ROBOTIC PARKING SYSTEMS AND HOBOKEN

Being first-to-market with any product is challenging. Being first-to-market with an innovative new software product even more so. Imagine implementing a first commercial use of a large scale new software product in a business environment populated by officials who would later be convicted on charges of large scale corruption. The first commercial implementation of Robotic Parking Systems' breakthrough technology in the United States was not going to be a smooth road.

The beginning

In the autumn of 1996, the City of Hoboken, New Jersey, issued a request for bids to build an automated garage. At the time, Robotic Parking Systems had proprietary technology to make a fully robotic garage possible for the first time in the US — technology developed from 1989 to 1992 while Robotic Parking Systems' founder was in Germany, working on automated parking systems as an engineer at Krupp Industrietechnik and later as owner of Stahlbau Technik Neckar. Robotic Parking Systems, as the sole owner of the software technology, teamed with three different construction companies to submit bids. The bid was awarded to Belcor Construction and Robotic Parking Systems.

The cast

As stated in an independent investigation, "Robotic's president had a sterling reputation in the engineering community. Before founding Robotic Parking, he had built acclaimed projects all over the world, including assembly lines for Mercedes-Benz and air bridges for Munich Airport, etc." (ref.) What the company didn't know in 1996, and what probably should have been checked into, was that Belcor Construction at the time had nineteen lawsuits pending against the company.

The details of the Hoboken business environment would become clear over the coming years, best summarized in a recent editorial in the Hoboken Journal:

1. Mayor Anthony Russo convicted of bribery and sent to jail.
2. Mayor Peter Camaranno convicted of bribery and currently in jail.
3. Sewage Commissioner Michael Schaefer convicted of being Peter Camaranno's bag man. Currently serving time in jail.
4. Parking Director John Corea indicted for stealing $600,000 from the Parking Utility. His alleged mob partner pled guilty.

Anthony Russo, then Mayor of Hoboken

5. Failure of Michael Russo to follow up on the above theft while on the Finance Subcommittee.
6. Mayor Russo lining his campaign pockets with developer cash, leading to shoddy work on Hoboken's jewel – our waterfront, which is collapsing before our eyes.
7. Mayor Russo still owing taxpayers over $300,000… and more. (ref.)

Also unknown to Robotic Parking Systems as the story unfolds is the fact that John Corea, director of the Hoboken Parking Utility, had been censured by the New York Stock Exchange, where he had worked as a stock broker, for numerous instances of purchasing shares while pretending they were for a company that didn't authorize the trades. According to Steve Brostoff, Vice President of the NYSE's Regulations Division of Enforcement, when caught, Corea had simply "walked off" the Exchange floor, leaving the firm with a loss of $656,632. After a repeat performance by pretending to be working for an employee of another firm, he was permanently barred from the NYSE. (ref.)

John Corea, former director of the Hoboken Parking Utility

In April of 2012 Corea was sentenced to seven years in state prison for his role in the theft of $600,000 in coins collected from city parking meters. During the trial Corea admitted to steering three no-bid (and thus illegal) contracts to United Textile Fabricators — i.e. shuffling contracts to friends for financial favors. Along with his sentence, Corea was

ordered to pay $300,000 in restitution to the City of Hoboken and will be permanently barred from public employment in New Jersey. (ref.)

Anthony Russo, Mayor of Hoboken at the time of the contract, was convicted in federal court in 2004 of public corruption, admitting that he took thousands of dollars in cash from the owner of a city accounting firm in exchange for his influence in awarding contracts to the firm. He was sentenced to 30 months in federal prison and ordered to pay more than $317,000 in restitution. (ref.) The indictment “accused him of running a city where government contracts were up for sale and kickbacks were the price of doing business.”

1999-2002

The robotic parking garage at 916 Garden St. in Hoboken

What emerged within months of the start of the project was an attempt by Belcor to first sideline Robotic Parking Systems, removing their name from the materials and promotion of the project, forbidding VIP visitors and others access to demonstrations of the robotic parking system, followed by attempts to claim the technology as their own, followed by several failed attempts to hire away Robotic Parking Systems’ personnel. The details of how this story unfolds were carefully investigated and documented by journalist Jeff Faria. A copy of his report is available here. In October 2000, Belcor Construction, after unsuccessfully attempting to appropriate the technology from Robotic Parking Systems, abruptly terminated the involvement of the company in the Hoboken garage, attempting to simply lock Robotic Parking Systems out of the garage, with their computer and software inside, while launching a “new partnership” with German company APS GmbH with the stolen technology. In December 2000, Robotics Parking Systems obtained an injunction protecting its intellectual property in the parking garage project.

In the face of numerous attempts to discredit the development process and product, the company further employed General Electric Automation Systems to run simulator tests on the software to ensure that it in fact was capable of producing what was promised — the

first fully automated, robotic parking garage in the United States. The letter from General Electric reporting the results of the tests states that “all tests were successful.”

Now without the technology, by September 2001 Belcor’s “new partnership” had failed. The competitor, APS GmbH, that Belcor attempted to use to replace Robotic Parking Systems had gone out of business. Robotic Parking Systems was brought back to the 916 Garden project to finish the job. The garage opened in October, 2002, with a capacity to handle 314 cars in a 100 by 100 feet, seven story building. It appeared we had a happy ending: http://www.youtube.com/watch?v=-Rf69hKnG8o But that was just the first act.

2002-2006

Robotic Parking Systems operated the 916 Garden Street parking garage, using its proprietary software, from 2002 – 2006. During this time there were three mishaps resulting in damage to the cars. The first was the result of a design error: some cars have automatic trunks that when activated rise to a greater height than the car. As the cars are unmanned from the moment they are “checked in” to the point where the car is delivered again to its owner, this potential additional height was not accounted for in assigning cars to their spaces. One day a customer playing with his keys in his pocket accidentally popped the trunk in his already parked car. With his car’s trunk now open in its space, its height exceeded the roof of the car’s allotted space. When the car moved horizontally, it tumbled. The error was quickly recognized and repaired and never occurred again. Two more mishaps were created when untrained City personnel were left alone in the control room of the garage. In both cases the personnel overrode the software, creating collisions in the parking garage. Overall, this left the garage operating trouble free through more than 99.99% of one million parked cars — a far better and safer accident rate then can be expected at a regular garage, with fender benders, vandalism, scratches from improper parking, theft, etc. In early July, 2006, after four years of operation of the garage, Robotic Parking Systems submitted a request to the City of Hoboken to raise their monthly operating expenses to cover increases in labor costs, maintenance, and other factors. The

request was to increase their fees from $23,250 to $27,900 — enough to cover cost increases and, with 320 parking units being rented at $200 per month, enough to still leave a healthy profit margin for the City of Hoboken. The response was not what Robotic Parking Systems expected.

Enter Unitronics

On July 26, 2006, John Corea, then head of the Hoboken Parking Utility, arrived at 916 Garden Street with five policemen, with guns drawn. He was accompanied by technical personnel from an Israeli company, Unitronics. In another apparently no-bid contract, a deal had already been made, by July 11, without public knowledge, to remove Robotic Parking Systems from the premises, lock them out from their computers and their own software, and hand the operation over to Haim Shani, CEO of Unitronics — violating the City of Hoboken's Non-Disclosure Agreement with Robotic Parking Systems and giving Unitronics full access to the Robotic Parking Systems' proprietary software. Curiously, apparently realizing what was about to be attempted, the contract specifically indemnified Unitronics against "any damages caused by suits filed by Robotic." (ref.) The public were told the garage was expected to be closed for 14 days while the "handover" was completed. Robotics Parking Systems immediately filed for a court injunction forbidding the use of the company's software. Two months later, after proposed settlements by the City that were then broken, the injunction was granted. Unitronics was forbidden from operating the site with Robotic Parking Systems' now compromised proprietary software. Yes, it would have been 14 days for the garage to reopen if they had succeeded in what they had attempted. As it turned out, it would be one and a half years before the garage

Unitronics CEO Haim Shani, with then Director of Hoboken Parking Utility John Corea, re-opens the 916 Garden St. garage in Hoboken, NJ

reopened. Unitronics cited “technology issues” as the causes of the extended delay. No one mentioned that the technology issue was “we don’t have any.” Unitronics was now required to develop their own software for the garage — at a cost of $1.9 million to the City of Hoboken. Something CNN referred to here as one of the “101 Dumbest Moments in Business — Asimov’s Fourth Law of Robotics”. Only dumb, we would say, if you are not on the receiving end of the $1.9 million. Of course, before the court injunction — they had had, courtesy of John Corea, full access to the Robotics Parking Systems software and all computers in the garage for more than two full months, with their own technical personnel on the computers. The garage reopened in January of 2008.

The epilogue

By the time the Hoboken garage reopened, a much wiser if slightly shell-shocked Robotic Parking Systems had already started their next project, in Dubai — a robotic parking garage with more than double the capacity of the Hoboken garage, capable of handling 250 cars per hour. The company had put the Hoboken gang behind them, and in the hands of the legal team to sort out. Charges of non-payment, corporate theft, defamation, patent and copyright infringement, breach of contract and more were filed by Robotic Parking Systems against the City of Hoboken. In July of 2011 the City of Hoboken settled with the company, paying Robotic Parking Systems hundreds of thousands of dollars to settle all charges. Meanwhile, the Dubai garage opened in August, 2009, to fanfare, rave media reviews, and curiously — no glitches, no controversy. Breaking new technology is rarely without headaches. Even after the best testing, when the “rubber meets the road” on a new software product, there will be things to learn and improvements to be made. Perhaps the lesson to be learned first in the breakthrough of robotic parking in the United States was that Hoboken, New Jersey in 1999 was probably not the best choice of location.

Where we are

More than ten years after reopening the garage, Hoboken city officials stated that the biggest problem is not having sufficient available parking spaces. During the time period that Robotic operated the 916 garage, until mid-2006, city records for the garage show that more than 300 spaces were occupied and regularly used in the garage. Since the re-opening of the garage in 2008, after the so-called “retrofit” by Unitronics, the March

2016 *Parking Today* magazine reports eight years later that only half of the available spaces are occupied. Under Robotic retrieval times on cars were averaging 3 minutes. Today these times have doubled and tripled, taking 2-3 times more to get the patron's car out of the garage. Under Robotic's operation, the peak traffic capacity was 120 cars per hour. Today, the peak traffic capacity has been about cut in half with the "new improved software" machines are operating with less than half of Robotic Parking's operating speed. Under Robotic Parking's operation, the Hoboken garage generated surplus revenue for the city of Hoboken. Today the garage generates a yearly loss per city officials and data available in public records. Robotic Parking Systems Inc. has now built more than 5,000 automatic parking spaces. Its parking systems built and operated have earned accolades such as:

- Award for Corporate Social Responsibility (CSR) and environmental sustainability (2009)
- Entry into the *World's Luxury Guide* as the top automatic garage worldwide (2010 – 765 spaces)
- Entry into *Guinness Book of World Records* for the largest automated parking garage worldwide (2012 – 1200 spaces)

In 2016 Robotic Parking Systems again opened the largest automatic garage worldwide with 2350 parking spaces. This facility was certified by a third party to have the highest industry peak traffic capacity worldwide.

The same year the company partnered with Bosch Stuttgart in 2016 for the seamless acceptance of autonomous driving vehicles into and out of Robotic Parking's terminals. This technology was tested successfully in the Mercedes Benz Museum in Stuttgart in April 2017.

Robotic Parking Systems has developed and implemented Level 2 automatic charging stations for electric vehicles (EV) in the Robotic Parking facilities, has developed a proprietary mobile apt to ease of use by customers, and has developed a proprietary fire safety Fire Box system to enhance security in its garages. Today Robotic Parking Systems has built 8,000 spaces in robotic garages.