

> M5 Smart-Sensor System



Our next-generation M5 smart-sensor system:

The latest innovation in camera-based parking guidance.

Equipped with one or two CMOS digital cameras, each smart-sensor can monitor up to six (6) parking spaces simultaneously. Built into the M5 Smart-Sensor is a full spectrum RGB (LED) indicator which can be configured remotely to display thousands of colors to indicate occupancy status and parking space type (i.e. standard, permitted, premium, electric vehicles, handicapped, etc.). Poised for future advances via firmware upgrades along with expansion opportunities via a USB expansion port, its attractive housing has a seal rating of IP66, preventing the ingress of water and dirt from the advanced electronics.



A smart parking ecosystem
designed for the future.



A sophisticated solution pushing the boundaries of parking guidance-and-beyond technology.

Before introducing our camera-based smart-sensing system, parking facility owners and operators only expected parking guidance systems to do just that: guidance. However, as the parking industry has evolved, more and more, they are turning to high-tech offerings that help elevate the customer experience, increase garage security, and enhance the overall brand.

Utilizing the same ground-breaking technology that underpinned our previous generation of sensors, our new camera-based M5 smart-sensing system puts processing intelligence right at the parking-space level. Each individual sensor has the ability to stream HD video to a video management system, while also sending rich data for our integrated License Plate Recognition (LPR) and occupancy tracking.



Simple installation, unprecedented functionality, elegant design.

The streamlined layout of our smart parking installation is as functional as it is aesthetically pleasing. M5 smart-sensors with dual cameras are installed above the driving lane to monitor up to three spaces on each side. This unique vantage point provides the IP-based cameras with an unobstructed view of parked vehicles – while providing parkers with clear sight lines for easy guidance and navigation. In addition, each M5 sensor houses its own processing unit for vehicle detection and memory for data storage; the M5 sensor will still continue to detect occupancy/vacancy, update its LED light bowl, and store parking data, even if a network or server interruption should occur. When connection is restored, the M5 sensors will then transmit stored data to the server.

Real-world proven across the globe.

The guidance-and-beyond technology that underpins our smart-sensing system has already been refined through a decade of real-world service. Now successfully installed in more than 45 countries, TKH Security's parking systems are field-proven in extreme conditions ranging from Canada to Saudi Arabia. Concrete proof our technology is able to perform at a peak level – day after day, even in the world's most challenging environments.

Many companies would stop there to rest on their laurels. At TKH Security, we continue to concept and develop capabilities for our core technology that others aren't even thinking about. As a result, we are continually innovating to develop the next game-

changing technology. This enables parking facility owners and managers to confidently champion our automated parking guidance solution as the most advanced option available – one that comes with the dual assurances of maximum reliability and future-proof technology.

Built-in fault tolerances to ensure system integrity and reliability.

The continual dialogue between the intelligent M5 smart-sensors and the core system ensures overall reliability as well. The core server continually monitors the daisy-chained installation, sending notifications for any compromised sensor. Signals continue to pass downstream until the sensor error is resolved.

Providing data-driven business intelligence: An invaluable partner for third-party providers.

TKH Security regularly collaborates with third-party solution providers to create mutually beneficial relationships. A revenue control provider, mobile app developer, wayfinding kiosk manufacturer, or a supplier of other parking services, the resulting synergy can be a powerful tool for both business development and product advancement.

Our guidance-and-beyond solutions, driven by secure APIs and License Plate Recognition (LPR) technology, are designed to seamlessly integrate with existing or planned installations of PARCS and other revenue management systems. With the ability to quickly scope out a field-proven solution at the RFP stage, TKH Security also provides documentation and advice throughout the development process to ensure a successful outcome.

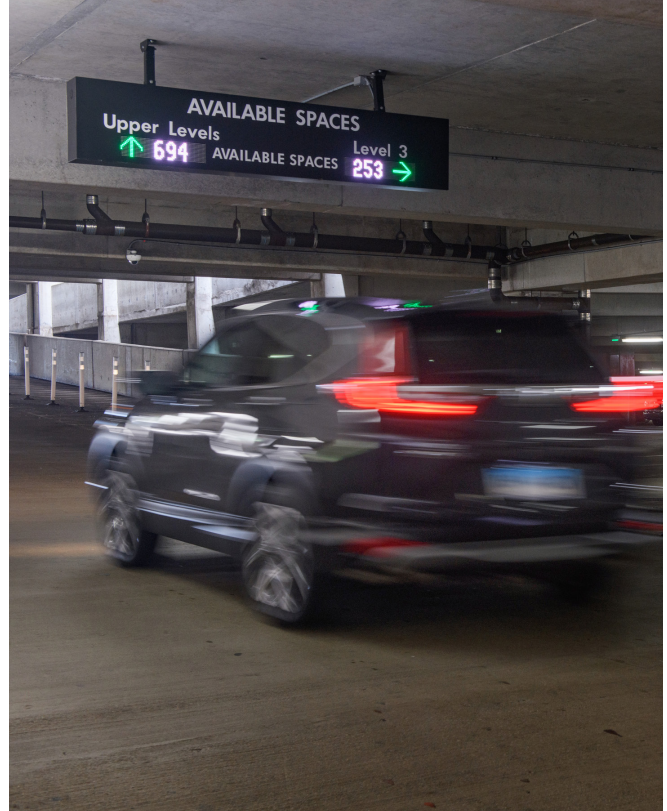
Our seamless wayfinding continuum:

The quality and customer-friendliness of a parking facility are often overlooked at many properties. However, the parking experience can be used to elevate the first impression for valued guests and visitors, to set their expectations for the remainder of the visit, and to enhance a property's overall brand-building strategy.

Our approach to guidance is to remove all stress and uncertainty from the process. The overarching goal is to provide a seamless and stress-free experience for each parker – from initial entry to an open space – while improving overall traffic flow throughout a facility or across an entire property.

Next-generation guidance at every key decision point.

Through the unique synergy of our camera based M5 smart-sensing system and customizable wayfinding signage, parkers are treated to a higher level of guidance and convenience from the moment they arrive, along with valuable follow-up guidance at every key decision point.



Time-to-park reductions from 36% to 63%.*

Through the combination of our advanced wayfinding signage and the bright signaling LEDs on our smart-sensors, the effect of a M5 smart-sensing APGS on average time-to-park (T2P) has shown to be:

- A 36% reduction in T2P in the main car park for medium-term and long-term parking
- A 50% reduction in T2P for primary entry levels servicing short-term parkers
- A nearly 63% reduction in T2P for drivers parking in disabled bays – a time savings of nearly 5 minutes per event



* According to a science-based benchmarking study on time-to-park conducted in collaboration with the Brisbane Airport Corporation (BAC). This groundbreaking before-and-after APGS analysis encompassed two parking facilities with a combined total of 7,903 individually M5-monitored bays. Download our free whitepaper on the study.



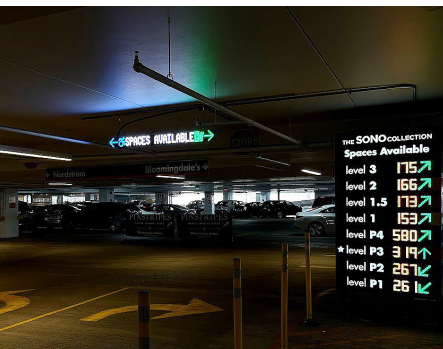
Signs upon arrival:

For properties with multiple parking areas, a multi-facility sign announces the number and types of available spaces at each garage or surface lot. This continually updated information enables parkers to decide on the best facility to park in at any given moment.



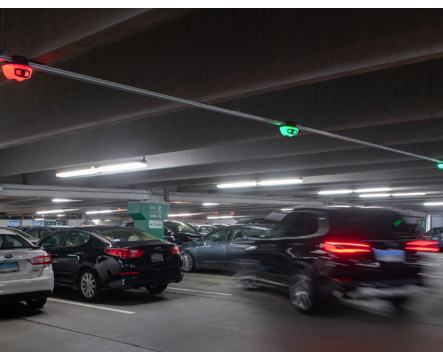
Secondary signage within a chosen garage:

Once a parker has decided to park in a specific garage, a dedicated sign displays the number of available spaces on each level.



Directional interior in-aisle pointers:

Once a parker has committed to searching for a space on a particular level, these digital signs enable a parker to make on-the-spot decisions. Our VMS-NAV signs can display a wide range of guidance information, including the number of currently available spaces for its indicated area, icons, and textual messages enabling visitors to quickly make decisions about where to park.



Signaling color-coded LEDs on the smart-sensors:

This is where the M5 sensors, which have been providing up-to-the-second occupancy data to the core system all along, really kick in to finish the wayfinding process. In addition to green (open) and red (occupied), these bright, clearly viewable LED indicators can be programmed to display thousands of colors to denote special-purpose spaces – i.e. blue for handicapped, yellow for electric vehicles, etc.



Our pioneering Park Finder™ functionality.

Included as part of our *INX* Core Platform, the *Find Your Car™* feature of *Park Finder* completes the loop. A returning parker or facility staff member can find the exact location of a vehicle by typing three numbers or letters from the license plate into a touchscreen kiosk or smartphone app, or by inserting a parking ticket at an enabled pay station.

VMS-NAV Signage

Full-matrix LED displays for unprecedented design freedom.

When it comes to messaging and design flexibility, automated parking guidance system (APGS) wayfinding signage has long been constrained by the limits of 7-segment inserts. With the new full-matrix variable message sign (VMS) inserts from TKH Security, parking facility operators now have free rein to create and broadcast an expansive set of digital messages, including detailed RGB custom graphics, in millions of colors.

A fine-detail palette for maximum messaging flexibility.

Compared to typical inserts, our VMS-NAV's LED matrix brings far more versatility and resolution to the picture. This active area can be populated with dynamic 24-bit RGB text and icons, instead of a limited set of predefined messages and graphics. Millions of colors/gradations enable signage to be tightly aligned with brand and architectural palettes. Enhanced brightness pixels, continuously adjustable, are a particular benefit for outdoor signage.

With generous sized characters for exceptional readability, our advanced LED displays are software configurable and have high brightness for outdoor use. The high-quality construction of these durable inserts also keeps detrimental dust and water away from the sensitive electronics.



Easy installation, setup, and maintenance.

Antiquated signage protocols in use today date as far back as the 1950s. VMS inserts from TKH Security are engineered to use current-day Ethernet protocols with DHCP-enabled connectivity. This greatly simplifies installation and operations while reducing the related costs. Technicians can also be easily trained to configure inserts across the network, compose customized sign libraries, and quickly troubleshoot connectivity issues that may arise.

Ready for TKH Security's sign enclosures, or as standalone units.

Our modular VMS-NAV inserts are sized for ready insertion into enclosures across our varied signage portfolio. Retrofit opportunities are also possible, depending on the individual system scenario.



LCD-NAV Signage

Our LCD-NAV sign is both dynamic and customizable for real-time content updates. This unique signage solution delivers maximum value to Operators, Marketers, and Management teams, catering to the ever-changing needs of their facility and empowering their clients to make the best parking decisions at a glance.

Increasing customer engagement by the minute.

Utilizing LCD-NAV signs, you can easily engage and attract greater attention from parkers by providing up-to-the-minute content updates at all entry and exit points. LCD-NAV communicates critical information more effectively with dynamic content changes. Whether it's providing guidance to parkers, or alerting your customers of garage maintenance or onscreen branding/promotional initiatives, the LCD-NAV enhances parking guidance, increases garage efficiency, and taps into unrealized revenue opportunities.

Advanced technology engineered to simplify design.

Save time in signage design by accessing pre-built templates to customize your screen. Through TKH Security's content management system, users can change colors, add a company logo, and display dark or light themes that are effortlessly deployed at the touch of a button. Take greater control of your content with this powerful screen editing feature.

Reliable remote operation.

The LCD-NAV features a weatherized commercial-grade 49" or 55" outdoor LCD display. With a full HD1080p resolution, this solution is ideal for outdoor use, with a bright and crisp display, even in direct sunlight. The web-based content management system enables the unit to be configured and monitored remotely, allowing you to stay connected with your customers at all times. The LCD-NAV outdoor display is an all-in-one plug and play solution, the latest innovation in parking guidance.



The core of our revolutionary data-driven ecosystem.

In any crucial procurement decision, you typically have to choose between the industry innovator and the safer low-risk choice. With an M5 smart-sensing system, you receive the best of both worlds: leading-edge functionality and field-proven performance.

INX™, our cloud-based interface, provides Management, Operators, and Marketing teams, with real-time data using dashboards, historical reports, and comparative analyses to seamlessly improve the parking experience, operational efficiencies, and create new revenue opportunities. Offering a simple, single point of access to parking garage data, it helps asset owners measure the performance of their garage and gather insights into user behavior.



The most sophisticated software platform the parking industry has ever seen, our cloud-based *INX* Platform delivers unprecedented data-driven functionality and performance at every turn.

INX: Unleashing the true power of camera-based parking guidance.

With our *INX* Standard Platform, included with every M5 system installation, all the elements you could need to heighten customer experience, efficiency, and profitability are strategically interconnected. Standard features include:

- **Interactive Dashboards.** Interactive views of live data and KPI statistics.
- **Incisive Reports.** Historical activity reports for selected time/zones/bays.
- **Park Maps.** User-friendly configuration for floor plans, devices, and event streaming
- **Park Finder™.** Pinpoint identification of vehicle location/history for parkers and operators.
- **Routines.** Proprietary logic engine for customization, automated alerts, and more. This feature unleashes access to our popular Park Alerts™ module.
- **Park Assistant™.** All-in-one module for documentation and training.

API Integrations. Designed for your unique needs.

As an extension of our *INX* offering, **Park API** enables you to integrate your parking data into a virtually limitless set of third-party solutions.

The secure access, to the vast dataset generated by our camera-based APGS, extends the way the data can be consumed and leveraged by your internal teams and external customers.

Park API offers:

- Secure system control to configure sensor indicator colors, signage content, and count information
- *Find Your Car* functionality within your own website or mobile application
- Live streaming of parking data to third-party applications for custom reporting

Already proven. Always innovating.

The parking sector is no place for untried technology. Your chosen system provider also needs to have a comprehensive handle on the current and future needs of your parking facility/ portfolio. Here are some big-picture factors to consider.

The TKH Security Advantage

Innovation Leadership

Successful real-world proven solutions for both hardware and software. Enables us to continue to enhance our smart-sensing system.

Deep Industry Expertise

200+ years of intensive C-Level experience in the parking sector, including PARCS technology. Our prime movers have literally evolved with the industry itself.

Prominent Portfolio of Global Successes

Success in 45 countries and counting. Our camera based guidance systems are already serving Fortune 500 companies, along with many of the world's premier property developers and operators.

Account Management & Support

Each client is assigned a dedicated Account Manager. This person becomes your responsive, trusted guide throughout the system lifecycle, from pre-planning through installation, commissioning, and ongoing support.

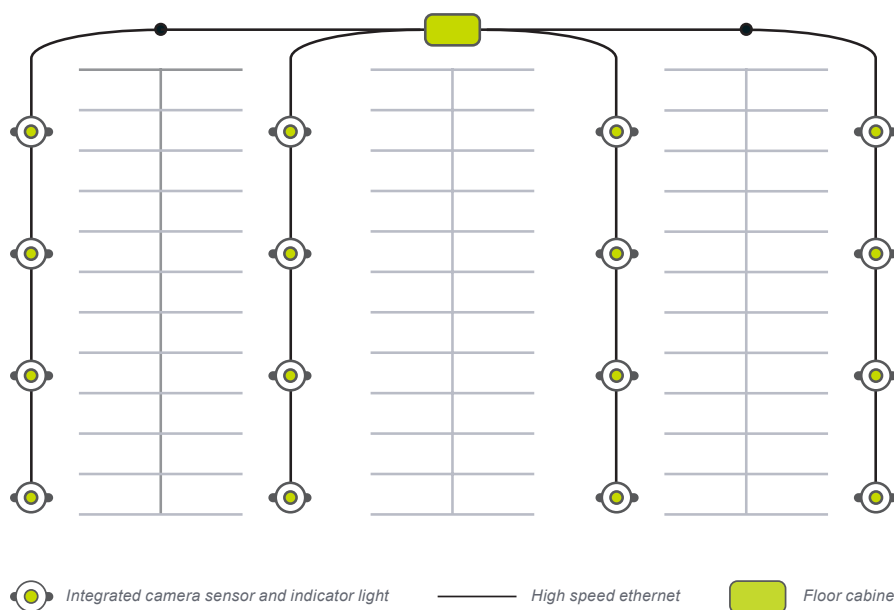
Financial Stability

Our remarkable growth trajectory is one source of confidence. So is the billion-dollar backing and resources of our publicly held parent company, The TKH Group (TWEKA:EN). Both of which fuel our ability to evolve and expand.

Service Infrastructure

A comprehensive offering including monitoring, fine-tuning, expert remote/ onsite support, and training to ensure extended peak system performance.





The M5 is installed above the middle of the driving lane with one unit monitoring up to 6 parking spaces.

Maximized usage through next-gen guidance. For new and existing facilities.

Without parking guidance technology, it's common for parking spaces to go unused during high-occupancy periods. As parkers are quickly and efficiently led to open spaces throughout a facility, our next-generation guidance system is crucial for obtaining maximum usage per square foot. This can save millions in construction costs for a new facility. It can also postpone or eliminate the need to expand or replace an existing facility.

99%+ accuracy: Verified through precise global monitoring.

Our advanced camera based systems exhibit a 99%+ accuracy rate. In an M5 installation, the core system regularly gathers a smart-sensor image from every parking space across an entire site at designated times.

Using the collected data from this high-speed verification process, our system analysts regularly provide the facility manager with a detailed report – proving the accuracy of the system in a tangible way.

A next-generation technology platform: Always ready for the next plateau.

At TKH Security, business intelligence is more than a concept. Parking technology is about far more than guidance. Plus, we're always looking for new ways to extend the functionality of our ever-evolving suite of API-driven applications.

For more information about the M5 ecosystem detailed in this brochure, contact us at parkassist.com.



Expanding our leadership in data-driven innovation, TKH Security continues to push the boundaries of security, surveillance, and parking guidance-and-beyond technologies in customer centric ways.

With the goal of designing and deploying the most-advanced smart-parking technologies our clients' have ever seen, we are revolutionizing the parking sector.







tkhsecurity.com

Our Brands:

FLINQ **iProtect**  **PARK ASSIST** **ParkEyes** **SIQURA** **VDG** 

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