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By **Mary Lou DeWynGaert**
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Technology that benefits the human condition—while also making good business sense—is the ultimate achievement at Robotic Parking Systems.

By **Mary Lou DeWynGaert**

When someone says parking garage, what's the first image that comes to mind? Ten years ago, my response would have been something like this: gray concrete ramps, squealing tires, circling cars, polluting emissions, glaring lights and a cement monolith. Today, a new crop of descriptors come to mind: energy-efficient, safe, secure, user friendly and simple to navigate.

This fall marks the 10-year anniversary of the first automated parking system in the United States. In October 2002, Robotic Parking Systems, in collaboration with the Hoboken, N.J., Parking Authority, announced the opening of the Hoboken Garden Street [Garage](#) Automated Parking System (now under the control of the City of Hoboken), which alleviated some of the parking headaches faced by the area's 40,000 residents. The relatively small parking structure (56 feet high on a 100-square-foot lot) held 312 spaces.

To put that in perspective, when the garage debuted, the National Parking Association claimed a surface lot of that size could normally accommodate 25 to 30 automobiles. Our newest facility, the Ibn Battuta Gate car park in Dubai, U.A.E., is a seven-level, 57-foot high facility with 765 spaces within a 276-foot by 98-foot space.

All our garages, no matter how big or small, feature the same parking system. A [driver](#) pulls up to a street-level terminal, shuts off and exits the car, and swipes an access card. The system automatically parks the car with the help of platforms, lifts, sensors, motors and other mechanical gear that transport it to an open slot.

This design requires 50 percent less land than standard garages, while accommodating a variety of car sizes. When ready to leave, the driver inserts the access card in the kiosk, and the car appears at the exit terminal facing in the correct direction.

There are always challenges in new designs, and for us the biggest one we face is allowing so much control to be placed in the technology, rather than in the hands of a person. In a worst-case scenario, the system would go down, and car retrieval would become impossible.

To eliminate this possibility, we deployed GE Fanuc Proficy HMI/SCADA CIMPLICITY automation software, which lets operators view every movement and car location on display terminals in real time and perform supervisory system tasks as needed. The software's data store takes input from tens of thousands of control points, making information about needed maintenance or repairs immediately available online to the service department.

The software runs on two different Stratus Technologies ftServer systems, which are designed to prevent failures from occurring. Instead of dealing with the fallout of a system failure, we can avoid it from the start. With this scenario, there is no system failover or data loss, which translates into no trapped cars.

Our automated parking system also has eco-friendly advantages that go well beyond eliminating pollutants from cars and the need to circle endlessly in search of a parking space. Our Dubai facility reduced CO₂ emissions by approximately 100 tons per year, with comparable reductions of other pollutants and greenhouse gases,

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Mary Lou DeWynGaert is chief administrative officer at Robotic Parking Systems.

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