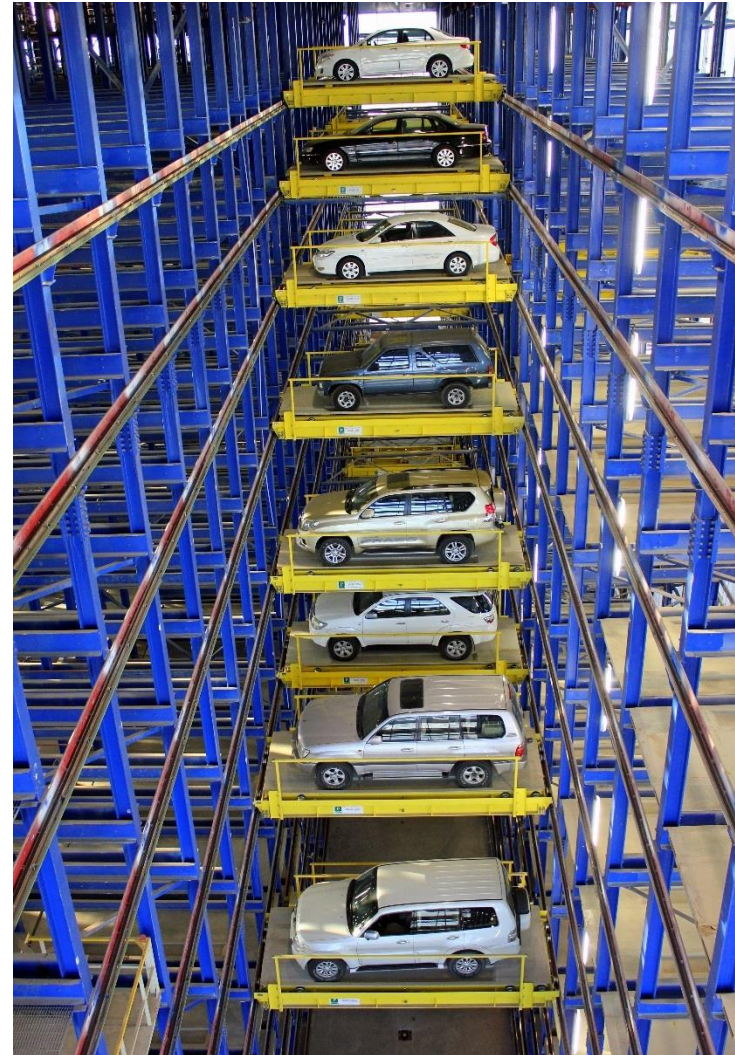




ROBOTIC PARKING SYSTEMS, INC.

Introduction to Robotic Parking Systems





THE PRODUCT

The compact Robotic Parking System offers:

- a very effective use of space
- about 4 times the amount of cars can park in the same area as compared to a conventional garage
- a state-of-the-art, computer-controlled and fully automatic storage facility
- greater security for people and their cars
- a “green” parking solution
- integrates with emerging technologies in transportation

ROBOTIC PARKING SYSTEM

DO MORE ... WITH LESS

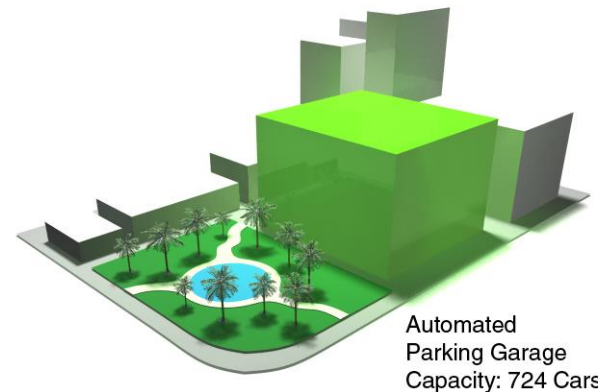
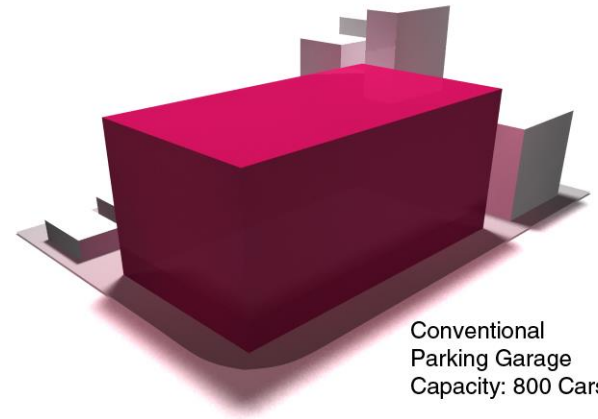
THE PRINCIPLE:

Use half the space

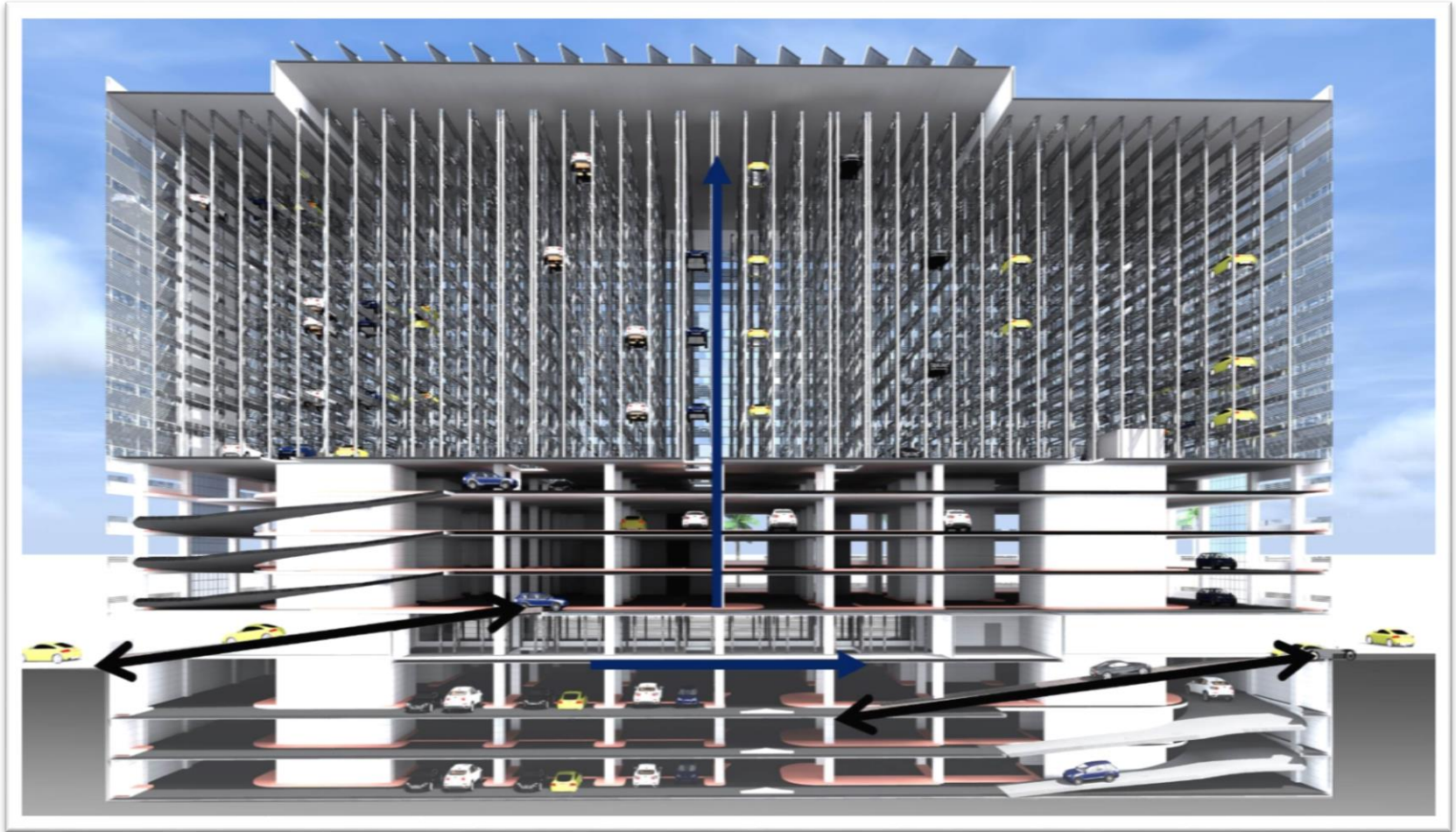
– OR –

Double the parking.

Create green space
and common areas.



AL JAHRA COURT COMPLEX KUWAIT CONCRETE RAMP VS ROBOTIC PARKING

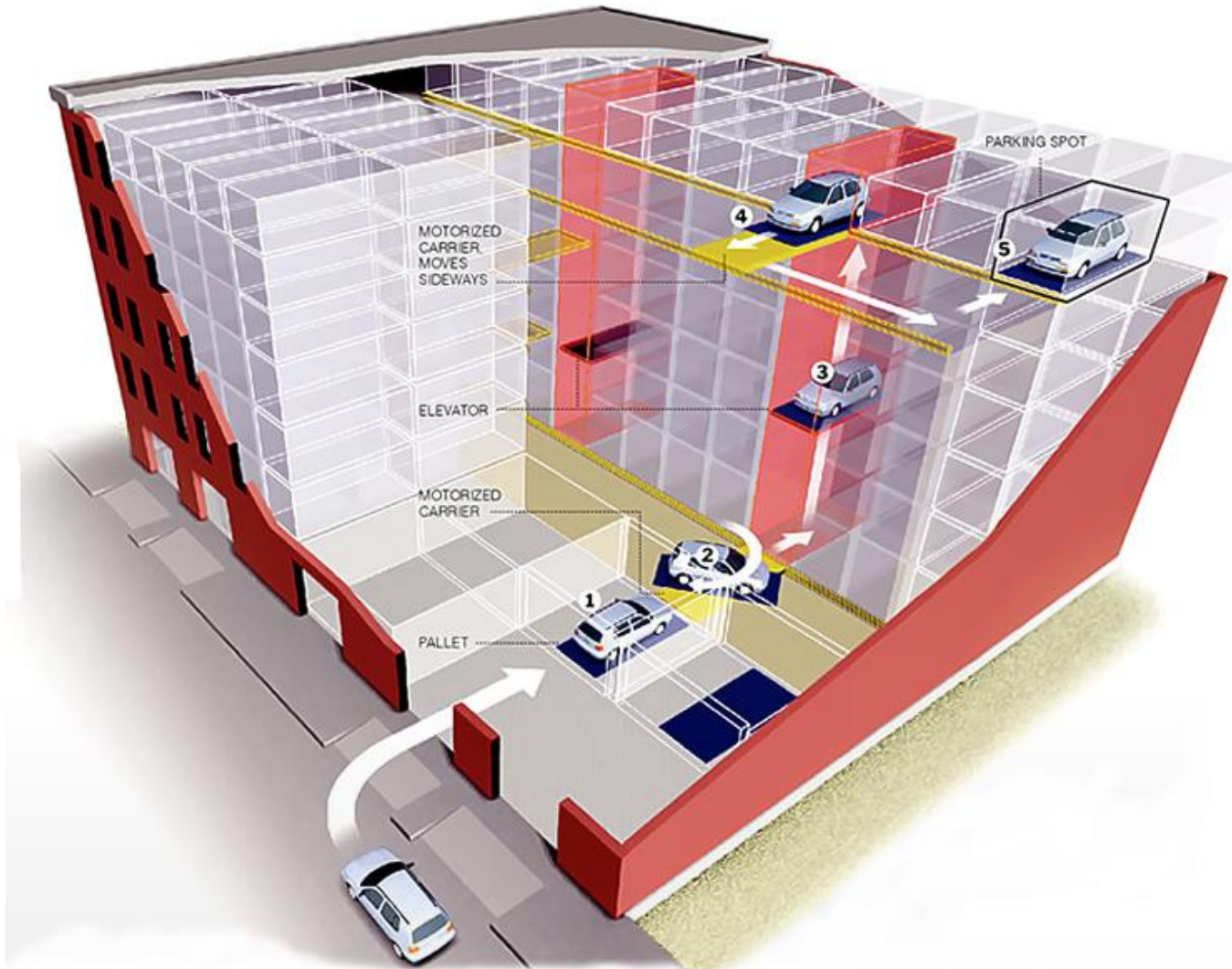


Concrete Ramp Parking = 684 spaces
Robotic Parking Systems = 2314 spaces

 **ROBOTIC PARKING SYSTEMS, INC.**

The footprint is 328 feet by 168 feet. Conventional is 7 levels with a height of 97.44 feet. RPS is 11 levels with a height of 115 feet. Throughput is 425 cars / hour.

ROBOTIC PARKING SYSTEM



Source: Robotic Parking

Mika Gröndahl/The New York Times

 **ROBOTIC PARKING SYSTEMS, INC.**

ROBOTIC PARKING SYSTEM PARKING STORAGE



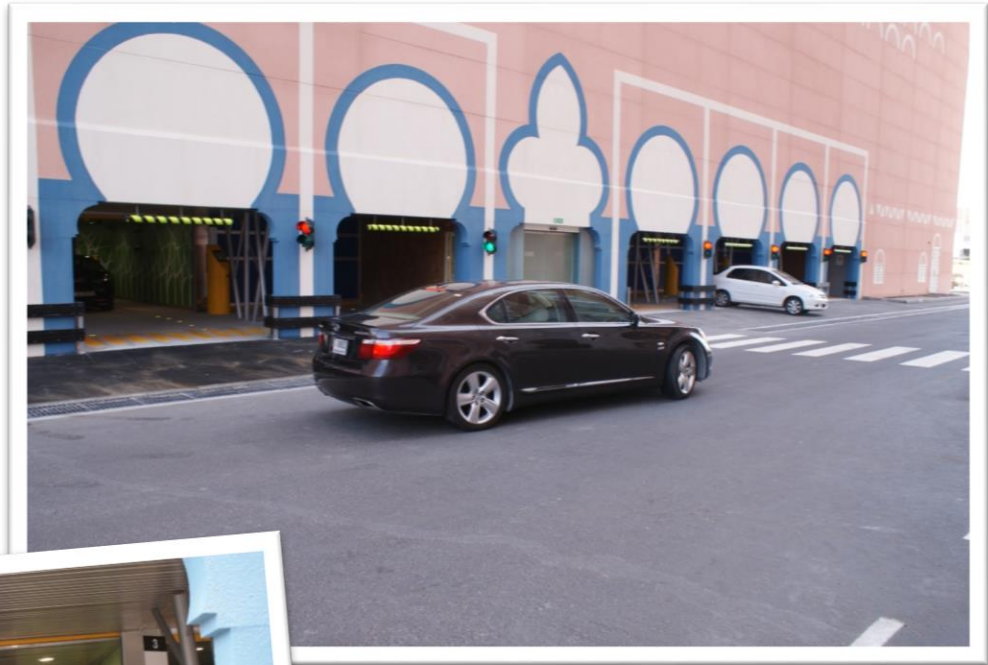
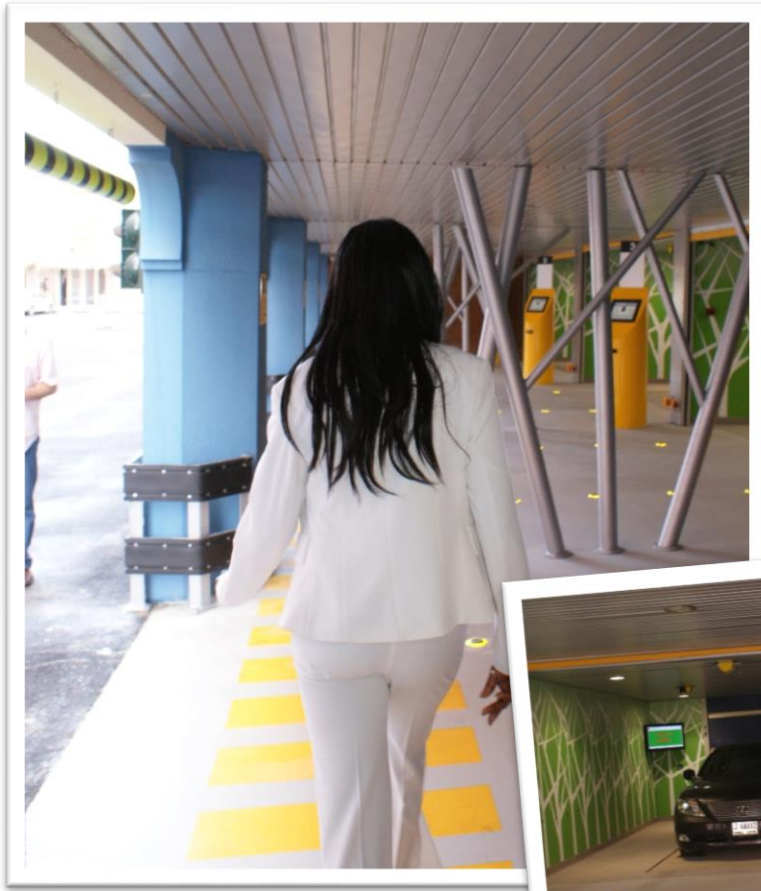
ROBOTIC PARKING SYSTEM

RETRIEVAL IN LOBBY



ROBOTIC PARKING SYSTEM

WALK TO THE CAR AND DRIVE OUT



ELIMINATES OPPORTUNITIES FOR ACCIDENTS AND CRIMES

NO ASSAULTS



NO SCRATCHES



NO VANDALISM

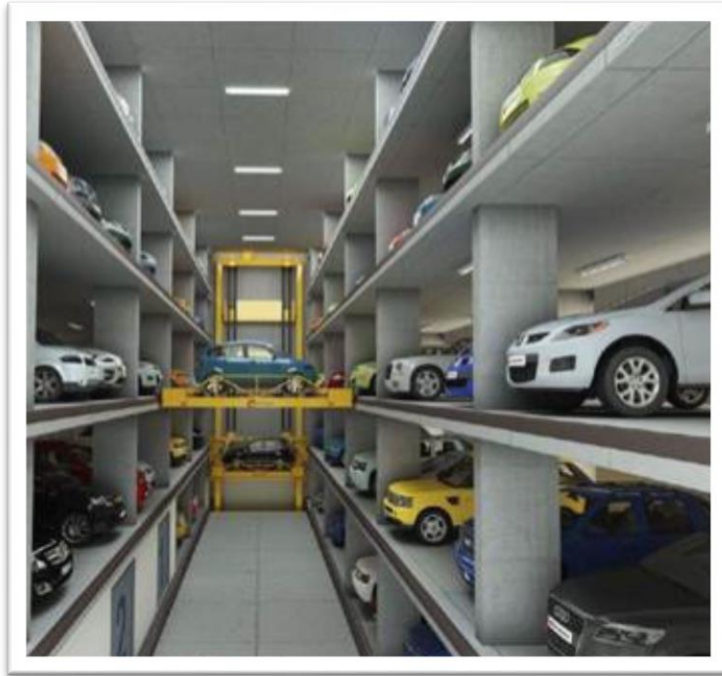


NO LONG WALKS OR SEARCHES



ROBOTIC PARKING SYSTEM

STACKER VS ROBOTIC PARKING



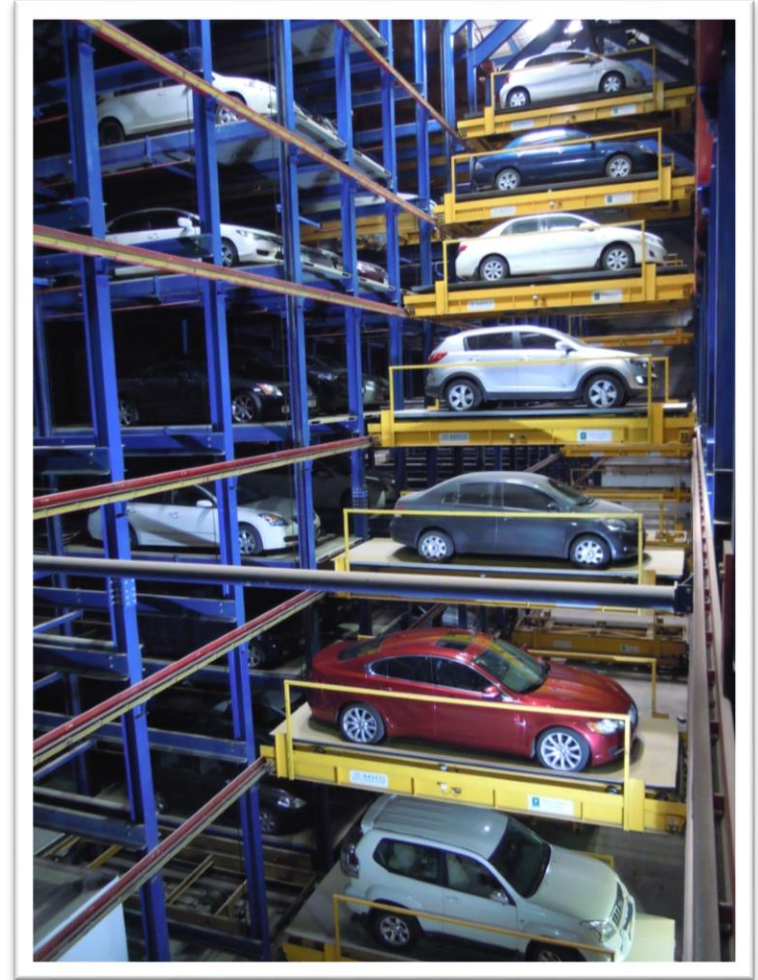
OLDER STACKER TECHNOLOGY



FASTER, MORE-EFFICIENT ROBOTIC
PARKING SYSTEMS TECHNOLOGY

ROBOTIC PARKING SYSTEM

- High-level software design developed with GE Intelligent Platform Development Center.
- Multiple simultaneously operating robots.
- Highest peak traffic throughput in the industry.
- Patented throughout the world.
- Mature, system: over 23 years of experience.



ROBOTIC PARKING SYSTEM

- Independent third party verification.
- Peak traffic throughput capacity = total cars per hour in a combination of inbound and outbound traffic.
- Throughput capacity is more critical than single retrieval time in days to day operations.
- Al Jahra = 425 cph certified throughput (7 cars / minute)
- Average retrieval time = 177 seconds certified.

تی یو وی میڈل ایسٹ ڈیم
TUV MIDDLE EAST W.L.L.


P. O. Box 29643, KUWAIT
Tel: +965 22450112/113
Fax: +965 22450110
Email: kuwait@tuv-nord.com
www.tuv-nord.com/
www.tvmte.com

This document is issued as per TUV Middle East procedures in accordance with the requirements	TUV Middle East	: KUWAIT
	Report No.	: RPSK/RP/280817/01GV
	Work Order No.	: WO-ISD-KWT-009936
	Inspection Date	: 28 th AUGUST 2017
	Place of Inspection	: AL JAHARA COURT COMPLEX

INSPECTION REPORT

Name and Address of the Owner	Robotic Parking Systems Inc., Al Jahara Court Complex, Basement, P.O.Box 21403, safat 13075 Al Jahara, State of Kuwait.
Type of Inspection	: WITNESSING OF THROUGHPUT (VISUAL AND FUNCTIONAL INSPECTION)
Location	: AL JAHARA COURT COMPLEX
Equipment	: Robotic Parking System
Name of Manufacturer	: Robotic parking system inc
Average retrieval time for single vehicle	: 177 Seconds
Throughput capacity	: 425 cars/hour (in bound and out bound traffic).

Note: Witnessing carried out with empty car pallets only.

Inspection Carried Out:

The witnessing of through put /visual inspection and functional test has been carried out on the above Robotic system and it is safe to operate for its intended use within the design limits specified, provided there is continuous maintenance applied.

Inspection Results:

The above Robotic system has been visually inspected and functionally tested, found satisfactory at the time of inspection.

The report become invalid if any alteration made to the above mentioned system.



*This document is issued subject to the condition that nothing herein constitutes a warranty, express or implied and TUV Middle East W.L.L. liability shall be limited to the work on which it is applied. We do not accept any liability for any injury or damage to any person or property occurring by reason of negligence, or otherwise, in the performance or any defect in materials, machinery, equipment or other items other than such vehicles assembled by normally accepted testing standards. This document is only validly inspected by TUV Middle East W.L.L. and which are covered under this document.

ISD-LIC-FRM-029 Rev. 3 Page 1 of 2

ROBOTIC PARKING SYSTEM

- Uses off-the-shelf parts with long history of successful operation.
- Pallets ensure no machinery touches the cars.
- Pallet tracks catch drippings to protect cars below.
- Autonomous machines. Performs separate x, y and z movements.
- No single machine failure will interrupt operations.
- Offers true redundancy.



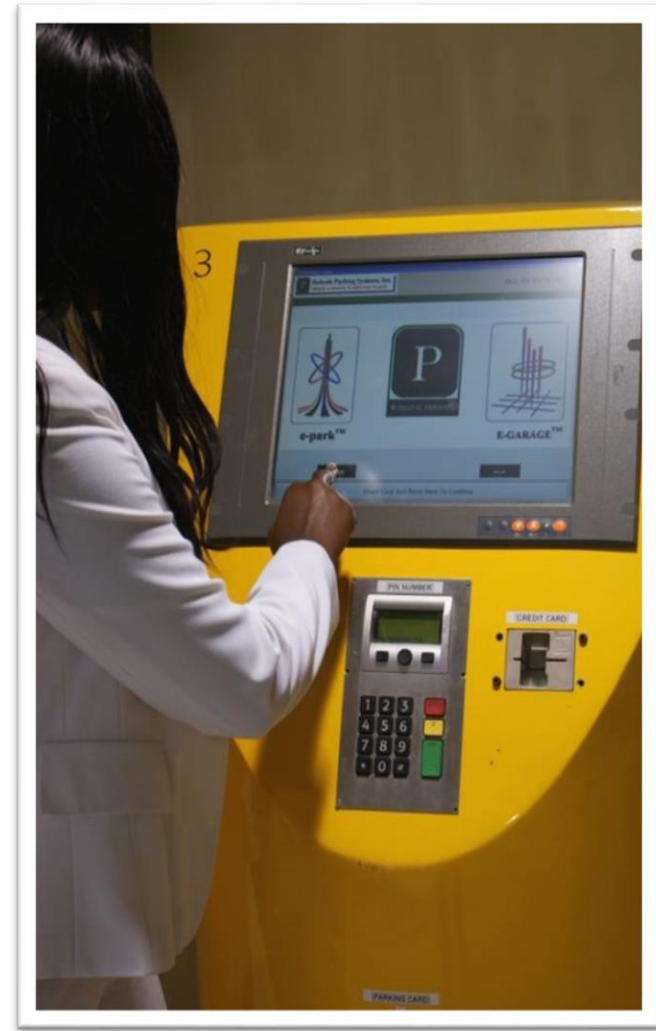
ROBOTIC PARKING SYSTEM



- Interchangeable entry / exit terminals – dynamically either an entry or an exit.
- Two high resolution photographs on entry and exit for vehicle documentation.
- Backup generator with automatic start.
- Manufactured in the USA.

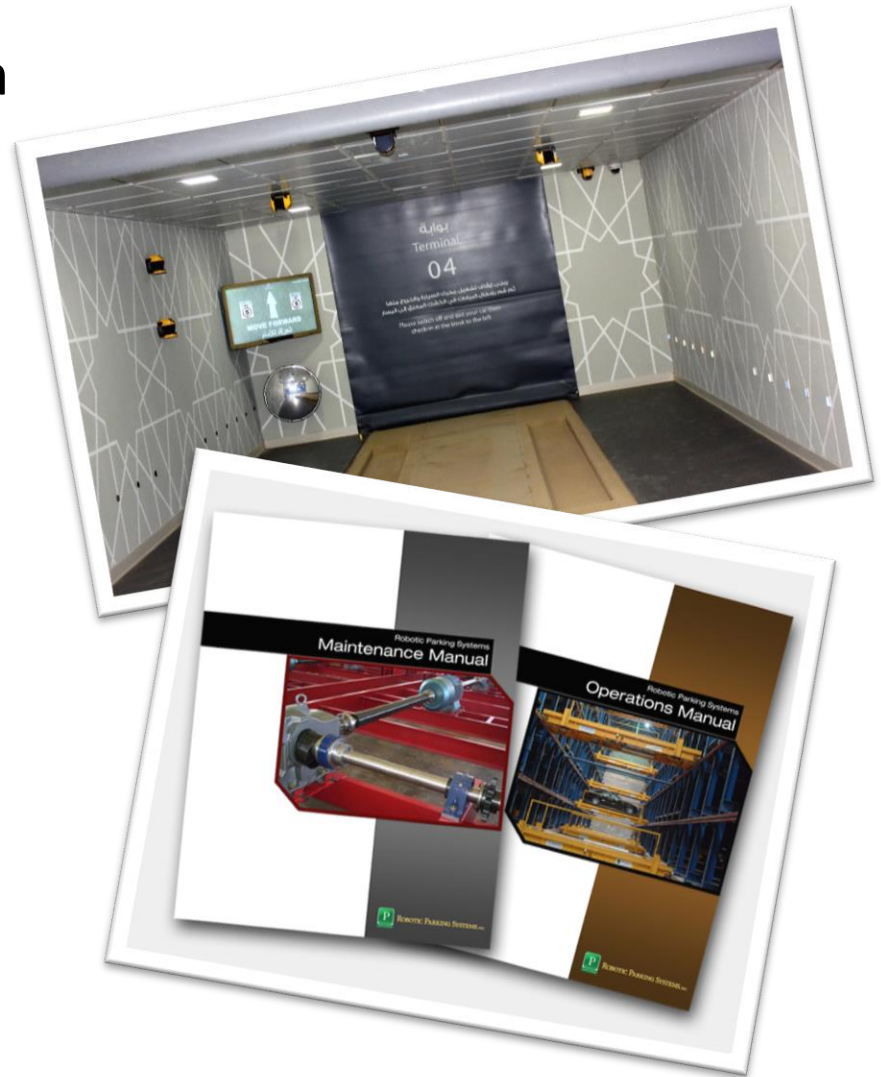
ROBOTIC PARKING SYSTEM

- Sophisticated diagnostics and high level warning systems.
- Modular capacity from 100 to more than 10,000 cars.
- Service plan based on threshold values for each component.
- Historical performance during our operation period is 99.9% uptime.
- User-friendly graphical user interface for operation.

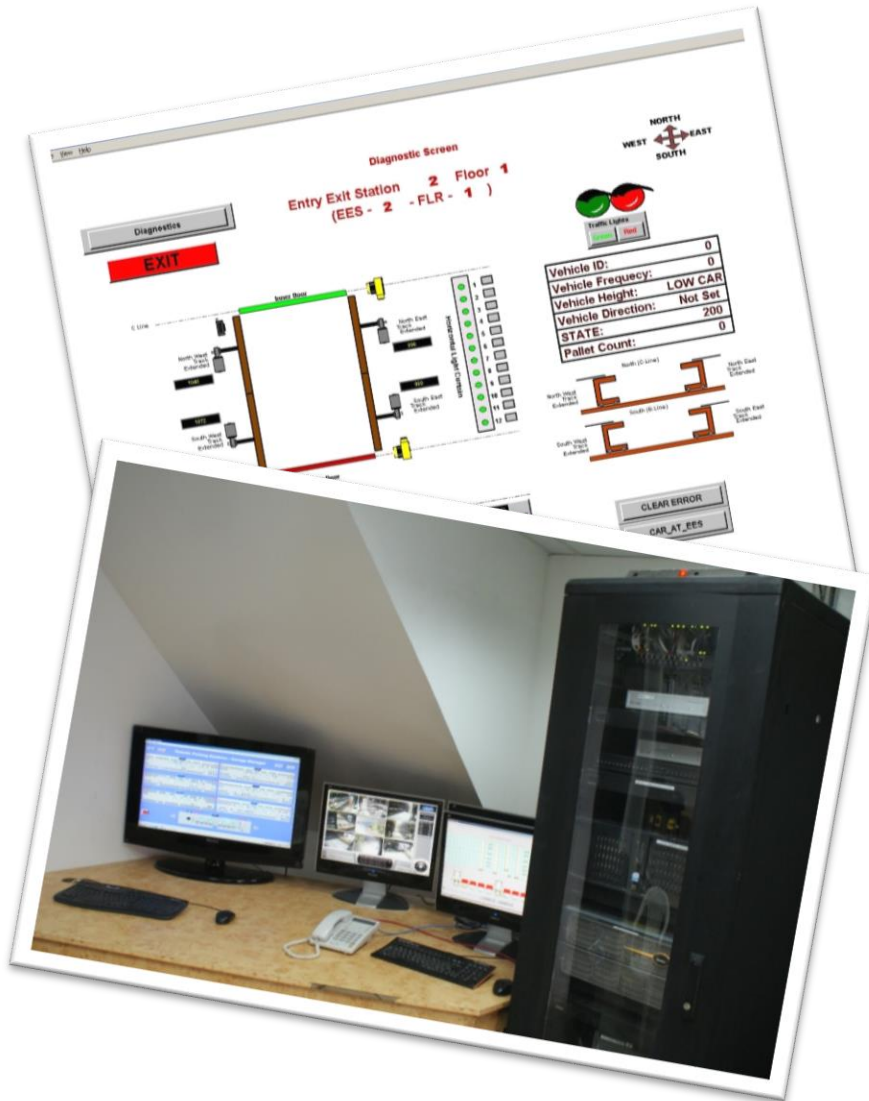


ROBOTIC PARKING SYSTEM

- Two motion detectors in each terminal ensure no parking while the terminal is occupied.
- Mechanical and electronic guidance systems.
- Operations and maintenance manuals.
- Complies with the following quality standards:
 - NPA / AMPA
 - ASME Code B30.13
 - ETL or UL listed and approved.
 - NFPA 88A including ventilation requirements.



ROBOTIC PARKING SYSTEM



- Uses ultra high-end, fault tolerant Stratus servers (99.999% worldwide uptime.)
- Redundant servers operating in parallel.
- Mirrored memory.
- Hot swap capability – if one server fails the second server takes over automatically.
- No interruption of service. No loss of data.

GREEN GARAGE



MECSO certified that an installation can achieve about 17 LEED points. LEED, ESTIDAMA and other program estimates are similar.

TOXIC EMISSION REDUCTIONS / 1,000 SPACES PER YEAR:

CO₂ / Yr – 125,192 kg / 138 tons

Carbon Monoxide CO / Yr – 7,014 kg / 15,463 lbs

Hydro Carbons HC / Yr – 907 kg / 2,001 lbs

Nitrogen Oxides NO_x / Yr – 468 kg / 1,031 lbs

Gasoline / Yr – 52,049 liter / 13,750 gal

Brake Dust / Yr – 4,491 kg / 9,900 lbs

Tire Dust / Yr – 44,452 kg / 49 tons

GREEN GARAGE / PARKSMART CERTIFICATION



We are working with this organization to add categories that are specifically related to automatic parking.

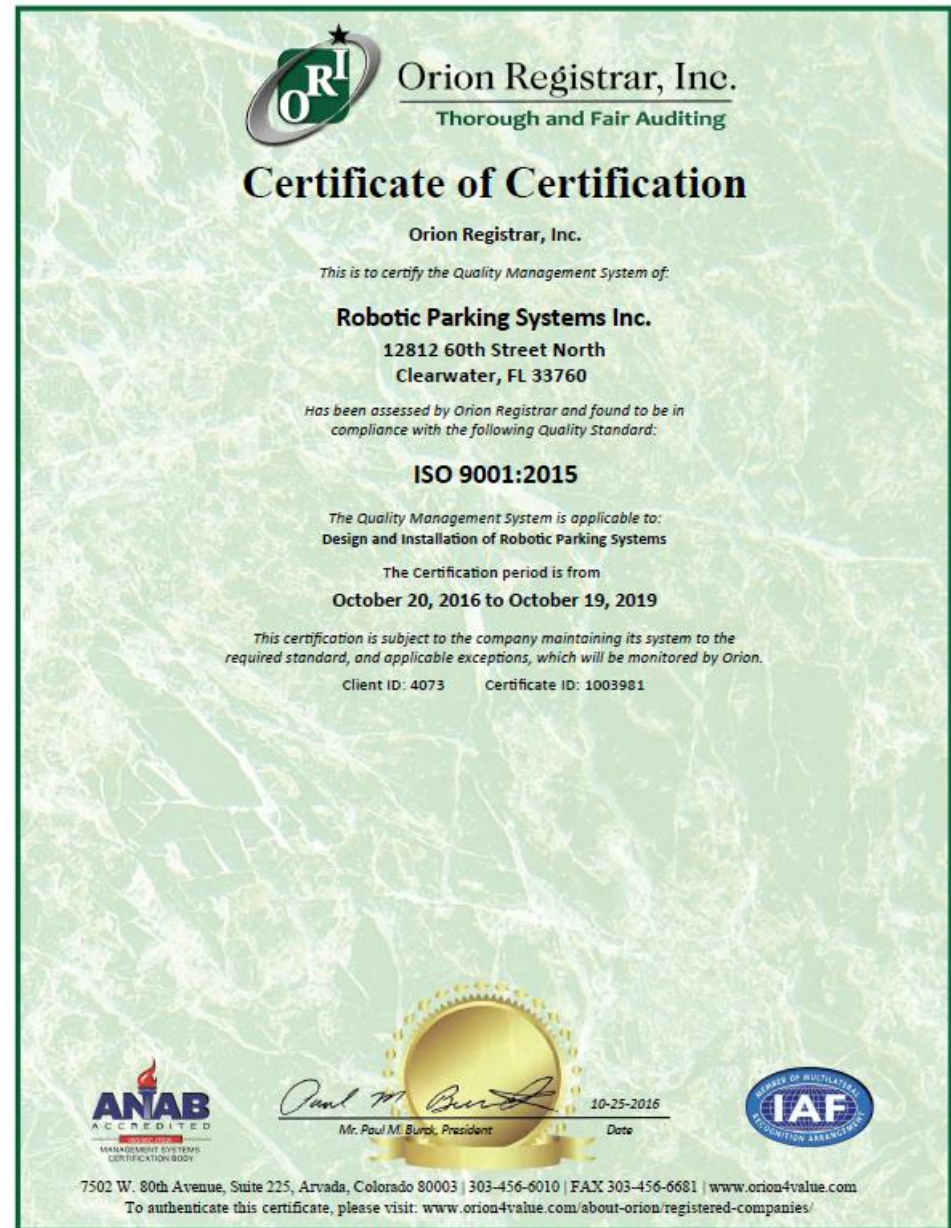
Some of these include:

- Elimination of toxic emissions
- Elimination of tire and brake dust
- Reduced gasoline consumption
- Reduced land consumption

Even under current scorecards we can contribute strongly to Parksmart Gold certification.

ISO 9001:2015

ISO 9001:2015
certified for “Design
and Installation of
Robotic Parking
Systems.”



2018 GUINNESS WORLD RECORD

It became official in February, 2018. For the second time a Robotic Parking Systems' facility was awarded the Guinness World Record for the *Largest Automated Parking Facility* in the world - 2,314 spaces.





ROBOTIC PARKING SYSTEMS PROJECTS

Designed and manufactured
machinery and equipment for
approximately 5350 spaces.

HOBOKEN, NEW JERSEY

Delivered in 2002, it was the first automated parking system in the USA per the New York Times.

About 700,000 transactions in the automated garage show an "up time" over four years of continuous 24/7 operation of 99.99%.

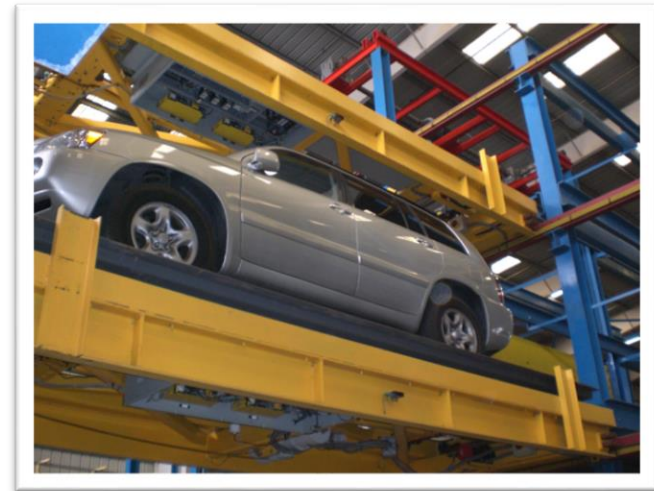
These intensive operational conditions taught us exactly what elements could be improved. These improvements were incorporated into our next generations of installations.



Number of Spaces	314
Footprint	100 ft x 100 ft
Height	56 ft
Levels	7
Years Operated 24 / 7	16 years
Peak Traffic Capacity	122 cars / hour
Up Time	99.99%
Average Occupancy	99.5%

PINELLAS PARK, FLORIDA

Completed in 2006 and serves as employee parking and the company's research, development and testing facility.



Number of Spaces	114
Type of Garage	RPS 1000
Footprint	97 ft x 72 ft
Height	32.5 ft
Levels	4
Entry / Exit Terminals	2
Years Operated	12

IBN BATTUTA GATE COMPLEX

The first automated parking garage in the Middle East.

Performance tests proved peak traffic handling of more than 250 cars per hour with the capability of 32 cars in motion at any one time.

As of 2018, this facility has a continuous operations track record of almost 9 years.

The *World's Luxury Guide* awarded the Robotic Parking System at Ibn Battuta Gate the status of the most luxurious automated garage in the world.



Number of Spaces	765
Type of Garage	RPS 1000
Footprint	276 ft x 98 ft
Height	57 ft
Levels	7
Entry / Exit Terminals	8

EMIRATES FINANCIAL TOWERS (EFT)

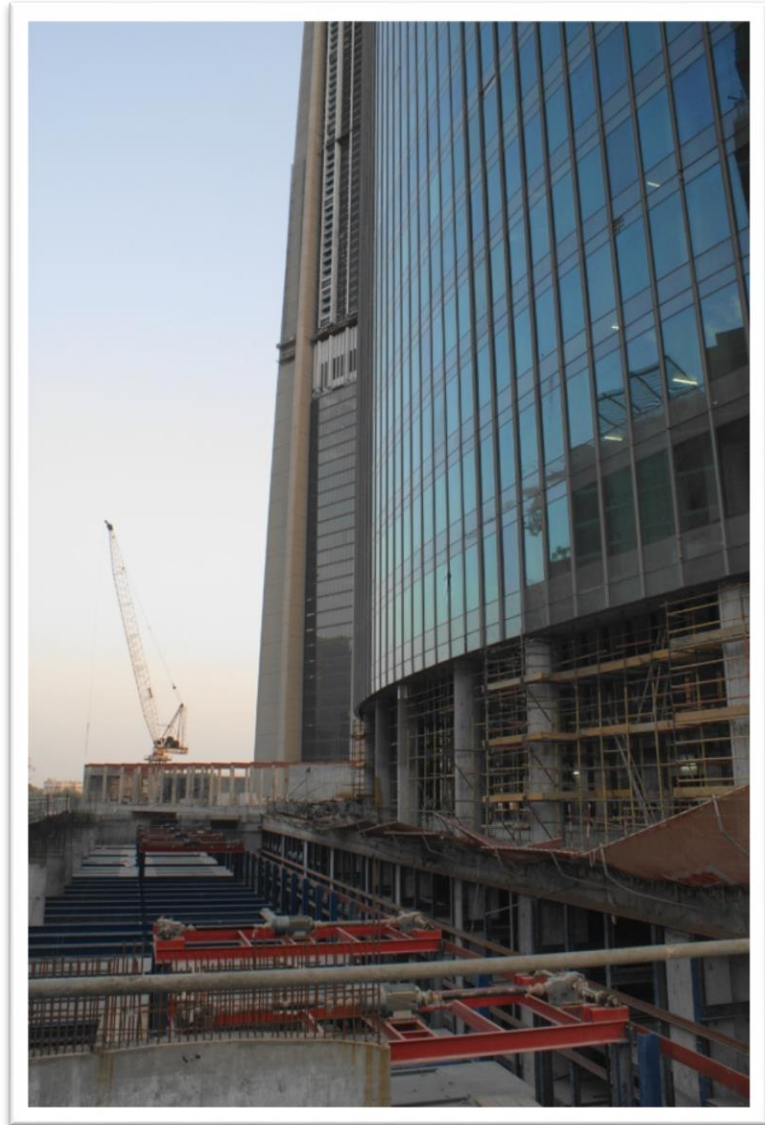
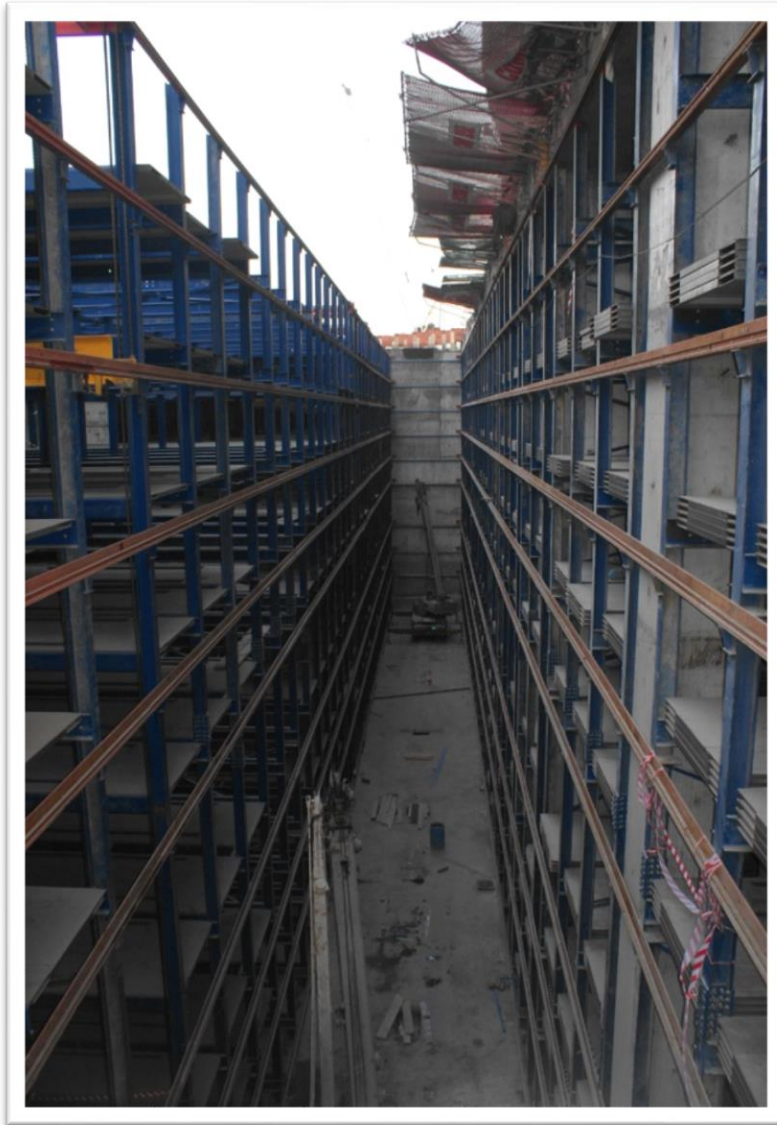
Designed and manufactured the machinery and automation.

EFT previously held the Guinness World Record for *Largest Automated Parking Facility* at 1191 spaces.

Number of Spaces	1191
Type of Garage	RPS 1000
Footprint	320 ft x 120 ft
Height	72 ft
Levels	9
Entry / Exit Terminals	9



EMIRATES FINANCIAL TOWERS (EFT)



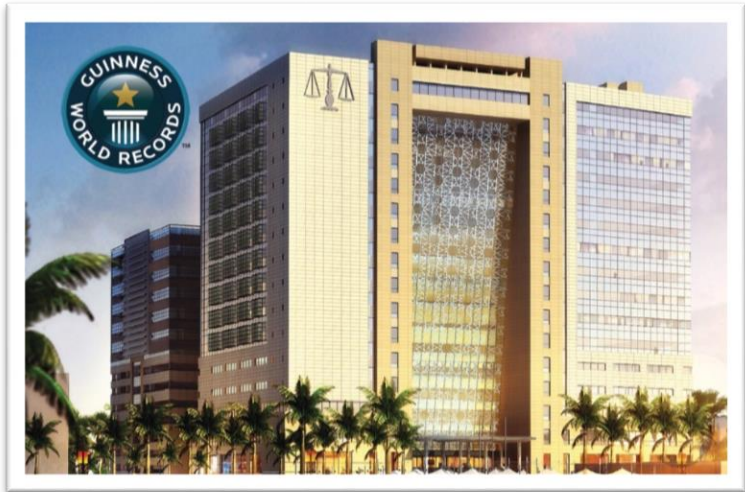
AL JAHRA COURT COMPLEX KUWAIT

2018 Guinness World Record holder for *Largest Automated Parking Facility*.

A 2314 space automated car park for Amiri Diwan Al Jahra Court Complex in Kuwait.

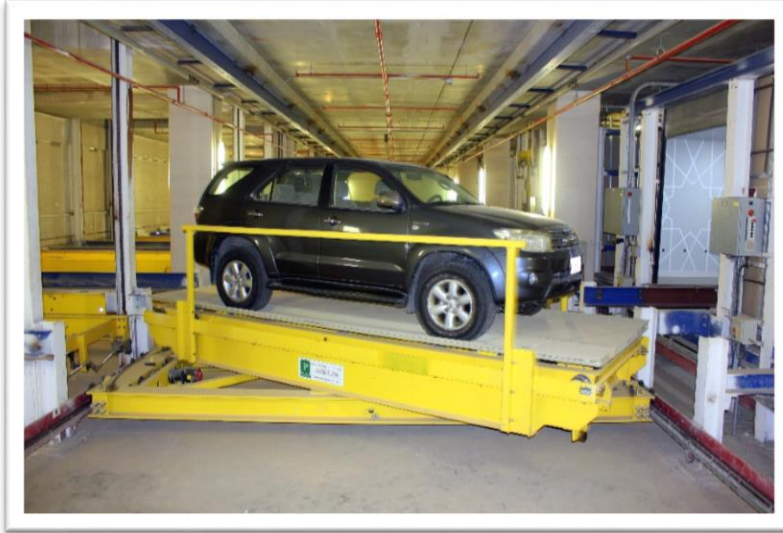
The facility is a combination of 684 concrete ramp parking spaces plus the 2314 automated spaces.

Certified peak traffic throughput of 425 cars per hour inbound / outbound and average single retrieval of 177 seconds.



Number of Spaces	2350
Type of Garage	RPS 1000
Footprint	328 ft x 168 ft
Height	115 ft (RPS)
Levels	11
Entry / Exit Terminals	12

AL JAHRA COURT COMPLEX KUWAIT





EMERGING TECHNOLOGIES IN TRANSPORTATION

New technologies require that the
garage of the future must be smart!

EMERGING TECHNOLOGIES – CASE

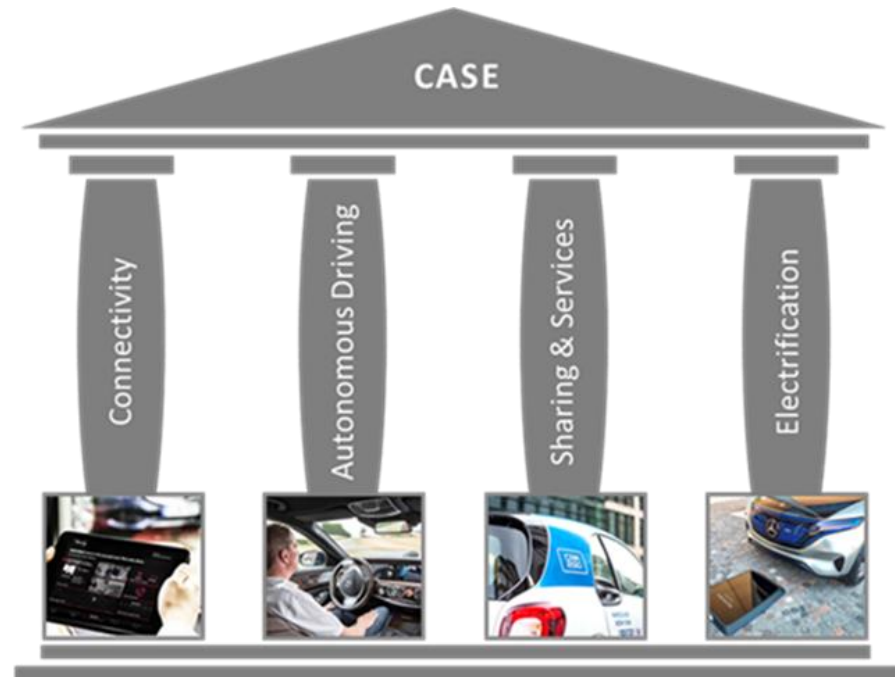
For higher levels of technology integration, we oriented our system around CASE ⁽¹⁾.

Connectivity: Through Cimplicity® software from GE Automation, Robotic Parking System is connected and can receive and share information on an open network.

Autonomous Driving: We developed a partnership with Bosch to facilitate the parking of “autonomous driving cars.”

Sharing and Services: Communications exist to handle car sharing, fleets and servicing cars.

Electrification: Designed to include automatic electric car charging stations. The owner just plugs the cable in our entry terminal to the car.

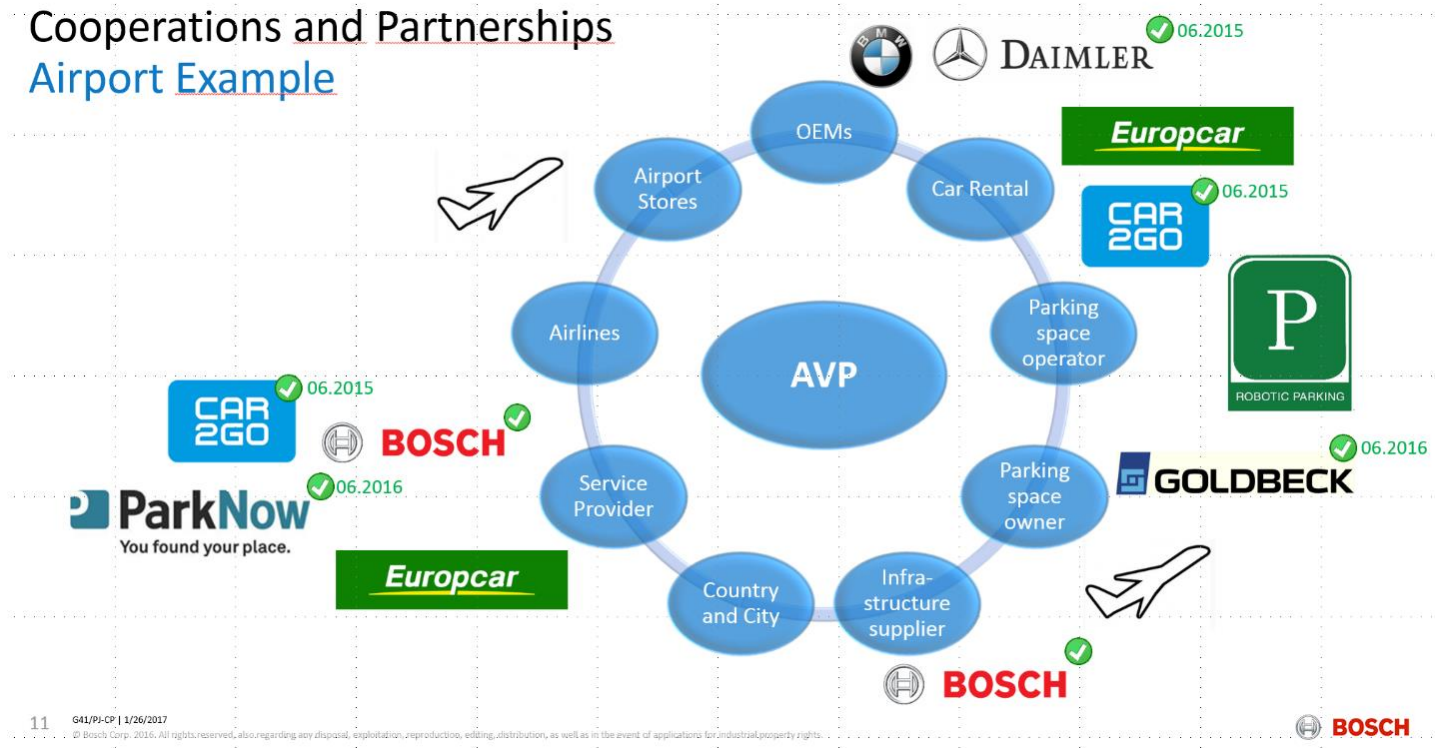


(1) CASE strategy as defined by Mercedes-Benz at the Paris Automobile Show in 2016.

EMERGING TECHNOLOGIES – CASE

Cooperations and Partnerships

Airport Example



11

G41/PJ-CF | 1/26/2017

© Bosch Corp. 2016. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

We feel that a garage offering features that accommodate emerging technologies will be the preferred garage of the future!



SUMMARY –

Robotic Parking Systems offer an innovative parking solution with premium advantages for everyone.

- More spaces and better parking experience.
- Better safety and security for individuals and their cars.
- Less congestion.
- True redundancy, speed and reliability.
- Proven in multiple facilities over more than 14 years.
- Automation is based on international automation experts – GE.
- Integrates with emerging technologies in transportation.

IBN BATTUTA GATE, DUBAI, UAE



AME Info's Phil Blizzard reports on the opening of the 765 space Robotic Parking System...



ROBOTIC PARKING SYSTEMS, INC.

Robotic Parking System Inc
12812 60th Street N
Clearwater, FL 33760 USA
727-539-7275
www.roboticparking.com

