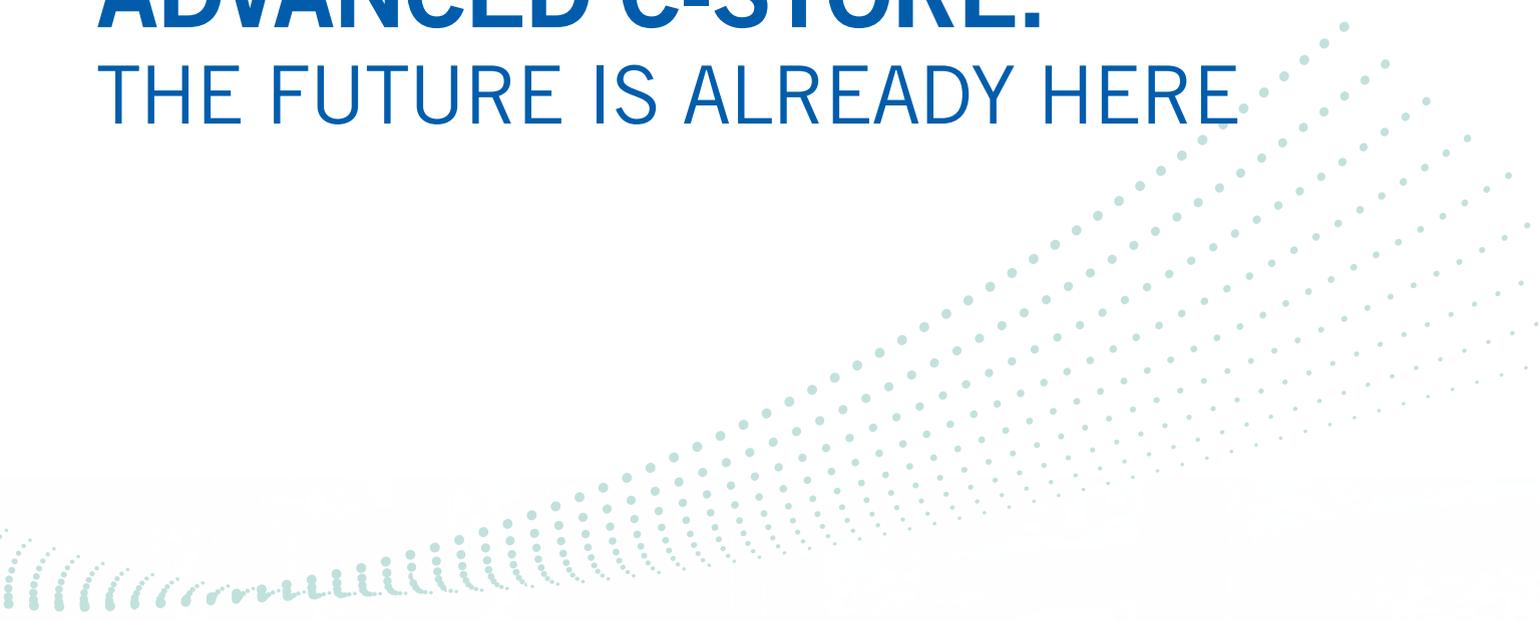


## THE DIGITALLY ADVANCED C-STORE: THE FUTURE IS ALREADY HERE



Artificial Intelligence (AI), robotics, and edge or mobile devices: These are often called emerging technologies. But the fact is, these and similar innovations are here now, most likely at a store near you. Despite the pandemic—and in some cases, because of it—the **digital transformation of the convenience store is well underway.**

Convenience stores that want to compete for today’s digitally connected customers must be able to deliver the shopping experience they’ve come to expect. These days that’s not only one that’s fast, frictionless, and rewards their loyalty, but also one that offers innovations such as **omnichannel experiences, multiple delivery/pick-up options, AI-driven personalized recommendations or better customer data security.**

Convenience stores must be prepared to pivot quickly to adopt the technologies that make that customer experience (CX) possible. Those technologies all rely on one thing: **a strong digital infrastructure**, which includes the network and everything that runs on it. Without the right foundation, new technologies will not perform properly, frustrating consumers and delivering insufficient return on investment.

So while there is no shortage of demand on resources—particularly now—smart convenience stores are **targeting their dollars strategically.** They’re selecting technologies that deliver the experiences their customers most value AND building a **network infrastructure** that allows those technologies to perform at their best.



# WHAT CONSUMERS WANT IN A C-STORE

Safety has quickly shot to the top of the list of consumers' priorities when they visit a store. Retailers need to redesign the customer experience to not only create a safe environment, but also **communicate safety** as an essential aspect of their brand.

Today's customer will choose who they do business with based on perceived value and safety. The C-stores that **win their trust** will be those that actively demonstrate a commitment to:

- **A focus on safety/cleanliness.** Consumers appreciate stores that **implement and carry out safety measures**, such as thoroughly training employees on new safety practices such as contactless curbside pickup, managing occupancy and enforcing mask requirements. Consumers want to see safety, and that comes from employees.
- **Contactless interactions** during fueling, shopping, and payment. Many operators are leveraging customer phones to replace contact with store technology, such as contactless payments and **using QR codes or texts for placing orders** or enrolling in loyalty programs.

**Kwik-Chek** CEO Kevin Smartt expects additional contactless options such as activating a coffee machine from a mobile phone.

- **BOPIS/BOPAC/Delivery.** Adding **store/curbside order pickup** and delivery attracts shoppers reluctant to enter the store.

During the pandemic, [Lou Perrine's Gas and Grocery](#) began offering forecourt and home delivery to customers wary about a visit.

- **Heightened appreciation of frontline workers.** Consumers are not only concerned that staff is healthy and permitted to stay home when ill; they also want to be sure that employers are **treating their employees well**.

**FACT**

*After COVID-19, the percent of fuel sellers that have or plan to install contactless EMV payments in fuel dispensers shot up from 51% to 74%*

Source: [Conexus](#)



# PERSONALIZATION AND OTHER TRENDS PERSIST

While safety has rocketed to the top of the list, consumers are not leaving other expectations behind. Here is how C-stores are already addressing these key consumer trends in their stores:

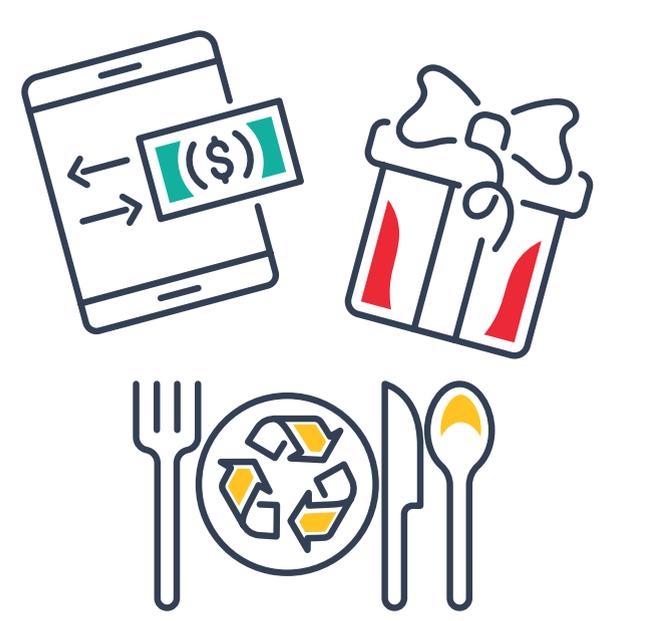
## 1 - PERSONALIZATION

[Couche-Tard's](#) Lift program tracks customers' purchases to offer **personalized discounts** in about 7,600 stores.

**FACT:** 63% of consumers say **personalization** is now an expected part of service  
*Source: The Harris Poll, Redpoint*

## 2 - LOYALTY REWARDS

New York [Valero](#) fuel station operator Rob Chase has sold more than 76,000 incremental gallons via **AI-driven personalized promotions** delivered through a **loyalty app**.



## 3 - HEALTHY FOOD CHOICES

[Racetrack Foods](#) uses sensors and real-time remote monitoring to ensure the safety of their freshly prepared, made-to-order food offering, which requires more stringent processes.

## 4 - MOBILE

**More than half** of stores will offer mobile ordering/delivery by 2023, according to a prediction by retail consultancy King-Casey.

**FACT:** More than one in four consumers surveyed now use **C-store/gas stations apps**  
*Source: CSNews*

## 5 - IN-STORE TECHNOLOGY

Consumers increasingly express a preference for **tech-enabled stores**.

**FACT: 59%** of consumers would shift purchases from a non-automated store to a store with automated technologies if they had a positive experience  
*Source: Capgemini*

# THE EMERGING TECH C-STORES ARE USING RIGHT NOW

Technology is essential to meeting all of these customer expectations. Convenience stores need solutions that **drive traffic and revenue** by addressing both safety and other CX trends, while also ensuring they reduce operational burdens in the face of reduced available labor. For example, a C-store might move **computer vision** to the top of its tech roadmap, to support frictionless checkout apps or to monitor planogram and pricing accuracy.

## FACT

*64% of C-stores identified the need to adapt their technology to keep up with newly formed consumer behaviors*

Source: Zynstra

## EDGE COMPUTING



**Chick-fil-A** is investing in **IoT and edge computing** in a big way to support high-availability, low-latency, in-restaurant applications. For example, because demand is so dynamic, they can use an **edge device** to combine POS keystrokes and fryer work-in-process data on the spot to tell cooks how many fries to cook at any given moment.



## AI, COMPUTER VISION, AND NATURAL LANGUAGE PROCESSING

**Kum & Go** is deploying **AI** to improve **in-store execution**. Applications for this technology include refilling shelves with items from the stock room, resolving out-of-stocks, and correcting ticketing and pricing errors.

## DIGITAL SIGNAGE

While consumers are avoiding kiosk-style **digital signage**, displays are proving useful for **alerting customers** waiting outside when an order is ready, as well as providing updates on store capacity, safety rules, and sanitization measures.



## INTERNET OF THINGS (IoT)

Four UK **Nisa stores** use **smart shelf labels** to monitor stock levels and IoT **temperature monitors** in refrigerators.

## MOBILE DEVICES

With mobile apps and payment already in wide use, experts say **soon-to-come uses** include holding a phone in front of a product or screen to **get information** on a product's calories, sourcing, and even the carbon footprint of its manufacturing process.

## THE EMERGING TECH C-STORES ARE USING RIGHT NOW (CONT.)



### ROBOTICS AND AUGMENTED/VIRTUAL REALITY (AR/VR)

[7-Eleven](#) is using **robots to dispense CBD products** while Japan's [FamilyMart](#) is deploying **virtual reality robots**, tele-operated by employees using VR terminals in another location, to restock store merchandise.

### FOOD SAFETY/ENERGY TECHNOLOGY

[Circle K Stores](#) is actively exploring the use of **blockchain** for product traceability and supplier management, **remote monitoring** for temperature compliance, and **IoT** to monitor water filtering and flow in dispensed beverage equipment.



### NEXT-GEN PAYMENT/SELF-CHECKOUT

[BP](#) is driving toward the “ultimate digitization” of the retail gas experience: digital payment at the pump, **linking those payments to in-store transactions**, and using the data for **personalization**.

### RFID

Japan's [Lawson](#) C-stores are deploying **RFID** tags on products for inventory visibility, frictionless consumer self-checkout, and loss prevention, while customers waving a smart phone over product labels at some [Rite Aid](#) stores can access product information such as ingredients, coupons, potential allergies, recipes, reviews and more via RFID.



### FRICITIONLESS TECHNOLOGIES/AMAZON GO MODEL

[Cruizers](#) is among C-stores that have deployed a **frictionless checkout experience** so customers can scan, pay, and go using the smartphones. [Loop Neighborhood Market](#) leverages **AI** to operate its **24/7 autonomous C-store** in Silicon Valley.

### OTHER EMERGING TECHS

- Order at the pump
- Forecourt video
- Forecourt and guest WiFi
- Tank monitoring



# ESSENTIAL INFRASTRUCTURE FOR EMERGING TECHNOLOGIES

It's not enough to identify which of these innovations to prioritize to deliver the digitally enabled experience consumers are looking for. Often successful implementation of these technologies creates **new demands on a C-store's digital infrastructure** that must be addressed in order for them to perform properly. A payment that takes too long, a loyalty program that fails to redeem a reward, or a digital order that fails to process all bring friction to experiences meant to be made better with technology. This friction detracts from the customer experience and damages loyalty.

## FACT

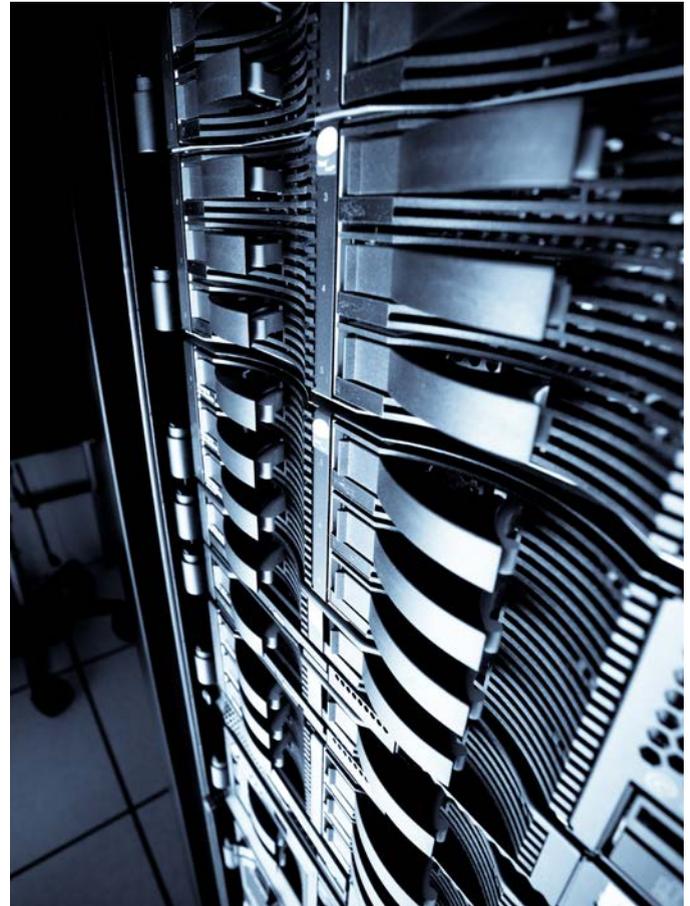
*63% of C-stores say legacy infrastructure has held them back from adapting their store operations amid the coronavirus crisis*

Source: Zynstra

A [survey](#) of C-store executives conducted after the onset of the pandemic found **just 2% of respondents reported no IT challenges** facing their stores during COVID-19, with the **majority (62%) citing legacy infrastructure** as the issue. The most common technologies this prevented them from deploying were mobile payment apps (33%), home delivery (31%), and self-checkout (29%).

Networks need much more than just sufficient bandwidth. They also need to be **correctly designed and managed** to deliver optimal efficiency and performance. This includes:

- **Robust, managed security services** to achieve world-class protection across your digital infrastructure
- **Advanced prioritization/optimization** to ensure critical network traffic and applications perform at their best
- **World-class 24/7 network operations management** for expert, 24/7 monitoring, failure prevention, and fast response to issues
- **Agility and Scalability:** the flexibility to change as needed and grow with your business



## ESSENTIAL INFRASTRUCTURE FOR EMERGING TECHNOLOGIES (CONT.)

- **SD-WAN**, a fast-growing approach to network management that allows companies to transform ordinary broadband connections into an enterprise-grade wide-area network, achieving **higher performance at a lower cost**
- **Broadband aggregation** to ensure consistent performance across different sites and ISPs
- **Nationwide support** to address onsite issues quickly and efficiently
- **Robust analytics** to manage not only network performance, but also application and store performance such as customer behavior, loyalty offers, operating conditions, sales, etc.

- **The ability to optimize cloud-based apps** to deliver mission-critical onsite technologies

With a well-designed, well-managed digital infrastructure in place, convenience stores are prepared to **quickly deploy** the technologies they need to **create the safe and digitally fueled experiences** customers demand. A **strong Managed Network Services Provider (MNSP)** with deep convenience store expertise is critical to enabling operators to build the infrastructure they need to compete.

## THE FUTURE REQUIRES NEW TECHNOLOGIES AND STRONG INFRASTRUCTURE

Consumers are gravitating to C-stores that provide a **safe, fast, and friction-free** shopping experience, and that requires technology. To attract customers and drive revenue, operators must be able to quickly identify and deploy solutions that support consumers' fast-changing preferences. **A solid digital infrastructure** is a must for these technologies to perform properly and deliver on their promise. Aligning with a **strong MNSP** significantly increases C-stores' flexibility to act by ensuring their digital infrastructure is well-designed, well-run, and ready to take on whatever comes next.