

Next-generation RFID interrogators sport unprecedented power and memory, improving installation and performance and delivering an ROI to end users.

By Patrick J. Sweeney II

Oct. 19, 2009—Just when many thought the RFID industry was drowning in a deluge of mediocre technology—complaints ranged from poor read rates to no return on investment—geeks came to the rescue. Innovative product developments promise to silence dissenters and deliver real benefits to end users. Last year, vendors introduced three new chips for UHF EPC Gen 2 tags: [Alien Technology's](#) Higgs 3, [Impinj's](#) Monza 3 and [NXP Semiconductors'](#) G2xx all offer significant tag performance improvements. And this year, RFID interrogators that are eons ahead of first-generation readers are hitting the street.

The older devices required physics experts to field-test, tune and tweak the interrogators, software developers to do custom integration, and RF engineers for support and maintenance. But the new interrogators, such as Impinj's Speedway Revolution and [Motorola's](#) FX7400, contain smart configuration tools and automated troubleshooting that simplify installation and boost performance. At [ODIN Technologies](#), we've reduced deployment time from almost eight hours to less than one hour for a typical dock door portal, achieving 99.9 percent read rates.



It's not that we've gotten so much better or faster. Rather, RFID interrogator manufacturers have used the extra on-board capacity to embed readers with tools that automatically detect the best configuration for performance. In other words, the readers do the work. End users no longer have to invest as much manual effort in testing read zones with spectrum analyzers and signal generators. And, of course, saving seven hours of labor has a direct impact on ROI.

In addition, the latest interrogators and those due out soon sport dramatically improved processing power and memory. Today's average reader has 350 percent more memory than 2003 models and five times the muscle, all while eating up less power. What can you do with that extra processing power and memory? Install applications on the readers—such as ODIN's EasyEdge and [OATSystems'](#)

Portable Edge solutions, which perform functions of conventional RFID middleware for a fraction of the cost.

While the ODIN and OAT solutions offer different features, both leverage software agents—miniature pieces of software that sit on the reader—to execute key functions such as data processing, device management, workflow and performance monitoring. This could eliminate the need to purchase, install and manage middleware—and the servers needed to support middleware—at each deployment site. One industrial manufacturer deployed RFID at its 40 warehouses and saved more than \$2 million by using an agent-based solution instead of first-generation servers and middleware.

The new readers will spur RFID adoption because they'll add significant benefits throughout the value chain at substantially lower cost. They're already helping companies increase productivity by providing actionable intelligence to drive better, faster decision-making.

Patrick J. Sweeney II is the founder of [ODIN Technologies](#), a leading RFID solutions company. He is also the author of RFID for Dummies and CompTIA RFID+ Study Guide.