



How emerging risks are transforming retail security

E-book

Protect your bottom line

Contents

1	Introduction	03
2	Challenges	04
3	Physical security plays an important role	06
4	Technology	08
5	How Octave can help	09
5	Conclusion	10

Introduction

Protecting goods from theft has always been a core retail challenge, and technology has long played a role. But today's retail landscape is shifting quickly. New technologies are creating opportunities, but they also pose risks for existing business models. In addition, a number of global trends are directly impacting retailers' bottom lines.

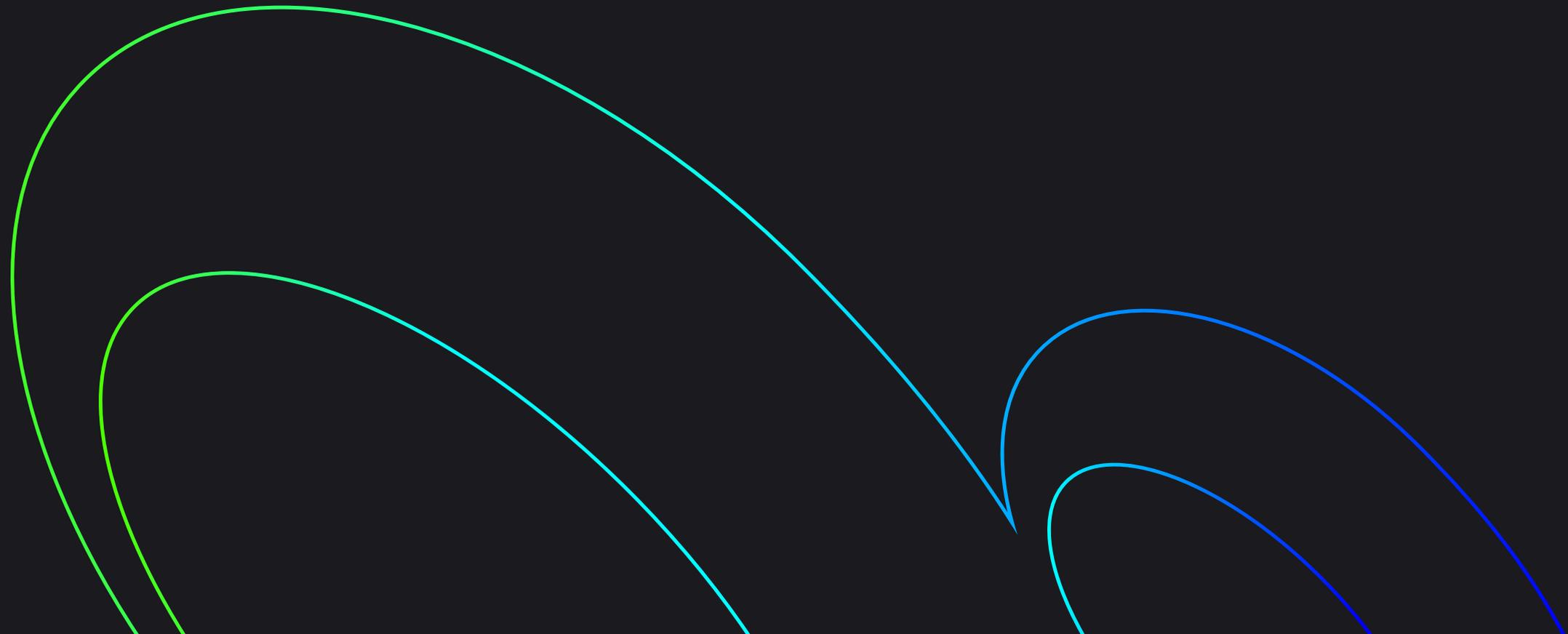
"To meet these new challenges, retailers must rethink the issue of physical security."

Andreas Conrad

Vice President of Marketing, Physical Security
Octave

It's not getting easier for retailers

Multiple trends resulting from global, social and technological changes are coinciding, forcing retail companies to develop new physical security strategies and invest in new technologies.



Challenges

50%

Cognitive Market Research expects an **average annual growth** of 50% for unmanned stores.

Digitization and multichannel sales models

After the rise of e-commerce, more retailers are moving to sales models that combine channels to reach the widest possible range of customers.

“Click and collect” or unmanned stores are just a couple of examples of the new reality of multichannel or even omnichannel models. And the trend toward new sales concepts continues – Cognitive Market Research, for example, expects an average annual growth of 50% for unmanned stores.

\$400M

According to Lloyd’s, the blockage of the Suez Canal after the Ever Given accident **cost** the global economy an estimated \$400 million **per hour** in delivery-related delays.

Increasing supply chain complexities

Major events such as the pandemic, accidents or global tensions have demonstrated the vulnerability of global supply chains.

But it is not just major events that have significant impacts – due to the increasing complexity of logistics processes, even small local disruptions add up to considerable costs.

35%

According to a survey by the German Ifo Institute, 35% **of retailers** in Germany reported a shortage of skilled workers in 2023.

Workforce shortage

The retail labor shortage remains a challenge in many countries, even years after the pandemic. In Germany, for example, 35% of retailers reported a shortage of skilled workers in 2023, according to the Ifo Institute.

These pressures are pushing companies to improve working conditions while also using technology to help close the gap.

17.6%

According to a study by the National Retail Federation, for example, the **return rate** for online retailers in the U.S. was 17.6% in 2023, more than 7% higher than stationary retail.

Sustainability

Consumers expect environmentally friendly business practices and regulatory frameworks are also becoming increasingly strict. The focus is often on the transportation of goods, which poses challenges for e-commerce companies in particular.

According to a study by the National Retail Federation, for example, the return rate for online retailers in the U.S. was 17.6% in 2023, more than 7% higher than stationary retail.

Physical security continues to play an important role

While these trends are already putting considerable pressure on retailers and initiating a large volume of change, companies want to provide a pleasant shopping experience for customers, create a safe and secure environment for employees – and protect the bottom line.



This becomes particularly evident in the following areas:



Preventing theft

Shoplifting remains one of the biggest problems retailers face – and its volume is constantly increasing. According to a study by Capital One Shopping Research, brick-and-mortar retailers in the U.S. alone lost more than \$120 billion to theft in 2023.

Yet only about 2% of shoplifters are caught. As shoplifters develop increasingly sophisticated methods, conventional security systems are often no longer sufficient – new approaches and technologies are needed.



Fighting fraud

There are many different forms of retail fraud that affect brick-and-mortar retailers as well as e-commerce companies and span across the entire value chain. Perpetrators can be employees, service providers or customers. The most common forms include unjustified complaints about allegedly incomplete shipments of goods in e-commerce and fraud with returns in both brick-and-mortar and online retail.

Without suitable technologies that are tailored to respective business processes, detecting and clarifying such incidents is often very laborious and extremely time consuming.



Combating organized retail crime

Organized retail crime is typically theft or fraud conducted by a group of people with the intent to convert illegally obtained goods into financial gains. It is not uncommon for the organizations behind it to be involved in other criminal activities; the perpetrators often do not shy away from violence.

The financial damage is one thing; however, retail workers often feel threatened as well, which makes it more difficult to find employees in times of general staff shortages.



Protecting employees against violence

Violence against store employees is rising sharply. According to The Guardian, UK retailers report an average of 1,300 incidents of violence or abuse against workers every day.

This surge is linked to widening class divides and rising inflation. While retailers once focused mainly on preventing theft, they now face a new and escalating threat to employee safety.

What does this mean for technology?

For decades, technology has been a vital part of retailers' arsenals to protect customers, employees and goods. However, solutions are often outdated, siloed and not properly aligned with today's business needs. As a result, investigations must be carried out manually by security personnel – which ties up human resources, costs time and makes an effective response very difficult. In addition, in times of workforce shortages it is increasingly challenging to find experienced specialists for these tasks.

Leveraging analytics and AI

AI-based video analytics help protect people and goods in two main ways. First, they can recognize certain behavioral patterns in real time, draw the attention of security staff to them and enable a direct response. Second, by generating searchable metadata, they enable targeted, faster and more efficient investigations of past incidents.

Managing technology ecosystems

For most retailers, it is not enough to focus on a perfect physical security solution for a single location. Companies must often manage thousands of stores in different countries, regions and jurisdictions.

An effective loss prevention strategy can only exist if a consistent level of protection can be guaranteed across all locations and stores. That means advanced management solutions must be considered.

Using integrated ecosystems instead of siloed technologies

The integration of various security systems in retail is essential to present security staff with a common operating picture of a situation and, in particular, support loss prevention in real time.

However, integrations not only play an important role for stationary retail; but also e-commerce warehouses and logistics hubs, which can also be protected effectively.

Managing technology ecosystems

For most retailers, it is not enough to focus on a perfect physical security solution for a single location. Companies must often manage thousands of stores in different countries, regions and jurisdictions.

An effective loss prevention strategy can only exist if a consistent level of protection can be guaranteed across all locations and stores. That means advanced management solutions must be considered.

Combining physical security and business processes

When combating fraud, it's crucial to link physical security systems with business processes to support efficient, end-to-end investigations across the value and supply chain.

For example:

- **In brick-and-mortar stores**, integrating video technology with checkout or ERP systems enables targeted reviews of high-risk transactions, such as voids, cancellations, or returns.
- **For e-commerce retailers**, recording the picking process with video surveillance helps document shipment contents and counter false claims about missing items.

How Octave can help

Octave Coda Video

Coda Video (formerly HxGN dC3 Video) is an enterprise-level video management system that enables retailers to protect customers, employees, properties and goods. It is highly scalable, can be flexibly integrated into any technology ecosystem and is characterized by low total cost of ownership.

Octave Coda Video Insight

Coda Video Insight (formerly HxGN dC3 Video | Insight) is an add-on to Coda Video that allows retailers to combine video data with transaction data to speed up the search for relevant events significantly. It's diverse application areas can connect to ERP or POS systems to look for suspicious transactions. It can also help in warehouses and logistics hubs by documenting picking processes or monitoring the transfer of liabilities to third parties. Because of this, it makes a significant contribution to combating losses in a targeted manner and protecting the bottom line.

Octave Coda Umbrella

Coda Umbrella (formerly HxGN dC3 Umbrella) is a centralized administration and monitoring tool that allows retailers to manage video surveillance systems across a large number of stores in different countries and jurisdictions. In addition to efficient mass configuration changes, it allows for the monitoring of all connected sites, making it easier to detect outages in real time.



Protect your bottom line

The world of retail faces new challenges every day, and many advanced technical solutions exist to address them. Understanding retail security is essential for success; it is far more than a low-cost item on a checklist. With a thoughtful strategic approach, security can significantly improve a company's bottom line and become a strong competitive advantage. Octave offers a range of solutions to help make this possible.

Explore Octave's [retail solutions](#)

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets— for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

© 2026 Octave

E-book

