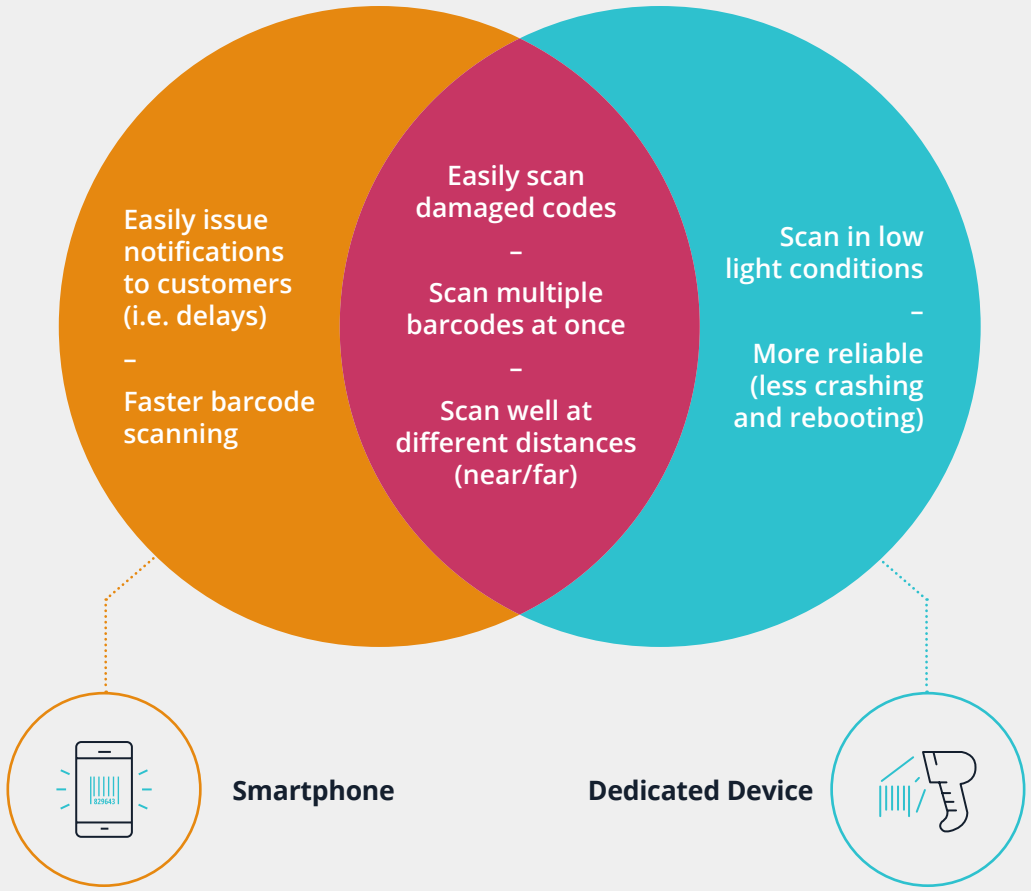
Dedicated device users prioritize scanning performance when asked about what improvements they would like. However, it may indicate a lack of awareness that features like augmented reality and ID scanning are available to them, such as on smartphones. It raises the question of whether employers should be talking to drivers about whether they want a technology that better serves their needs and provides benefits such as streamlining and automating daily workflows, or just a single-use tool.

What feature would be most useful for drivers?

There's a lot of crossover between dedicated scanner and smartphone users when it comes to what they would like in a device. However, in the case of smartphones, many of these features – like multi-scanning – can be solved by deploying or integrating better data capture software into existing applications. This is not always the case in dedicated scanners, where the room for innovation is more limited.

Drivers top 5 for most wanted features and improvements

Drivers selected 3 options (as a total %)



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When it comes to driver operations devices (smartphones and dedicated scanners) annoyances and needs are remarkably similar. The difference is more can be done to improve performance in the case of smartphones as new hardware and scanning technology is becoming available.

In fact, many last mile companies may underestimate what smart devices are already capable of.

Here are just a few examples:

- ID document scanning for age-verified delivery or proof of identity.
- Augmented reality for loading and unloading into the van, or picking out the right parcel.
- High-performance barcode scanning in low light or at difficult angles.

The device screen is just one area where the smartphone plays to its strengths. A smartphone's flexibility allows for implementing a simple and intuitive UI which specifically addresses different workflows or last mile scenarios, something that most drivers have requested. For example, by integrating smart data capture technology into last mile processes, the smart device's torch can be used to target the barcode. Or the option to use the physical button on a device to trigger a scan can be included.

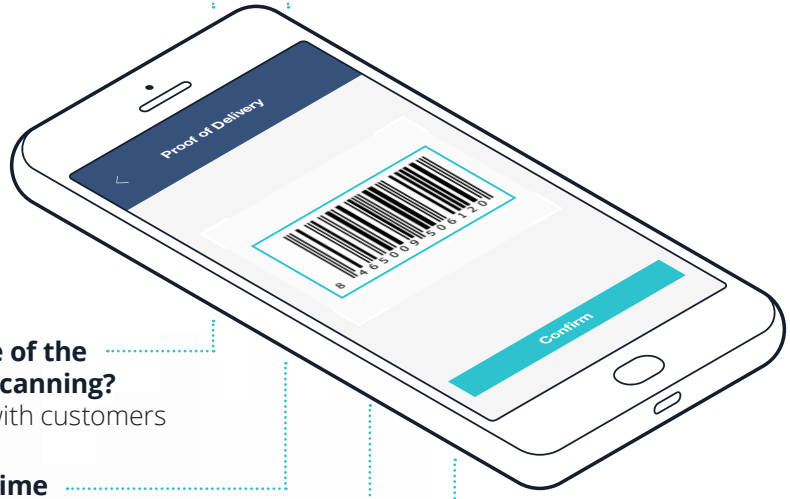
European Technology Insights – Smart Devices Are No.1 But They Could Be Doing More

As technology's role in supporting last mile delivery processes has increased, smart devices have become essential for European delivery drivers. Here we explore the use of smart devices by European delivery drivers – including their preferences, training, usage, and requested features.

Looking at the average European driver's technology stack

The device gig workers use the most:
Their own Samsung smartphone

What was the training and onboarding like for the device?
A high number of European drivers who were satisfied with their level of training



Most typical use of the device besides scanning?
Communicating with customers

The device full-time workers use the most:
An employer-supplied Samsung smartphone

Most-used smartphone manufacturer: Samsung

Most requested smart device feature:
Easily issue notifications to customers on their parcel status

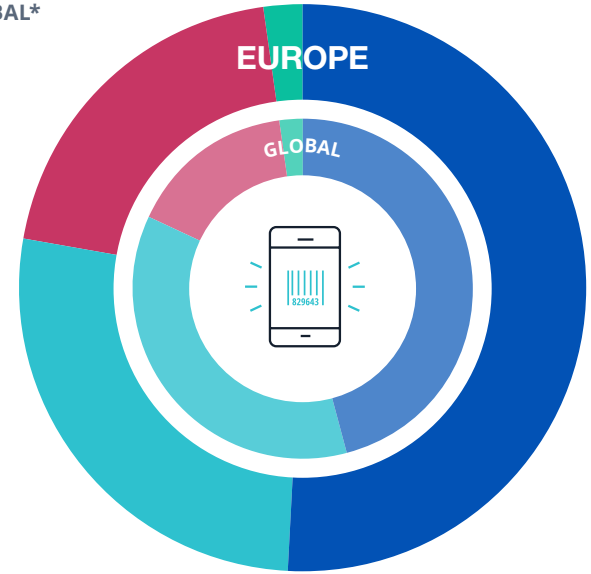
What devices do delivery drivers use?

The majority of European delivery drivers use smartphones as their primary device for scanning barcodes and tracking items during deliveries. What's more, over half of drivers use an employer-provided device, while 27% use their own smartphone. 70% of these BYOD (bring your own device) users are compensated for using their personal devices compared to 58% globally.

A smaller percentage of drivers use dedicated scanning devices for these tasks. This data highlights the popularity of smartphones and the trend toward using smart devices among European delivery drivers.

What is your primary device for scanning barcodes (%)?

	EUROPE	GLOBAL*
	51%	46%
	27%	36%
	20%	16%
	2%	2%



Key

- A smartphone provided by my employer
- My own smartphone
- A dedicated scanning device (laser scanner or handheld scanner)
- I do not use a scanning device to track and register items while working

*Value is under100% due to rounding

Most prevalent smart device manufacturers

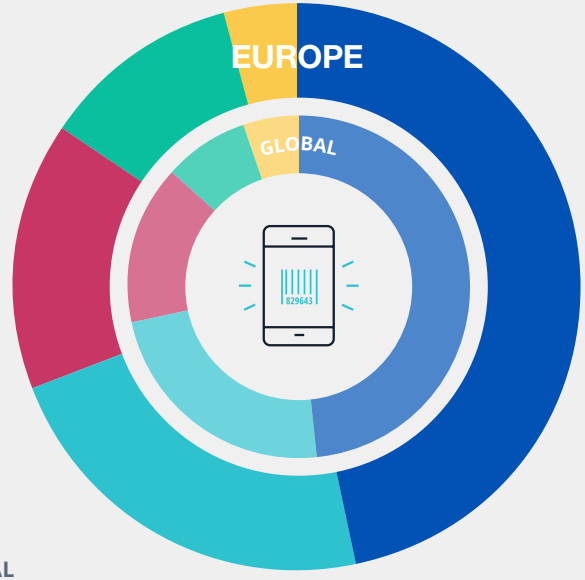
Samsung is the most popular smartphone manufacturer among the European delivery drivers we surveyed, with the majority using their own smartphones as their primary device for scanning barcodes and tracking items during deliveries.

The numbers below cover both corporate and driver-owned smartphones.

Smartphone manufacturer split in Europe

Key

- Samsung
- Apple
- Other Android
- Huawei
- Other

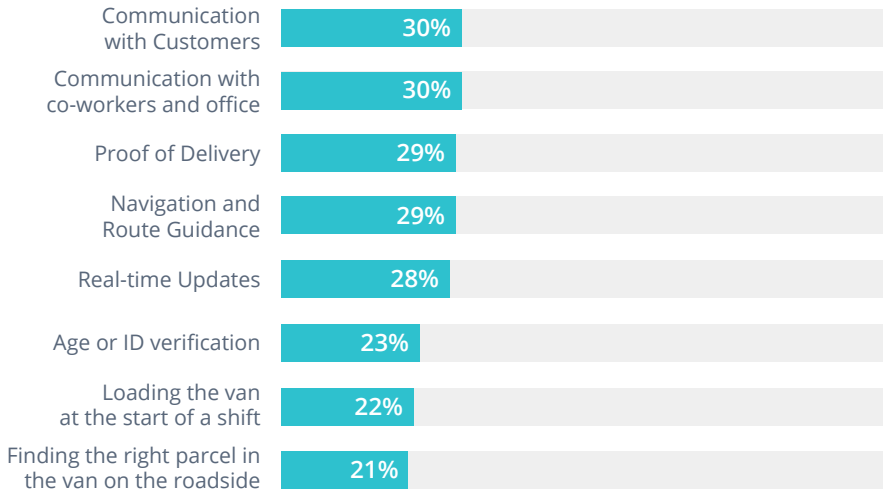


	EUROPE	GLOBAL
	46%	48%
	22%	23%
	15%	15%
	11%	8%
	4%	6%

How smart devices are used in the last mile

Besides scanning parcels, contacting customers is the most common smart device task among European drivers. This is followed by navigation, real-time updates, and communication with colleagues and customers. One smart device can handle all of these use cases (see below) but, besides scanning and tracking, only 20% use it for more than three tasks (compared to 32% globally).

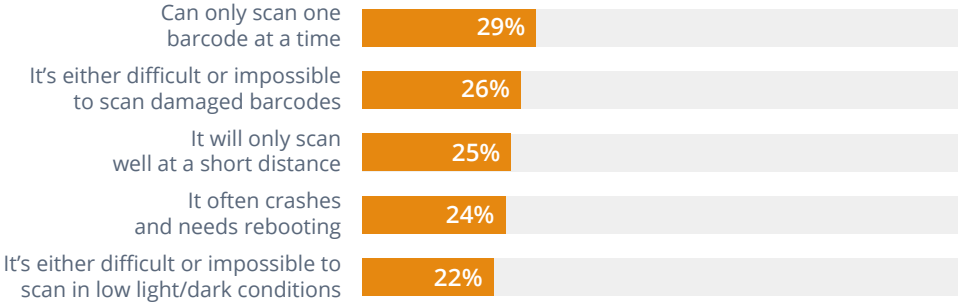
Top smart device tasks



Opinions of the device and how it is used

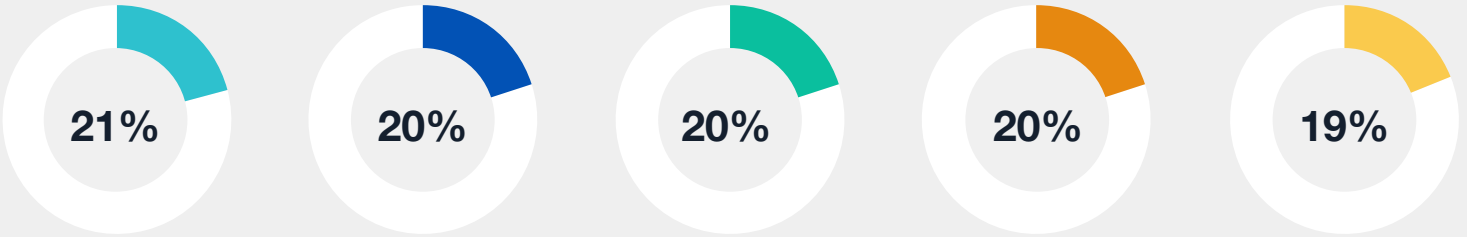
57% of European drivers are positive about their training and how easy it was to understand their application, compared to 66% globally. However, 30% said they wanted the ability to scan more than one barcode at a time. This highlights a common challenge faced by drivers and suggests the scanning technology is lacking some of the functionality currently available.

What drivers dislike about their current smart device app



Drivers' most-requested smart device app features

European drivers would like to see improvements in their ability to issue notifications, the reliability of their apps, and the ability to scan multiple barcodes at once.



Smart devices are crucial but still under-utilized

Smartphones are the most popular device for scanning barcodes and tracking items in last mile delivery. But it's clear European delivery drivers could be getting even more functionality out of them.

Besides tracking and scanning, the top secondary tasks for smart devices in the last mile include communication with colleagues and customers, proof of delivery, and navigation.

Also, many drivers reported difficulty scanning damaged barcodes and a desire to simultaneously scan more than one barcode. This can be solved by deploying the right smart data capture technology and leveraging advanced capabilities like multi-barcode scanning or augmented reality.

European delivery drivers can get more value out of their smartphones and improve their job performance by better utilizing the power of their smart devices. Some last mile delivery companies need to invest in their smartphone apps if they are to improve delivery driver performance.

Final Summary – the Smart Device of Choice for Delivery Drivers

Delivery	Retail	Postal	
47%	43%	52%	A smartphone provided by my employer
35%	41%	34%	My own smartphone

Right now last mile delivery companies face a number of challenges.

Increases in the delivery numbers as e-commerce continues to rise.

Growth in the commoditization of delivery with many customers believing it should cost less or even be free.

Making the most out of existing driver capacity and keeping hold of experienced drivers.

The good news is many last mile companies are well-positioned to meet current and upcoming challenges. The fact that, according to our research, most drivers are carrying a smart device and use one for most of the delivery route should be good news. However, it also shows they are not making use of all of its advantages.

This ability of a smartphone to link into so many driver operations tasks can only be good news. Enabling drivers to rely on just one device creates efficiencies not just in costs but also in workload. It is also clear that drivers like using smartphones – they are familiar with them, and the UI helps with the job.

But to do this accurately needs the right smart data capture software. One of the reasons why Scandit has focused on providing the technology to make the most of today, and tomorrow's, smartphones. This includes features like augmented reality, the ability to scan multiple barcodes at a time, ID verification and much more.

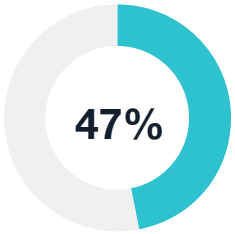
Whether the delivery company goes for a corporate-owned device model or BYOD, Scandit is able to provide the technology that can make a driver application work. And it needs to. The competition for drivers is greater than ever and – as shown in the previous report – the right technology plays a part in whether they decide to stay or move to another job.

GAIN MORE INSIGHTS

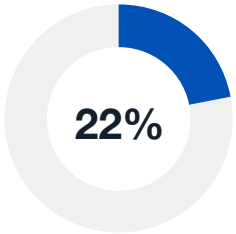
Appendix – How this Research was Sourced

Scandit and Opinium surveyed 1,217 parcel and post delivery drivers across 11 markets in August 2022. Drivers were from the UK, Germany, Spain, France, Italy, the USA, Brazil, Mexico, Japan, Australia, and India. They include gig workers, fixed-term contractors, and full-time delivery drivers. We sought drivers whose main focus was parcel delivery, although many workers had other roles like delivering takeaway food.

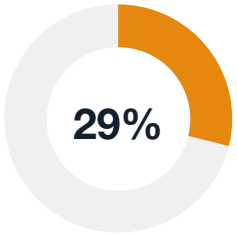
Employment basis/model



Ongoing Contract

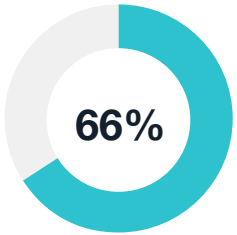


Fixed-term Contract

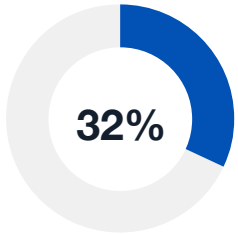


Gig worker

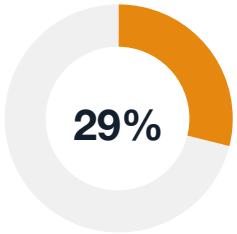
Type of delivery



Courier Company



Retailer



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