

BUYER'S GUIDE

Intelligent Locker Solutions



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Intelligent Lockers for Comprehensive Asset Management

At their core, intelligent locker systems are advanced, secure storage solutions with integrated computer and sensor networks. Unlike conventional lockers, intelligent lockers use technology to monitor and manage stored items. Because they collect data, they can offer valuable insights into the workflows in which people use those items.

Some basic, stand-alone intelligent lockers are used for package management and delivery. We're seeing these used more and more at small shops, convenience stores, and retail businesses. This guide focuses on the other kind of intelligent lockers, full-fledged intelligent locker systems used for comprehensive equipment management at medium-to-large organizations.

Full intelligent locker systems are powerful, flexible business management tools used today by many public and private sector organizations—everywhere from pharmaceutical production, to law enforcement, manufacturing, and shipping and distribution. Intelligent locker systems provide automated tracking, enhanced security features, and efficient asset management. Intelligent lockers self-manage which assets are available for sign-out, flag items requiring maintenance, and alert administrators to any irregularities in usage patterns.

This guide will cover everything medium-to-large organizations need to know about researching, buying, installing, and using intelligent lockers.



What is in an intelligent locker system?

Intelligent locker systems offer secure storage for business equipment and other assets. Embedded intelligent systems manage access to equipment, verify that the correct items are removed and returned, monitor those items' condition while stored, and collect valuable business data about work in the field from users and the equipment itself.

Installed locker systems can look very different depending on an organization's use case and the work site but regardless of brand, most systems consist of a few core components, including:

- secure storage lockers
- asset surveillance sensors
- intelligent access control panel
- management software

Secure storage lockers

Bare metal lockers are at the core of any intelligent locker system. Lockers from different vendors come in a variety of form factors. Some can have large, open, one-size-fits-all locker compartments. Other systems will use modular and stackable compartments for different-sized assets.

When designed for storing electronic devices, storage lockers often feature integrated power and data ports to keep idle devices ready. Some vendors manufacture climate-controlled and refrigerated lockers for sensitive assets such as medications or biological samples.



Asset surveillance sensors

Asset surveillance systems monitor the condition of idle devices and verify that users take and return the correct items. They issue alerts to administrators for any detected irregularities.

Lockers can use various sensing technologies for surveillance, but the most common are RFID technology and wired USB connections. RFID readers inside lockers can scan tagged equipment to confirm users are not requesting one item and taking something else. RFID sensors can also read tags through plastic cases, making them useful for verifying individually tagged items within a kit.

Wired USB connections can also verify asset identity. They are also useful for charging connected devices and pulling diagnostic codes from laptops, mobile devices, and other electronics.

You can also install other surveillance tools in lockers. For example, some police forces must monitor when officers use OC spray (pepper spray). So, they install intelligent lockers with scales in each compartment that weigh spray canisters before and after signout to confirm whether officers have used them.

Intelligent access control

Each intelligent locker system is equipped with an access control panel, which could be a standard touchpad or a more advanced tablet touchscreen. These panels authenticate users and can be configured to unlock only the specific compartments those users are authorized to access. Additionally, access panels can prompt users with checklists during sign-out or return, enabling the collection of important information about the asset's usage or condition.

Management software

A software management dashboard ties the entire intelligent locker system together. While the design and layout of this software will vary by vendor, all will have some type of interface where administrators can monitor system performance, manage users and alerts, and build custom workflows involving their stored equipment.



What are the most common use cases for intelligent locker systems?

Intelligent locker systems and technology are highly adaptive to many use cases in many industrial and commercial situations. This guide focuses predominantly on industrial use cases for securing, managing and tracking assets in business settings, rather than package or food delivery in commercial settings.



Asset management lockers

Asset management lockers are designed to securely store and track high-value or sensitive equipment. In most public and private sector organizations that could include IT equipment, handheld devices, toolkits, and specialized machinery. These lockers integrate advanced tracking technologies to monitor asset usage and location.

Beyond tracking IT devices, asset management lockers have many industry-specific use cases.

Warehouse management, shipping & distribution

Modern shipping and distribution centers rely heavily on mobile electronics, such as handheld scanners and picking headsets, to track the movement of items in and out of their facilities. Manually tracking these devices is time-consuming and prone to human error. But ensuring that staff always have access to devices is so crucial that many distribution centers purchase extra lots of scanners just to avoid potential shortages.



The costs associated with managing and overbuying these scanners can accumulate quickly. With improved asset tracking from an intelligent locker system, shipping centers can reduce procurement costs and maintain better control over all devices.



Law enforcement

Law enforcement officers must sign out a large amount of essential gear when they go on patrol. Equipment managers can spend considerable time managing equipment handouts and returns at lockers. Even a minute spent per person adds up across dozens of officers, across shifts daily, weekly, and annually. Automated intelligent police lockers reduce transaction time to seconds and manage unattended sign-outs.

Intelligent lockers also serve as advanced evidence management systems for law enforcement agencies. They can restrict and log all evidence transactions. With refrigeration and climate control options, these lockers are also suitable for storing biological samples and other sensitive evidence.

Business offices with hybrid workforces

Companies managing hybrid workforces often face challenges in provisioning work equipment when new hires are remote. Their schedules for in-person handovers may never align with supervisors or IT team members.

Many businesses have adopted unattended intelligent commercial lockers to facilitate secure handoffs. Supervisors can prepare new hire kits and deposit them in intelligent lockers, secured with a temporary access code. New employees authenticate themselves with this code to collect laptops, phones, and other equipment at their convenience.

Transit agencies

Tablets are essential operational aids for fleet managers, mechanics, and other workers at transportation agencies. Technicians use tablets to access diagnostic checklists, parts lists, and manuals during vehicle servicing. If expensive tools and toolkits go missing, entire teams can be tied up searching for them while vehicles sit out of service. Intelligent lockers ensure equipment critical to workflows is ready and available whenever service staff need it.





Hospitals & medical services

EMS and healthcare teams utilize intelligent lockers in various ways. EMTs must ensure they have all the necessary gear and medication for their shifts, as forgetting any of it can cost lives. Intelligent locker asset surveillance ensures all RFID-tagged items are signed out. If anything is missing, the system alerts the EMT or supervisor.

Some medical centers face challenges managing patient belongings, especially with VIP patients. Intelligent lockers allow family members or admitting EMTs to deposit patient belongings, generating an inventory receipt and a one-time sign-out code. Upon discharge, patients use the code to retrieve their belongings.

Hotels & resorts

Process control is vital for housekeeping and customer service activities in the hospitality industry. The front desk and management staff need instant updates on room readiness. Major hotel chains now provide service staff with tablets for tracking work progress. Once housekeeping turns over a room, they log it on the tablet, alerting the front desk.

However, managing this large inventory of tablets can take considerable time and effort. Intelligent locker systems efficiently handle this task, releasing the most charged tablet available at the start of a housekeeper's shift and sending reminders to supervisors if tablets are not returned.

Educational institutions

Educational institutions face unique security and operational challenges compared to the business sector. While individual buildings have tight physical security, they often sit on very open campuses. Intelligent lockers offer numerous applications in this context.

For instance, many universities run laptop lending programs in libraries and classrooms. These institutions need a reliable system to track laptop usage, manage charging, and conduct preventative maintenance that works for all students' schedules, even late at night or on the weekends.

Intelligent lockers automate these tasks, allowing students to swipe their ID to access a laptop for studying or to take tests. Additionally, intelligent lockers can store important A/V equipment and other assets, providing reliable tracking in departments staffed by numerous student workers.

Why use an intelligent locker system?

Intelligent lockers offer more advanced capabilities than conventional lockers and manual tracking processes. Here are some of the most important benefits reported by organizations that integrate intelligent locker systems into their operations.

Increased workforce productivity

Intelligent lockers automate many tedious manual and administrative tasks, allowing staff to access the gear they need quickly. Maintenance workflows are streamlined, and reporting features help identify issues before they impact KPIs. Intelligent lockers can also support Lean management and other business methodologies by generating continuous improvement feedback loops.

Integration support

Modern intelligent lockers can seamlessly connect with other administrative, IT, and security systems. For example, they can integrate with electronic access control systems to streamline user authentication and enterprise resource planning (ERP) systems to synchronize asset data. Data flows smoothly between different systems, reducing redundancy and improving accuracy. It also enables organizations to leverage existing infrastructure, making the deployment of intelligent lockers more cost-effective and less disruptive to operations.

Business insights in real time

Switching from manual to intelligent asset management provides real-time insights and helps identify usage patterns you might not otherwise notice through manual tracking. Intelligent systems, like locker access panels and asset surveillance, can reveal trends that may go unnoticed with manual tracking. For example, you might find that one laptop model is responsible for 60 percent of all hardware failures, leading you to switch vendors in your next procurement cycle.

Enhanced security

Intelligent lockers significantly boost physical asset security by ensuring only authorized personnel can access stored equipment. Each interaction with the locker requires authentication, which reduces the risk of unauthorized use and theft. The real-time logging of all transactions creates an audit trail that allows administrators to identify any breaches quickly.

Comprehensive asset lifecycle tracking

Intelligent lockers provide detailed tracking of an asset's entire lifecycle within your organization. This "cradle to grave" approach covers every interaction from when an asset is acquired until it is retired. Ventilated, climate-controlled, or refrigerated compartments can store sensitive assets, ensuring they remain viable as long as possible.

Ongoing cost reductions

Intelligent lockers minimize losses and optimize asset usage. Automated tracking and real-time monitoring reduce the incidence of misplaced or stolen items, which in turn lowers replacement expenses. The improved accountability and maintenance scheduling facilitated by intelligent lockers ensures that assets are kept in optimal condition, extending their lifespan and reducing the need for frequent replacements.

24/7 automated access

Intelligent lockers offer round-the-clock transaction and management services for your assets, improving availability and freeing up equipment managers for more productive tasks. Unlike human staff, intelligent lockers can't make mistakes, are never late to work, and don't get sick or go on vacation.

Enhanced employee accountability

Every transaction with intelligent lockers is logged in real-time, giving managers and auditors immediate insight into asset usage and any irregularities.

Detailed automated reporting

Intelligent locker systems excel at generating reports based on any set of collected data. You can export reports tailored to different audiences, such as business leadership, operations, internal or industry audits, or regulators.

Improved business process controls

Intelligent lockers enhance process controls by automating asset tracking and management. The system ensures that only authorized personnel can access specific equipment and that all interactions are logged in real time. This level of control helps streamline workflows, reduce human error, and improve operational efficiency. By providing a clear picture of how assets are used and where they are located, intelligent lockers enable managers to make informed decisions that optimize resource allocation.

Reduced equipment losses

An Intelligent locker system's real-time tracking and authentication ensure that assets are always accounted for and returned promptly. You can configure notifications to remind users to return items, and supervisors can be notified of any discrepancies as soon as an item is overdue. As a result, organizations can maintain a more accurate inventory, begin searching for missing items as fast as possible, and avoid the costs associated with replacing lost items.

Factors to consider when planning to purchase an intelligent locker system



Upfront costs vs. Long-term savings

Any new, advanced technology comes with upfront capital expenditures. But with intelligent lockers, those upfront costs are typically offset by considerable savings over time through reduced asset losses, lower administrative costs, and extended asset lifespans. Conducting a thorough cost-benefit analysis can help you understand the total cost of ownership and highlight the long-term financial benefits that justify the initial expenditure.

Understand the Total Cost of Ownership

The Total Cost of Ownership (TCO) for an intelligent locker system includes the initial capital outlay, installation costs, and ongoing expenses such as maintenance, software updates, and hardware and software upgrades. When planning your budget, consider all these factors to get a clear picture of the long-term financial commitment. A detailed TCO analysis can help you avoid unexpected expenses and make a financially sound decision.



Scalability

As your business grows, your intelligent locker system should be able to scale with it. Ensure your chosen system is flexible enough to accommodate increasing users, assets, and locations. Scalable intelligent locker systems allow you to add more compartments and integrate additional features without overhauling the entire system, making it a cost-effective solution in the long run.

Integration with your existing systems

While a stand-alone intelligent locker installation can provide value, full-fledged intelligent locker systems offer the most benefit when integrated with other existing business systems, such as enterprise resource planning (ERP) systems, access control systems, and Active Directory services.

Customization

Every business has unique equipment tracking needs, facilities, and industry regulations. Look for intelligent locker systems with customizable features such as varied compartment sizes, access control methods, and reporting capabilities that can meet your unique needs.

Vendor support

Intelligent systems are living technologies, meaning you cannot simply install the hardware and forget about it. They require ongoing management and support to provide value to your organization. So, the quality of vendor support is an essential factor to consider when evaluating intelligent locker systems. Consider the vendor's reputation for customer support, the availability of maintenance services, and the terms of service agreements.



How to think about intelligent locker ROI

Intelligent locker systems are major capital purchases. Choosing the right system requires careful consideration to ensure the best return on investment (ROI). You don't want to invest in system features you don't need, nor do you want to spend on storage or functionality your organization will never use. Getting the best ROI is about hitting that sweet spot right in the middle.

Since every organization is different, there is no one-size-fits-all template for determining intelligent locker ROI. That said, we can establish a framework to help you understand costs and make informed decisions.

We aim to provide that framework by highlighting key cost factors you need to consider in your asset management program. Evaluate these factors regarding your current and proposed future operations, including an intelligent locker system, to help determine whether you expect a favorable ROI

Personnel-related costs

We must consider personnel and equipment-related costs to calculate the potential value of switching from manual equipment management to intelligent locker asset management. Organizations incur several costs related to the people who manage manual equipment processes. These tasks include preparing equipment, logging new items into inventory, managing transactions, auditing inventory, recovering lost items, ensuring devices are charged, and ordering replacements.

Equipment costs

Human error can also lead to equipment costs. Errors often arise from stress, fatigue, multitasking, or communication issues. For instance, if a warehouse worker forgets to charge a returned headset, it won't be ready for the next shift. When workers do not return equipment as scheduled, supervisors and coworkers must spend time on the clock tracking it down, diverting resources from more productive activities.

Manual tracking is time-intensive, and without reliable records, existing maintenance schedules can break down, and costs will rise over time. You will need to replace more and more lost devices, and inventory records will fall out of sync with what you have available in your facility



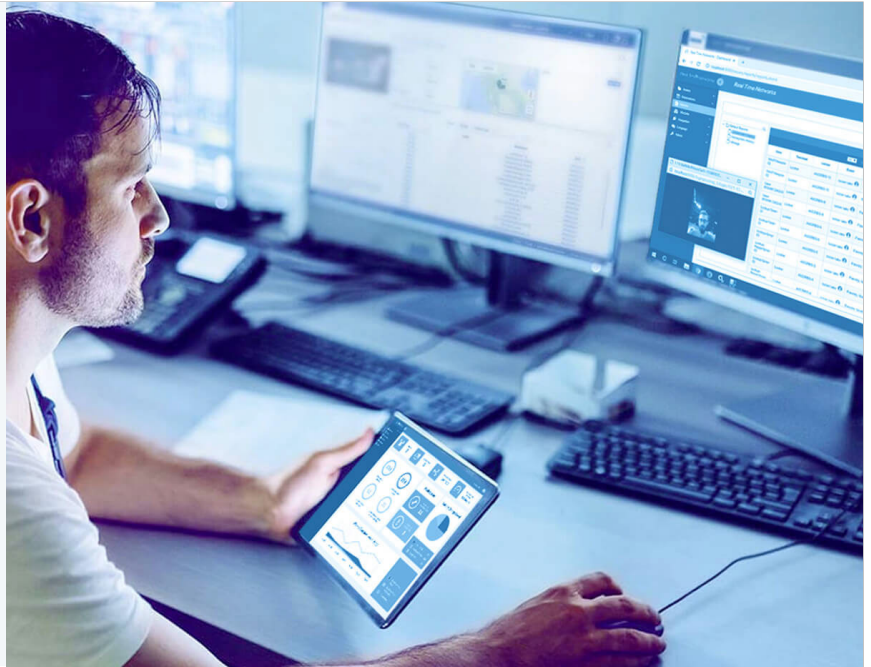
Cost advantages of intelligent locker systems

Installing an intelligent locker system can significantly reduce costs and enhance performance by:

- Alerting staff about unreturned equipment or equipment in need of repair.
- Alerting when consumables like PPE or medical supplies are about to go out of stock.
- Ensuring inventory and tracked assets are always accounted for and ready for use.
- Providing complete, error-free monitoring and logging of equipment transactions.
- Eliminating paper-based tracking and automating inventory management tasks.
- Improving equipment maintenance tracking and control.

Additional value generated from data collection

Intelligent systems generate valuable data that can help you improve operations. They collect information on transaction times and requesting personnel and identify performance trends. This data can reveal opportunities to optimize equipment distribution, inform future budgets, and uncover issues like equipment failures or internal theft. Analyzing this data also helps organizations update procurement plans to meet emerging needs.



Practical purchasing checklist for intelligent locker systems

This is a universal checklist any organization can follow that should guide them through the overall purchasing process for an intelligent locker system.



Pre-installation

Identify your strategic considerations

- Think about your overall business strategy. Align the intelligent locker investment with your broader business goals and objectives.

Conduct a needs assessment

- Identify the specific functions for which your teams' want to deploy lockers (e.g., asset tracking, secure storage, personal employee lockers).
- Determine the types and quantities of assets or items to be stored and evaluate the security requirements for those items.

Evaluate vendors on your shortlist

- Look for experienced vendors with a strong base of customers.
- Check for case studies or testimonials to gauge reliability and customer satisfaction.
- Ensure the vendor offers product warranties and provides ongoing hardware and software support and user training.

Conduct market research

- Research different intelligent locker solutions available in the market.
- Compare features, technology, pricing, and customer service of various providers.

Compare support and maintenance plans

- Assess the quality of customer support and maintenance services offered by the vendor.

Conduct your budget planning

- Understand how the project scope, final budget, and deployment timeline will be impacted.

Special considerations

- Ensure the intelligent locker system complies with industry-specific regulations and standards.
- Plan for comprehensive training programs to ensure smooth adoption by employees.
- Define key performance indicators (KPIs) to measure the success and ROI of the intelligent locker system.

Compare technical specifications

- You should have a shortlist of specific systems you're considering using. Ensure each system meets your technical requirements (e.g., security features, integration capabilities).
- Request a live demonstration of the product to understand its functionality and address any questions.
- Evaluate whether each system can be customized to fit your specific needs and can scale if your requirements change.
- Finally, ensure compatibility with existing access control and IT systems.

Perform a scoping and process analysis

- Account for the cost of hardware, accessory customization, system integrations, installation, and maintenance. Include training costs.
- Create a detailed budget that includes initial purchase costs, installation, training, and ongoing maintenance.
- Consider potential cost savings from reduced labor, increased efficiency, and decreased losses.



During installation

Project Kickoff

- Assemble your implementation team. Include members from IT, facilities management, and other key stakeholders. For example, if you're installing an intelligent locker system in a warehouse for handheld management, include leadership from your logistics team.
- Fully define your installation project scope. Set clear objectives based on the planning, data collection, and stakeholder input you have collected up to this point.
- Set a timeline for the project based on these objectives.

Design your locker system

- Work with your selected vendor to design a system that meets your specific needs. That can include.
 - Customizing locker compartment sizes and configurations.
 - Integrating access control with your existing control systems.
 - Adding asset surveillance tools.
 - Branding the locker system as needed.
- Plan the intelligent locker system's integrations with your other business systems, including your ERP, directory services, and other central business systems.

Setup the locker system

- Schedule delivery and installation with the vendor to minimize disruption to regular operations.
- Oversee the physical installation of lockers. Ensure proper anchoring, alignment, and configuration of each locker unit.
- Integrate the intelligent locker system with existing IT infrastructure and software applications.
- Set up user access permissions and protocols.

Training and education

- Provide comprehensive training for all users on how to use the intelligent locker system. When possible, include hands-on demonstrations and detailed user manuals.
- Train system administrators on managing and maintaining the intelligent lockers. Cover tasks such as user management, troubleshooting, and software updates.

Prepare your building infrastructure

- Verify the power supply is adequate at the installation site and plan any necessary electrical work or upgrades.
- Confirm there is a reliable network connection for the intelligent locker system. Ensure Wi-Fi or wired Ethernet connections are secure and stable.

Conduct a site survey

- Identify the best location for the intelligent locker system, considering factors such as accessibility, visibility, and space requirements.
- Verify that sufficient power and network service are available.
- Verified wall and flooring materials are suitable for long-term locker system mounting.



Post-installation

Schedule regular audits & collect feedback

- Set up a regular schedule to monitor the intelligent locker system's performance and usage. Identify and address any operational issues or inefficiencies promptly.
- Continuously gather feedback from users to pinpoint areas needing improvement.
- Make necessary adjustments to optimize system performance based on the collected feedback.

Continuous improvement

- Keep the system software updated with new features and security patches.
- Plan for periodic hardware upgrades to ensure the system remains efficient and secure.
- Consider integrating new technologies as they become available to keep the system state-of-the-art.

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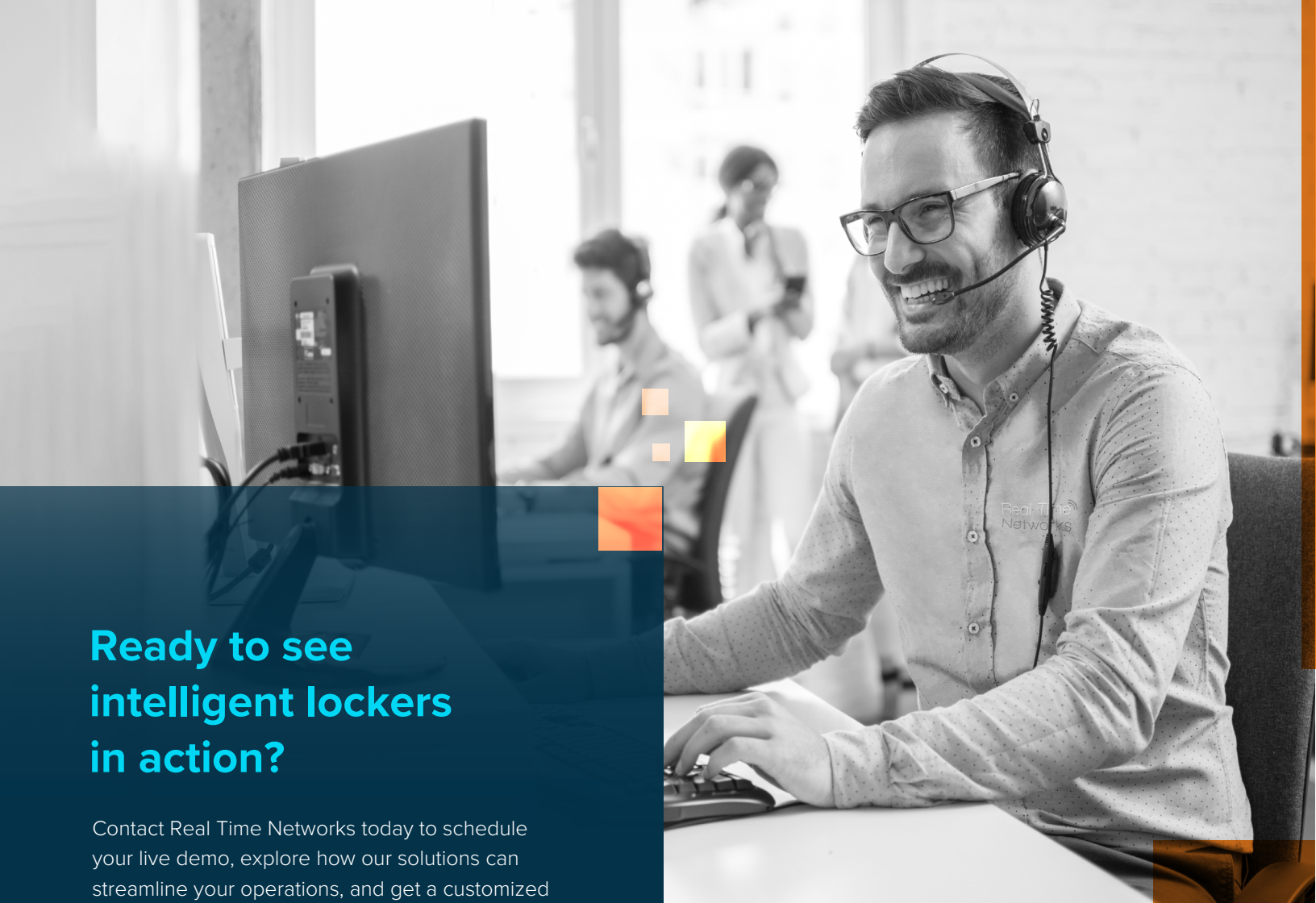
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1-800-331-2882

Get a Quote ↗

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Real Time Networks offers intelligent asset management solutions for public and private organizations looking to work smarter, not harder, with their technology.”

— Mike French, Real Time Networks CEO