KOLO™ Smart Monitoring System:

A Closer Look at Connectivity and Security for IT Professionals

As an IT professional, you're well aware of the rapid proliferation of IoT devices in residential and commercial applications worldwide. You understand how they enable an array of vital enterprise functions, as well as the risks they present. If your business has deployed or is planning to deploy IoT devices, we understand you and your teams must think about critical issues such as network traffic, number of devices on your networks at any given time, cost effectiveness and any risks third-party solutions may present to your business.

25,000,000,000
IoT devices by 2020

Multiple analysts and industry watchers estimate that as many as 25 billion IoT devices will be in use by 2020[4]. For the facilities management function, smart devices can create real opportunity to improve efficiency and drive savings, whether your company is a property tenant or owner. But the reality is that facilities executives' ever-increasing preference for third-party technology and devices can create big challenges for their internal technology partners. If your business is looking at the KOLO™ System, we've designed this piece to address questions and concerns you may have about how the system works and why it's a sound and secure choice for your business.

About the KOLO™ System: Connected devices that support overall business goals

Designed specifically to work in harmony with your existing IT infrastructure rather than around it, the KOLO family of smart devices alert facilities staff to device status, helping you ensure building patrons have consistent access to essential supplies such as paper towels and soaps in kitchens, restrooms, labs and other settings across industries. Trusted by facility and property managers and IT teams nationwide, KOLO devices are thoughtfully designed to operate reliably, securely and seamlessly with our customers' systems and processes. Our devices are easy to implement and manage, and are designed above all to support the broader business goals of IT and facilities management teams. Using the KOLO System can help you:

Enhance user satisfaction.
Real-time reporting of dispenser status helps you ensure products are refilled at just the right time for both staff and patrons, preventing outages and minimizing the complaints so often heard by facilities teams.

Boost labor efficiency and productivity.
Ongoing monitoring across facilities helps your company place the right people on the right task at the right time.

Reduce waste and excess expense.
Thoughtfully timed notifications for action to check and refill dispensers help you minimize waste and support broader sustainability goals.

Security and risk prevention measures

Despite, or perhaps as a result of, the growing ubiquity of IoT devices, data security remains a foremost concern for businesses when implementing any IoT solution. We understand you need complete confidence in any device or application introduced into your technology ecosystem. Our experts have embedded multiple security safeguards including encrypted communication and pin security, going beyond industry standards to ensure KOLO™ solutions are as secure as possible at every single point in the system.

Rigorous, independent security testing

In addition to the various safeguards embedded in the KOLO™ System, we undertake rigorous third-party security testing to check for potential vulnerabilities. This includes annual PEN (penetration) testing by a highly reputable outside security firm, as well as monthly and other ongoing testing.

A system designed to give you security and control
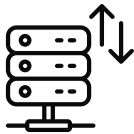
Allows IT teams to manage KOLO dispenser traffic on your network however you choose, including the ability to segregate it completely if desired
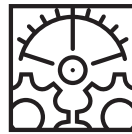
Can be setup to transmit on private network limiting accessibility and usefulness of dispenser data to outside parties

Outbound-only data transmission from KOLO devices to the KOLO cloud reduces risk of intrusion

Does not require inbound internet traffic

Supports multiple encryption protocols

Supports whitelisting of MAC addresses

Wireless Network

Data uploaded to the Internet via wireless

Building-provided Wireless Internet

IoT LAN

Data from cloud is sent to user interfaces for managers and custodians

3rd Floor Men's Room
Dispensers send data via IoT LAN to a collector

Connecting KOLO devices via wireless Internet

The data is uploaded to the cloud over a TLS 1.2 encrypted connection. There aren't any open/listening ports in the collector and the wireless radio is turned off when not in use. The cloud is secured with best practices by the KOLO infrastructure team. Web and mobile apps are secured through TLS, role-based permissions.

IoT LAN PIN required to connect to any GP device with data encryption. No listening sensors in any of our dispensers or collection of any personal data.

The collector conforms to your wireless security environment (WPA, WPA2, AES). The collector can be updated to apply any security patches if needed.

More connectivity and more value with less effort

Flexible open architecture.
The KOLO™ System allows for future integration with other facility management systems and partners. Unlike some device providers, we don't believe in making our customers dependent on our software or staff. We intentionally designed KOLO devices to give you maximum control and flexibility over time.

Immediacy of OTA (over the air) updates.
KOLO firmware can be updated quickly all the way down the stack, including the sensor firmware and the firmware that operates the devices themselves. Devices can download critical updates or functional enhancements instantaneously without the need to replace or update components. Your business can begin taking advantage of updates immediately, with no delays or disruptions. Updates simply occur in the background or we can alert you in advance, in accordance with your preferences and policies.

User-friendly design for your facilities management leaders and staff.
Our intuitive, contemporary interface makes it easy for users to get the information they need on their own. With the KOLO™ Clean app, timely alerts and status reports are pushed to your clean teams' mobile devices. And with the KOLO™ Central Dashboard, operations managers can get a real-time view of usage and maintenance activity across facilities all in one place. We train users at the time of implementation and provide the vast majority of end-user support, calling on our customers' IT teams only in the rare cases collaboration is needed in order to solve a specific challenge.

Flexible network connectivity options to satisfy your need for speed, control and scalability.

We have designed the KOLO™ System to keep flexibility and ease of maintenance for our customers as a priority. Our system can use your existing IT infastructure or it can be setup on its own network separate from any IT systems if you prefer. As the system functions day to day, it generates only miniscule amounts of network traffic.

Decisionmakers may be interested in implementing smart solutions such as KOLO devices. But given the rapidly changing landscape, even the most sophisticated organizations may need guidance in making confident decisions about which protocol to employ.

Our team has years of combined experience in connecting devices in various settings and can solve virtually any challenge a customer may have. For some customers, a single protocol may be used, and for others a combination may be needed. We'll work with you to develop a configuration which balances range, power consumption and bandwidth, and which meets your needs now and in the future. From our earliest conversations, we'll collaborate with your team to ensure KOLO™ System traffic in no way interferes with your network traffic and speed, and to ensure you have complete line of sight into all aspects of the system.

As IT professionals well know, virtually all computers, phones, and laptops connect to wireless networks. By all indications, it is here for the long term, with extensive investments and advances continually being made within this staple technology. Because of its prevalence, reliability, long expected lifespan and ease of implementation, wireless is generally the most ideal method for adding KOLO devices to your ecosystem. Additionally, KOLO devices operate on 2.4 GHz. With significant amounts of traffic moving to 5GHz, 2.4 offers an ideal solution for connected equipment with low bandwidth and better range requirements.

Connecting your KOLO devices using wireless makes it easy to use your existing infrastructure, is an extremely cost-effective solution, and makes future upgrades painless for your team. It also satisfies one of the top concerns we hear from customers by giving you complete line of sight into network traffic and security.

When needed, we can also work with you to deploy cellular hotspots to create a custom KOLO network. There is some additional cost involved, but this can be a good option if your team has plans to deploy a dedicated IoT network but has not yet done so.

KOLO™ Common use case scenarios

Customer Wireless Network

For customers using a wireless network, we may suggest KOLO traffic be segmented on a separate VLAN to ensure it does not interfere in any way.

Multi-tenant Buildings

In a multi-tenant building with no contiguous wireless network or in a large single facility (e.g. industrial space), a Wireless Wide Area Network (WAN) solution may be most fitting.

Arenas and Stadiums

For a large single facility such as an arena, stadium or convention center with dead spots, Wireless Wide Area Network (WAN) may be the best choice.

Office and Campus

In a facility with contiguous wireless network such as a single-tenant office building or educational campus, wireless together with IoT LAN may be ideal.

Georgia-Pacific

Wireless Wide Area Network (WAN)

IoT LAN

3rd Floor Men's Room
Dispensers send data via IoT LAN to a collector

Data from cloud is sent to user interfaces for managers and custodians

Another option for connecting KOLO devices: Wireless Wide Area Network (WAN)

For cases where a wireless network is not the ideal choice, we can use Wireless Wide Area Network (WAN) technology to create a separate, custom network within your facility. While it generally involves some additional upfront expense and usually is not as cost effective as wireless, its encryption capabilities, easy deployment, long range, and low power utilization can make it the best option in many cases. It works in tandem with IoT LAN to further minimize power consumption and is backwards compatible with an existing wireless setup.

Regardless of your physical space features or your IT considerations, we'll work closely with you to craft solutions that play well with your existing systems.
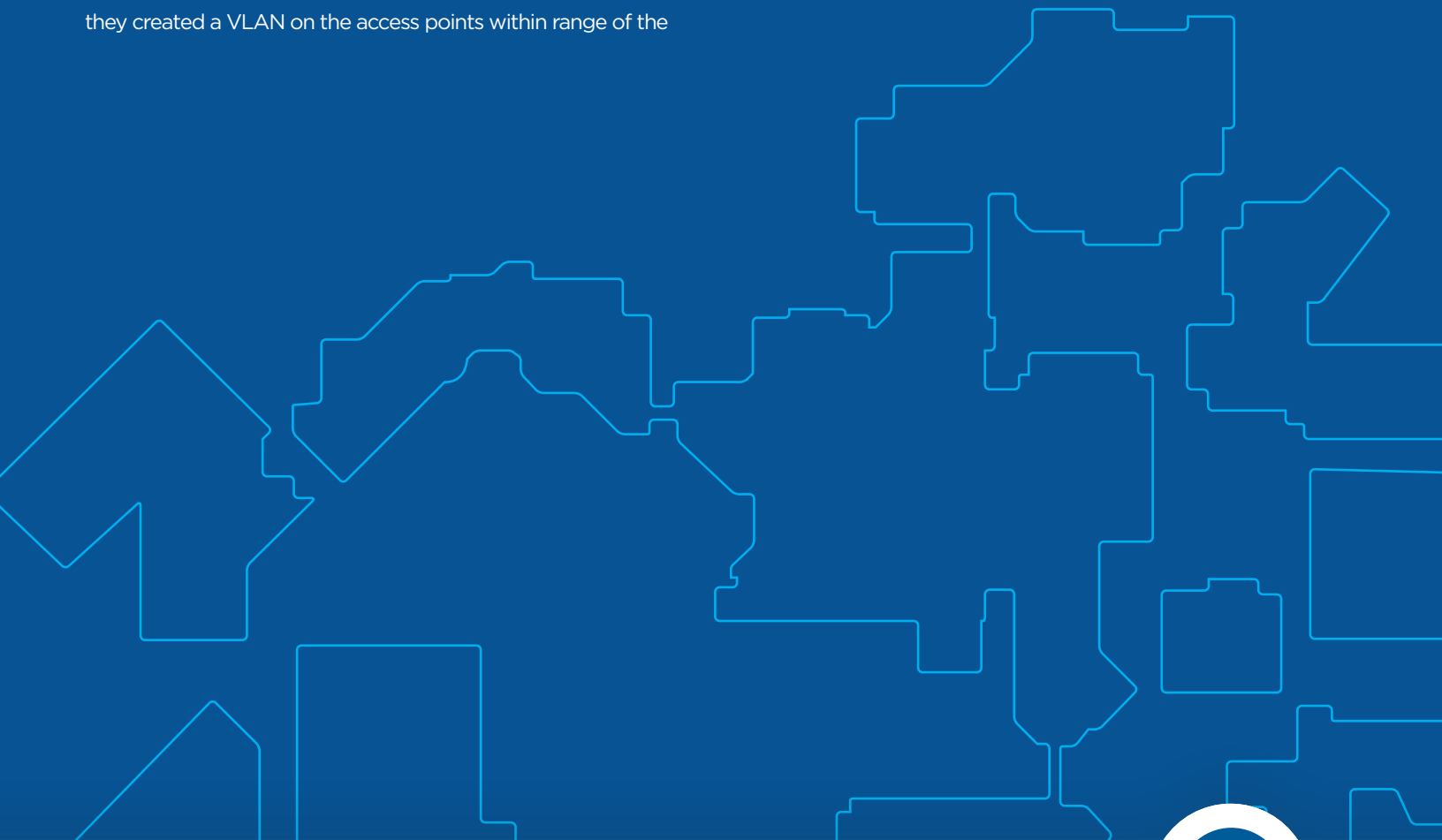
Connecting the KOLO System: A simple network solution and more efficient operations for one college campus

A community college with multiple buildings (such as science labs and classrooms) needed a more effective way to anticipate and manage outages of tissue, towels, and soap in various dispensers. Facilities managers had traditionally employed a team of day porters to monitor supplies and respond to complaints from staff and students, but they wanted to find a way to reduce complaints, bring down costs, eliminate waste and be viewed by other university functions as a more competent business partner.

The college's IT department already had a wireless network place to support students and staff. Working with the KOLO team they created a VLAN on the access points within range of the

washrooms and other dispenser usage areas, segregating any device traffic on the network. Traffic (nominal at roughly 200kb of data per day per device) was then routed to the KOLO cloud server via an encrypted connection.

The KOLO™ System has proven both simple and ideal for the college's technology team. Most importantly, it has helped the facilities function significantly improve one of their most important performance measures—a significant reduction in complaints.

About the GP PRO KOLO team

Our team includes an array of technical experts, from product specialists to data analysts to network engineers. Many of us have served in IT departments and understand firsthand the needs and pressures faced by IT executives. Whether you're a small, locally based team or have project stakeholders around the world, we can work with you to develop a seamless implementation plan that meets your needs.

Regardless of where your business may be in adopting smart devices, we can help. If your systems are highly evolved, we can look for opportunities to drive innovation even further in your organization's facilities function. If you're in the earliest stages of considering IoT solutions and need more in-depth guidance, count on us to listen closely and provide objective advice that's in your best interest.

Learn why the KOLO™System makes sense for your business

We welcome the opportunity to consult with your team. We're also happy to provide case studies, details of our most recent security audit, and more detailed technical system specifications to ensure your full confidence with the KOLO system and team.

Working together, we can suggest elegant, sustainable solutions that deliver significant impact for your business while ensuring a secure, sustainable system that works while maintaining your IT standards and processes.

Contact us at gpxpress@gapac.com or 1-866-435-5647.

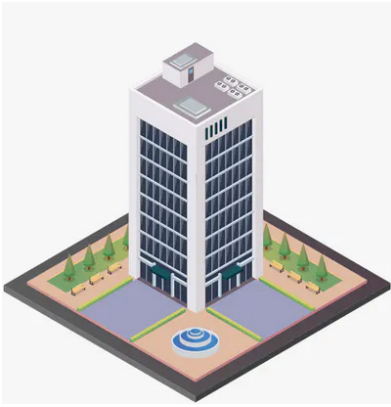1 https://www.computerworld.com/article/3412294/how-these-businesses-are-using-the-internet-of-things.html#slide4

2 https://facilityexecutive.com/2018/01/improving-operations-and-maintenance-with-iot/

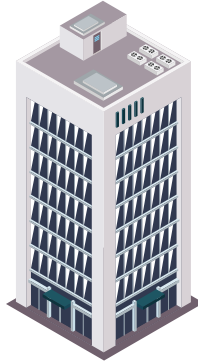3 https://facilityexecutive.com/2018/01/improving-operations-and-maintenance-with-iot/
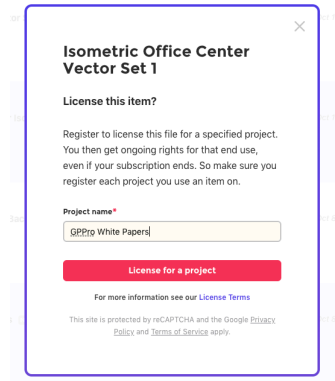
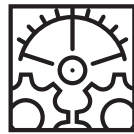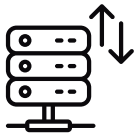4 TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD

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Isometric Office Center Vector Set 1

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