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## The Robotic Parking Garage

Parking in the New York City borough of Manhattan on a normal business day always proves difficult or expensive. When you try to park on a street, you usually find several very confusing parking signs all attached to the same pole. A mis-read sign can lead to a towed and impounded car. In the most crowded parts of the city, a parking garage is almost always the only option.

doesn't place a robot into your car. Instead it places your car on a pallet so that the size and the weight of your vehicle is insignificant when



Photo 1

the pallet are placed for storage. The system immediately replaces the used pallet and returns to the drop-off/pick-up point to get the next vehicle to be parked. All of this takes place under the control of a multitasking robotic system that includes a great deal of redundant computer power to prevent accidents.

To increase the number of cars that the building can hold, the cars are stored two deep. If the car against the wall is the first one to be picked up, the robotic system jockeys the front car to another location to gain access to the buried car. Since the Chinatown facility requires cars to drive out onto the same street that they entered, the system includes a rotating table that turns the



Photo 2

the robotic system moves your car and pallet into a parking space. Photo 1 shows a car parked on a pallet in the drop-off/pick-up point in the Chinatown facility. An array of lasers and motion detectors

vehicles around before they are lifted back up to the drop-off/pick-up point in the lobby of the garage.

## Recalling the Facts

1. How does this garage differ from one that you might have in your neighborhood?
2. Why do you think the builders

A busy parking garage is a box designed to hold as many vehicles as possible. A crowded garage usually requires having attendants jockey cars around the facility to maximize the number of cars that can be parked. If you could do away with the ramps, driveways and even the attendants, you could certainly increase profits by increasing the number of cars parked in the limited space. You could even build your garage into a pre-existing structure that doesn't have the space for ramps and driveways.

A new robotic garage has opened to the public in Manhattan's Chinatown. This garage replaces ramps, driveways and parking attendants with a robotic system that squeezes 67 cars into an area that conventional parking could at best only fit 24.

Automotion's parking system

determines that the vehicle is properly set on the pallet and that all passengers have exited the vehicle. A person still plays a final, critical role in the system. The attendant explains the system, makes certain that all occupants have left the vehicle and, perhaps most

important, collects the parking fee.

Photos 2 through 4 show how the robotic elevator system moves a vehicle and its pallet to the open parking space where the vehicle and



Photo 3

of this facility limited its size to just 67 vehicles? ©

*Editor's note: Last month's photo credits were inadvertently left out. The photos should have been credited to Shell Hydrogen. We apologize for the omission.*

Alan Pierce, Ed.D., CSIT, is a technology education consultant. Visit [www.technologytoday.us](http://www.technologytoday.us) for past columns and teacher resources.