

Retail & Consumer industry

Fast-food chains to trial licence plate recognition in drive-throughs

Technology could speed up ordering process and tailor offers to customers



Fast food restaurants across the US are looking to trial licence plate recognition technology, which would offer tailored orders to customers and accelerate the payment process © AP

Camilla Hodgson in San Francisco JULY 9, 2019

Drive-throughs have been a staple of American life since the mid 20th century, but how they work — and how well they know you — is about to change.

Fast-food chains are looking to deploy cameras that recognise licence plates in order to identify customers, personalise digital menus and speed up sales. Coffee chain Starbucks began trialling such a system in Korea last year, with customers who preregistered their cars, but restaurants in the US are now looking to follow suit.

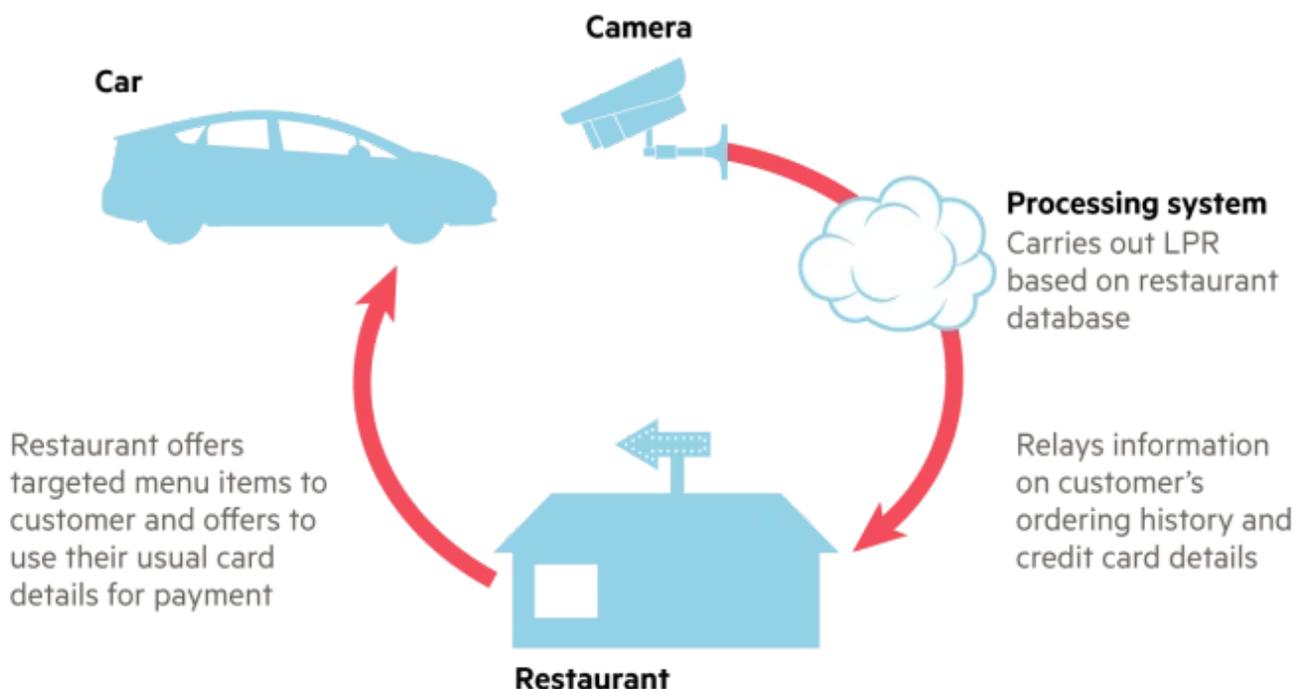
Licence plate recognition has been around since the mid 1970s, and has traditionally been associated with law enforcement and repossession agencies. Cameras attached to police cars or lamp posts “read” the licence plates of

passing vehicles, and compare the results to a database of wanted cars. The system flags “hits”, alerting officers when a suspect vehicle is spotted.

But as the cost of the software, and of high-quality internet-connected cameras, has come down, the uses of LPR have grown: wary homeowners’ associations use private systems to spot criminals, and construction sites use it to monitor incoming traffic. Privacy advocates say this is excessive, however, and that the widespread use of tracking technology is dangerous.

For retailers LPR could help identify repeat customers, allowing outlets to link an individual car with a customer’s credit card and order history — meaning they wouldn’t need to pull out their phones or wallets to pay.

How licence plate recognition works in drive-through restaurants



Source: FT research
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Customers who had signed up to loyalty programmes or a restaurant’s app could add their licence plate to their existing profile; cameras positioned in

drive-through lanes would then take photos of car plates, and the analysis software would determine whether it belonged to a known customer.

How retailers would ask people to opt in, and whether they would store the licence plate images of those who had not, remains to be seen.

‘The advent of these capabilities’

LPR start-up 5Thru said several drive-through chains in the US and Canada were trialling its technology, and it expected to sign its first major contract by the end of next year.

Chief executive Daniel McCann said 5Thru’s technology helped restaurants process around an extra 30 cars a day, by reducing order time. The artificial intelligence-driven system also improves upselling, he said, by recommending items based on a customer’s past orders, the weather and how busy a store’s kitchen is.

Tracking customers using cameras is just one way stores are seeking to become more efficient in the face of online competition. Data-driven innovations include [systems](#) that alert shops when a product is out of stock, to those that attempt to interpret expressions on a customer’s face to gauge their interest.

In March, McDonald’s bought machine-learning start-up Dynamic Yield for \$300m, which specialises in “decision logic”, to help make smart food and add-on suggestions to queueing drive-through customers. Drivers would see tailored options on digital menus, based on factors including the time of day and their selection, the chain said.

In 2017, fried chicken chain KFC partnered with Chinese search engine Baidu to develop a facial recognition tool used to predict someone’s order based on their “age and mood”, and recommend a meal.

Although no drive-through chains in the US have yet rolled out LPR at scale, said Mr McCann, “there are a lot of conversations going on.” Jason Spielfogel, director of product management at security company Identiv, and John Chigos, founder of PlateSmart Technologies, also said the number of inquiries from retailers about LPR was growing.

Meanwhile, telecoms group AT&T said it had received numerous requests from fast-food chains looking to deploy technologies such as facial recognition and LPR via its 5G networks, some of which it was now working with.

“We are at the advent of these capabilities,” said Michael Colaneri, vice-president of retail and restaurants at AT&T, though “nobody has quite pulled it all off.” Given increasing concerns about privacy and surveillance, he stressed the importance of obtaining customer permission before rolling out these new systems.

Data-driven drive-through

In addition to technical expertise, effective data-driven personalisation relies on a huge amount of information about customers. Privacy campaigners have long criticised LPR for being overly invasive and poorly regulated. In the US, states have [different rules](#) governing the technology, including to whom these (increasingly cheap and available) systems can be sold and how long the data may be stored for.

States including Arkansas, Georgia and Maine restrict the technology’s use to law enforcement and security purposes. But business can use LPR in most states without explicit driver consent: US courts have generally ruled that there is no expectation of privacy in licence plates.

Although LPR photos collected by police forces are protected by local laws, some vendors, such as Motorola-owned Vigilant, sell access to huge troves of

LPR data collected by commercial customers. This information is not subject to the same usage and deletion rules that govern law enforcement.

In this context, restaurants “don’t want to talk about [LPR] because it sounds too Big Brother-y,” said Aaron Allen, founder of restaurant consultancy Aaron Allen & Associates.

Which metrics are chosen to help make predictions — LPR cameras can identify a vehicle’s age, make and condition — and how long to store the images for remain key decisions for retailers.

In 2014, a user of online forum MetaFilter [queried](#) whether McDonald’s was “running my licence plate through a database, in near-real time”, after being greeted with a “Welcome back!” by a drive-through employee.

A debate ensued, which prompted talk of paranoia, spying, tin foil hats and the suggestion that “scanning license plates seems like an absurd, time-consuming, expensive, and completely useless thing for a McDonald’s franchise to do.”

But in March 2018, discussing the Dynamic Yield acquisition, McDonald’s global chief information officer Daniel Henry said the company could in future use LPR to personalise smart menus.

Several years previously, in 2012, printing company Xerox had filed a patent [application](#) for a drive-through tool to help track repeat customers, which went a step further — using “vehicle and facial information”.

The company has not yet advertised that specific product. However, Xerox offers LPR services as well as a “passenger detection” police tool. The system uses cameras to identify a vehicle and how many people are in it, and redacts facial images “for privacy purposes.”

