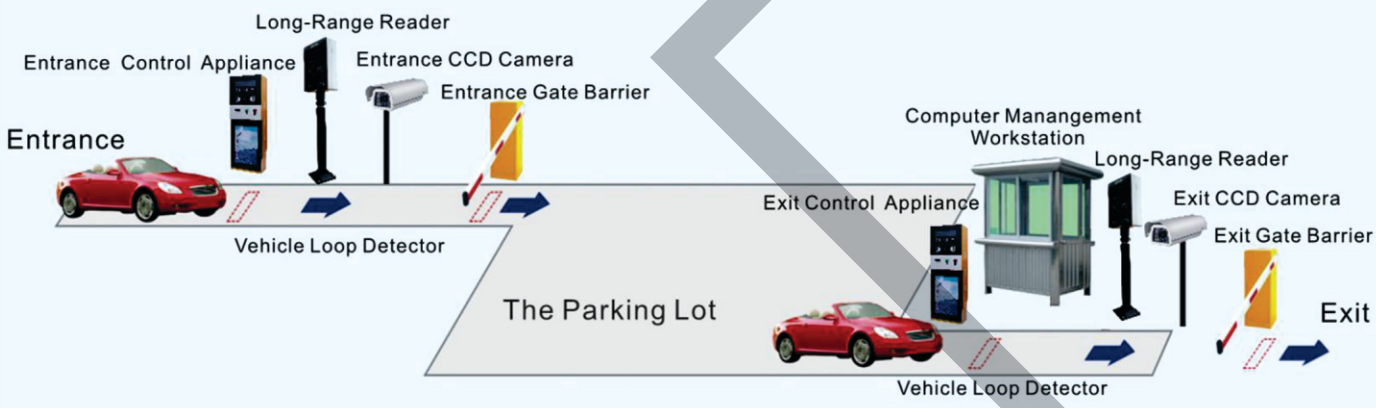
# Smart Parking Management and Guidance System

JK TECHNOLOGIES




Smart parking management system is used to manage parking flawlessly with the latest technologies of automated barriers, smart card readers, long range RFID readers with parking system & driving guidance. It is not only secure and reliable, but also has a comprehensive data management system. It is developed in a way to meet the requirements of parking and access to controlled parking areas, It is a complete system including the revenue management, parking gateways, sensors, and complete information system software for detailed reporting and analysis.

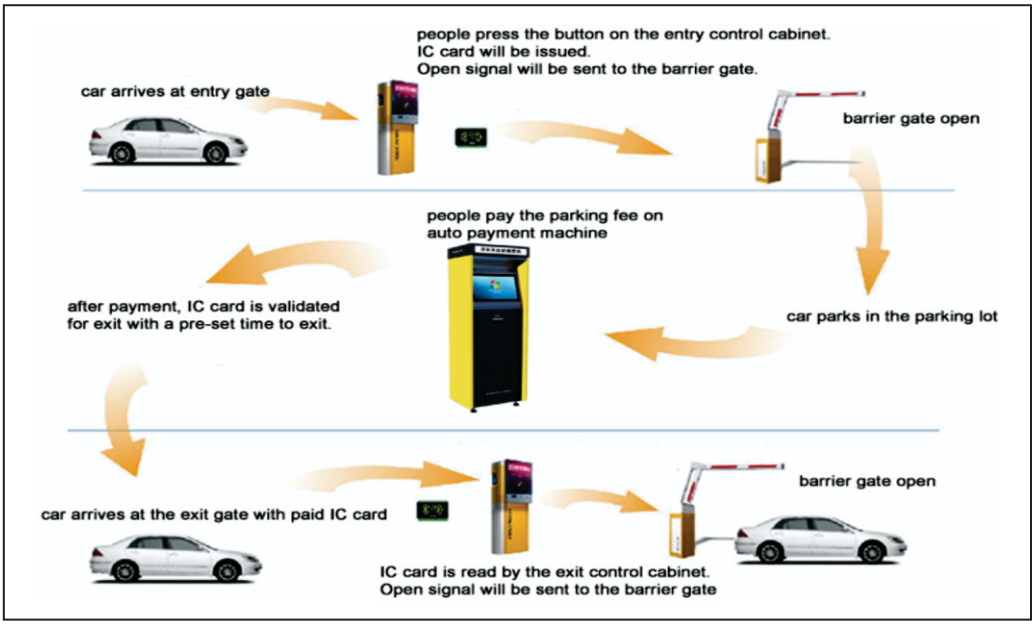
Typically installed at shopping malls, airports, hospitals, office buildings, residential communities, etc., it is composed of a Sensor, LED Indicator, LED Display, Data Collector, Center Processor, Software & accessories.

**Parking Problems That We Face**

- Manual system to take payments and issue tickets to visitors who have to wait al lot at entry points.
- Congestion creates long queue of vehicle at gates.
- Insufficient parking space in heavily populated areas.
- Inefficient use of existing parking capacity.
- Struggle to find an open parking slot in a large parking space.
- Confusion in finding your vehicle in a large parking lot.
- Traffic problems created due to poorly designed parking spaces.
- Waste of fuel and other resources in searching for a parking space.
- Economic losses due to time wasted in parking.
- Company's building parking getting overfilled with visitor's vehicles.
- Lack of sufficient parking at event places.

**Features**

- User-friendly graphical interface & Reporting and statistics.
- Real-time monitoring of parking space availability by facility, level, and single space.
- Customer floor plan can be embedded in software.
- Status monitoring of ultrasonic sensors and electronic signs.
- System alerts for exceeding parking duration, vehicles in transit and more.
- Data sharing interface with city way finding systems.



## The Comments of Parking System

**ENTRY/EXIT Booth** – The following methodology are used for entry and exit in parking premises without any hassle.

**UHF Long Range Reader** – To read the E-Tags placed at vehicle's windscreen. It sends the tag's data to Access Controller which decides to grant or block the access of vehicle. It can also be replaced by short range RFID reader where applicable.

**RFID Smart Card Readers** – Will be mounted on gates or lanes. Its operation starts when a user with the active tag or smart card drive through the UHF reader located at the entrance of the gate and lane. The UHF reader will recognize the tag. The barrier will lift up for access upon valid recognition. If not, access will be denied.

**E-Tag** – Visitors will be provided e-tag with unique serial number. Against each e-tag user credentials will be stored in backend system. All data regarding Entry and Exit Time will be stored for later analysis.

**Smart Card** – Visitors will be provided RFID cards with unique serial number on Entry. The picture of vehicle and driver will be saved against each RFID Card during entry. At Exit Gate when visitor return the RFID card it will show the vehicle and driver picture for review if the same vehicle is exiting to prevent theft of vehicles. All data regarding Entry and Exit Time will be stored for later analysis.

**Boom Barrier Gate** – As one part of the parking management systems, a barrier gate stops unauthorized parkers from entering/exiting the premises. The Barrier will only open after authorized transaction.

**Loop Detector** – Connected to a ground induction coil with two relay outputs, a loop detector is used to detect the presence of vehicles

**ENTRY Point**

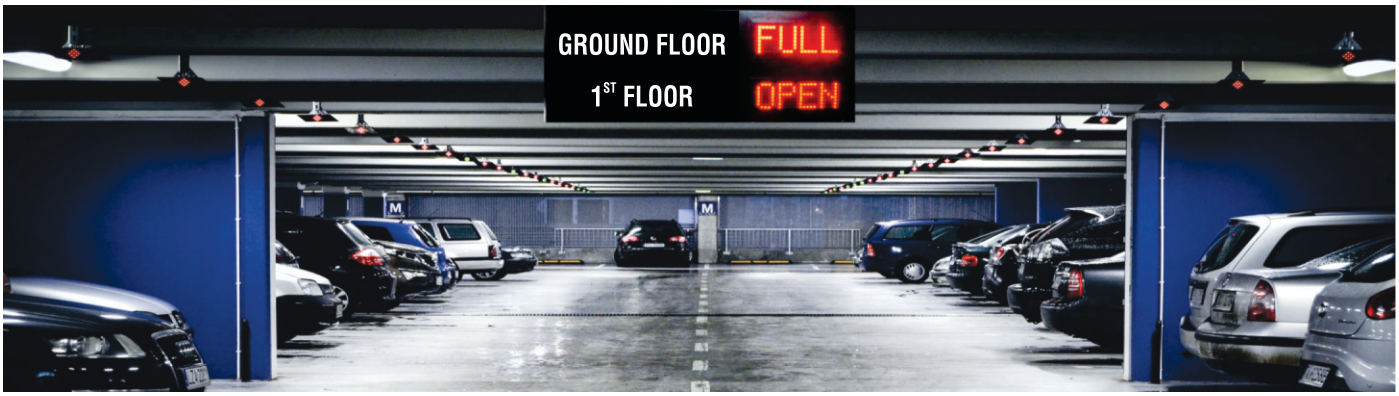
- Entry Lane - Unmanned
- PC with Application Software
- Barrier
- Loop Detector
- Long Range RFID (Optional)
- LPR (Optional)
- Other optional devices

**EXIT Points**

- Manual Managed(Payment By Cash)
- PC with Application Software
- Barrier
- Loop Detector
- Long Range RFID (Optional)
- LPR (Optional) & Other optional devices
- Exit Lane - Unmanned
- PC with Application Software
- Barrier
- Loop Detector
- Long Range RFID (Optional)
- LPR (Optional) & Other optional devices

## Benefits of Smart Parking System

- Prevent Queues /Congestion
- Minimal Human Intervention
- Optimized Parking
- Reduced Traffic
- Reduced Pollution
- Enhanced User Experience
- New Revenue Streams
- Integrated Payments & POS
- Increased Safety
- Real-Time Data & Trend Insight
- Decreased Management Costs
- Increased Service & Brand Image




## The Components of Parking Guidance System

**Ultrasonics Sensor (Indoor Parking)** – Ultrasonic detection technology based units are installed right over the middle of the parking spaces (either on the ceiling or on the cable tray) to monitor the presence of vehicles and provide real-time information for the PMS system.

**Bay Indicator (Indoor Parking)** – A high brightness LED indicator controlled by an Ultrasonic Sensor tells the occupancy status of a parking space through different color illumination. Normally red color indicates the space is being occupied; green, blue and yellow indicate space available.

**LED Display** – It is the first component greeting drivers at a car park equipped with Parking Guiding System. Outdoor LED Display at entrances tell how many spaces are available in each floor while Indoor LED Displays at corners and intersection tell which direction to take in order to find one.

**Data Collector & Centre Processor** – Data Collector serves as a bridge connecting the Centre Processor to Ultrasonic Sensors and a LED Display. It picks up sensor information, transfers to Centre Processor, and also helps to release availability information from Centre Processor to LED Displays. Centre Processor is the core of the system and deals with data processing, information storage and release.

**System SOFTWARE**

- Shows Real Time Parking Spaces
- Automated Alerts
- Summarized Reports on Daily/Weekly/Monthly Basis
- Various Statistics Reports
- User Friendly Interface

**JK TECHNOLOGIES, SIA**
RIGAS IELA 40, dz.5, OZOLNIEKI, OZOLNIEKU PAGASTS,
JELGAVAS NOVADS, LV-3018, LATVIJA
eMail: info@jkteck.com, Hp: www.jktech.com