



NEXPA

PMS : Parking Management System (LPR machine)
VPGS : Video-based Parking Guidance System
(Omni directional IP camera, Guidance displays)

NEXPA SYSTEM IIAS-Kasugai JAPAN CASE STUDY



Background NEXPA SYSTEM

- Founded in 2004, NEXPA has been developing and implementing revolutionary technologies that drive the world of smart parking and public surveillance to the next level.
- At NEXPA, we constantly test and challenge our technology; we strive to offer smart and convenient solutions to our customers. With over 50 patents in video analytics and surveillance systems, we have the expertise and experience to provide solutions tailored to maximize the potential of a parking lot, transforming it into a pivotal asset that supports business growth.
- Together with global partners like Cisco System, Inc., NEXPA looks to continuously develop advanced parking solutions as one of the key pillars of IoT(Internet of Things). As a part of CIM(City Infrastructure Management) of Cisco Systems, Inc., we work towards the vision of a world with smart cities and communities.

Project overview



<Introduction of IAS-Kasugai>

IIAS-Kasugai is the largest commercial complex in Kasugai City with a total floor area of approximately 81,000 square meters, which will be developed on the site of the commercial facility "The Mall Kasugai Store Part 1". IIAS-Kasugai is owned by Daiwa House Industry Co., Ltd. and opened as of October 22nd, 2021. Daiwa House Industry Co., Ltd. selected NEXPA's SMART PARKING SOLUTION for the efficient operation of their outdoor and indoor parking lots, aimed to improve its brand image and loyalty of their customers. NEXPA's solution is easy to run for the parking lot operator and is convenient for the parking lot visitors.

<Challenges>

The main purpose of this project is;

- ① PMS: Parking Management System (LPR machine)
- ② VPGS: Video-based Parking Guidance System
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NEXPA Proposed Solution Major Components



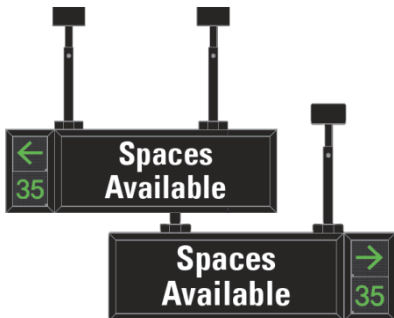
[Single camera LPR machine]

Automatically recognizes the front and rear plate numbers with a recognition speed of 0.8 seconds, after detecting a vehicle. It has LED display to show the plate number information and uses infrared high brightness LED lighting to achieve high recognition rates in bright, dark, and harsh environments.



[Omni directional IP camera]

Plate numbers can be recognized up to 6 vehicles concurrently, once a car is detected in the coverage area. It is raceway mounted in the middle of the driveway and powered by PoE. For the LED indicator, red and green are typically used, but other colors are also available for special bay indication such as handicapped, VIP etc.



[Guidance displays]

Displays available spaces with directional arrow for the current and next floor in the car park.

Parking lots status

[Parking lots status]

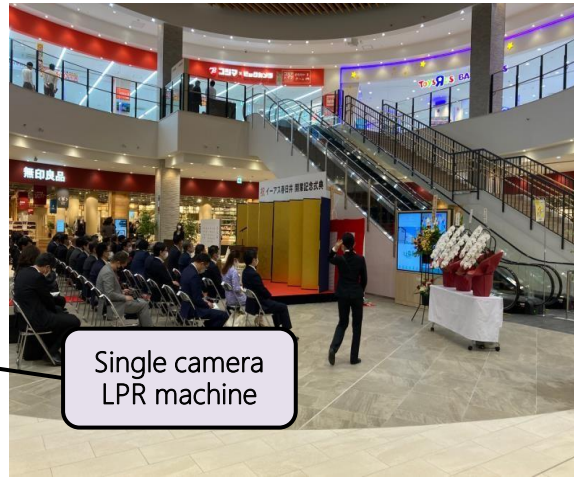
The screenshot shows the homepage of the ijas KASUGAI website. The header includes the ijas KASUGAI logo, navigation icons for 'フロアガイド' (Floor Guide), 'ショップ検索' (Shop Search), 'ショップニュース' (Shop News), 'アクセス・パーキング' (Access & Parking), '施設案内' (Facility Guide), 'ニュース&イベント' (News & Events), and a contact section with the phone number 0568-27-5133 and a reception time of 10:00-18:00. On the right, there are icons for '営業時間' (Business Hours) 10:00-20:00 and 'レストラン' (Restaurant) 11:00-21:00, with a note that some facilities may have different hours.

The main content area features a large, colorful graphic for a 'Loft' store opening. The text reads: 'NEW OPEN! HELLO! Loft 春日井ロフト 3.11 [FRI] OPEN! イーアス春日井 2F'. The graphic is decorated with various icons like a calendar, coffee cups, and lipsticks.

Below the main graphic is a parking status widget. It features a large green 'P' icon and a status indicator showing '空' (Empty) with a blue circle. The text inside the widget says: '駐車場の余裕があります' (There is room in the parking lot), '現在の駐車場情報' (Current parking lot information), '車での来館をお控え下さい' (Please refrain from coming by car), and '入庫いただけません' (We cannot accept entry). To the right of the widget is a button labeled '空' (Empty) with a blue circle.

On the right side of the page, there is a section titled 'より安心' (Even more安心) with a sub-header '＜お客様へお願い＞' (Request to customers). It includes an illustration of hand sanitization with the text '手指のアルコール消毒' (Hand alcohol disinfection) and a person icon with the text 'ソーシャルディスタンス' (Social distancing). Below this is a button labeled '混雑する時間' (Time of congestion).

Site pictures ①



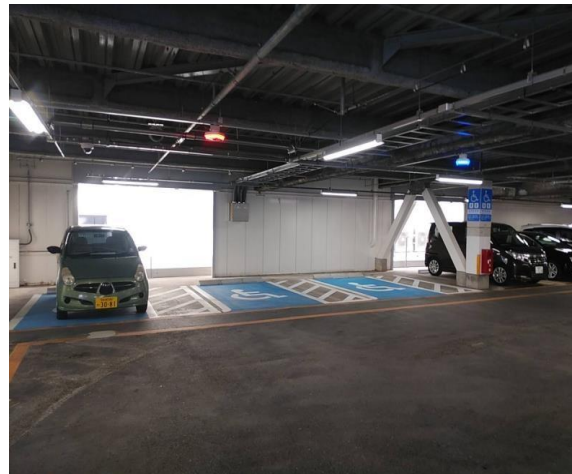
Single camera
LPR machine



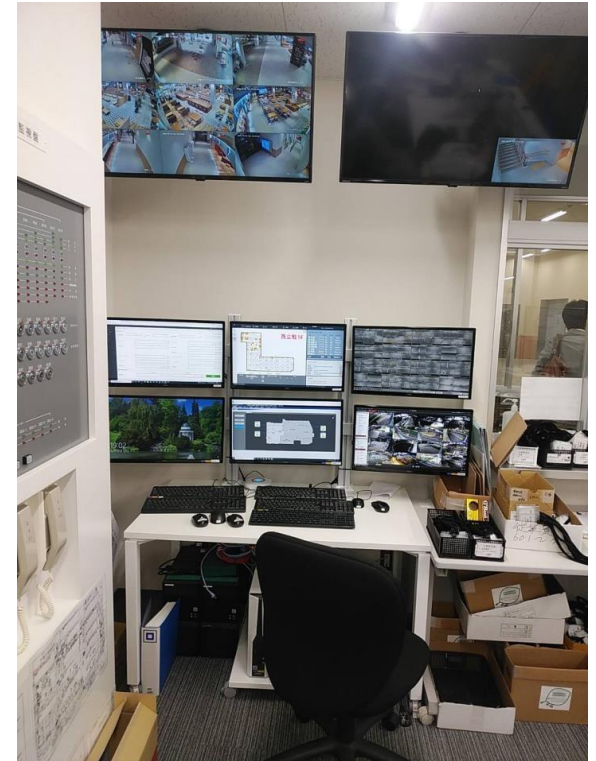
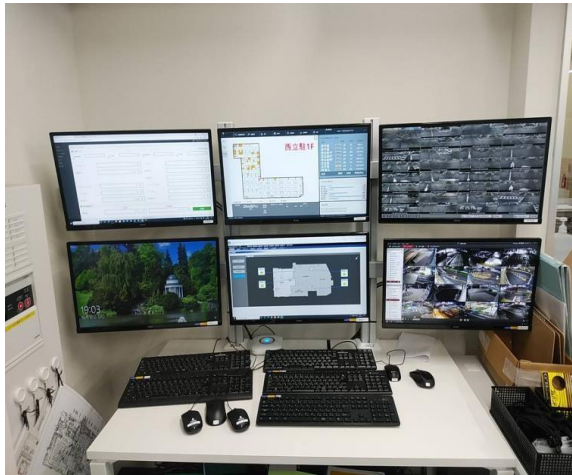
Guidance display



Site pictures ②



Site pictures ③



Parking Control Center

Site pictures ④



Rack & Center equipment



Car count sensor

This sensor can count the number of cars those are coming-in and going out at a parking lot with a great accuracy.

Conclusion

- This study case has been prepared to introduce a project case NEXPA has successfully completed for a commercial complex called IIAS-Kasugai in Kasugai city, Japan. Daiwa House Industry Co., Ltd wanted to deploy a high-end parking solution using state-of-the-art technology and selected NEXPA's smart parking solution.
- Our system is not only simple for visitors but it is also convenient for operators. In visitors' perspective, they can easily find an available parking space by checking the color of LED indicator and see the entrance/floor/zone guidance signage to decide where to go. In operators' perspective, they enable to operate parking lots efficiently using an automated system. Allows the operator to monitor the parking lots, manage the parking bays, and use statistics. It helps to increase the utilization of the parking lots and reduce the labor costs.
- Based on the IIAS-Kasugai case, the NEXPA smart parking solution is being expanded to the parking management & guidance markets in the Japan.