



# A DECADE WITH IMPRES™ BATTERIES AND CHARGERS



Ten years later, Motorola's IMPRES batteries and chargers are still the top choice for the city of Madison, Wisconsin.

## SITUATION

**The city of Madison, Wisconsin, like every other city, needs to ensure it gets the most out of its investments, whether that investment is a new stadium or a two-way radio battery.**

Ten years ago, the city of Madison was dealing with many of the same problems it faces today. Most notably, ensuring the safety of its employees and maximizing their productivity. Every day, the police, fire, rescue and public works departments relied on two-way radios to keep them connected so they could do their jobs. And those radios demanded durable and long-lasting batteries that lasted throughout their long shifts. But problems like overcharging and overheating reduced battery life. Fortunately, the city's partnership with Motorola was about to change things.

## SOLUTION

**In 2001, Motorola introduced IMPRES two-way radio batteries and chargers, featuring a variety of crucial improvements that helped enhance the performance of the city of Madison's radios in the field and in the shop.**

Motorola's exclusive IMPRES technology helped create smarter batteries and chargers, taking the guesswork out of charging. The charger now provided a clear indication of battery capacity, and smart charging algorithms prevented battery overcharging and overheating—all helping to

extend the talk time and overall cycle life of the battery. Rick Krueger, who worked for the city for over three decades and served as the city's radio shop foreman when Motorola introduced IMPRES technology, clearly depicts the most important benefit to the city. "There were a lot of publicized advantages," he says, "but the thing we were excited about was that you couldn't overcharge them. You could leave them in their chargers for a week and you didn't have to worry about it."

## RESULT

**The city of Madison has purchased nearly 4,000 IMPRES batteries over the last 10 years based on the success it had with its initial IMPRES battery purchase in 2001.**

Keith Lippert, communications operations supervisor, said, "Like any new product, we weren't sure whether the IMPRES batteries and chargers would actually work like Motorola advertised, but they worked great. Everything they said they would do, they did." Thanks to IMPRES technology, the city of Madison simplified battery management, optimized day-to-day battery capacity levels and extended the life of its batteries. This improved the safety and productivity of its workers by giving them the confidence to know they could rely on their radios and gave the city a higher return on its investment.

## CUSTOMER PROFILE

### Customer

- City of Madison, Wisconsin

### Location

- Madison, Wisconsin

### Industry

- Fire, police, public works

### Motorola Solution

- IMPRES two-way radio batteries and chargers

### Solution Features

- First Motorola IMPRES battery and charger customer, beginning in June 2001
- IMPRES batteries power two-way radios for all major city departments including police, fire, rescue and public works
- IMPRES smart battery chargers provide valuable battery status data and extend battery life
- Nearly 4,000 IMPRES batteries purchased over a ten-year period

## BATTERIES TO POWER A CITY

Like many cities, Madison's most critical departments, including fire, police and rescue, depend on two-way radios to do their jobs. Whether it's a firefighter grabbing a radio to respond to a call, a police officer connecting to headquarters or a rescue squad communicating in an effort to save a life, every radio needs a reliable, long-lasting battery.

Ensuring every battery is ready to meet the challenges of the day requires more than just stocking the radio shop's shelves with batteries. It requires the right batteries, the right chargers and the kind of advanced technology that can store, analyze and display key battery data.



**"We would try competitors because of the price, but we never had a single battery work as well as Motorola's did."**

Keith Lippert,  
communications  
operations supervisor

### THIRD-PARTY BATTERIES CAN'T COMPARE

In order to keep costs down, the city of Madison occasionally explored third-party options for its two-way radio batteries. But, by the time IMPRES batteries were introduced, it already knew that third-party products simply couldn't compete with Motorola manufactured batteries and chargers. "We would try competitors because of the price," Lippert says, "but we never had a single battery work as well as Motorola's did. Even if they had the same cells, they didn't have the Motorola technology that gave us what we were looking for."

### THE DANGERS OF OVERCHARGING AND UNDERCHARGING

The problem of overcharging is one that had plagued the city of Madison for years—something Rick Krueger knew all too well. "One of the problems we had with every battery," Krueger says, "was the users would overcharge them. They'd leave them in the chargers over the weekend, or overnight and the batteries would overheat." Overheating can shorten the overall life of a battery, which could cause customers to have to replace batteries before their normal lifespan is reached.

Another issue is the problem of undercharging. Before the introduction of IMPRES technology, batteries were often taken out of the charger before they were fully charged. Doing this over an extended period of time shortens the cycle life of a battery. If city employees' batteries are not fully charged and don't last their entire shift, they could find themselves in the field with no radio communications, a potentially dangerous situation.





## A NEW STANDARD

When the city of Madison first received its IMPRES batteries and chargers in 2001, they had an immediate impact on how the radio shop managed its inventory. Through a number of innovations, including smart charging, automatic battery reconditioning and usage data storage, the IMPRES batteries established a new standard, solving charging problems and enhancing inventory management.

Instantly, overcharging was no longer an issue, as the IMPRES chargers automatically monitored battery capacity, ensuring they were safely charged to the correct capacity and always ready to go. Not only was overcharging eliminated, but also the batteries and chargers themselves now more clearly displayed crucial battery status information, helping improve inventory management. Now, the shop foreman or battery manager knows to pull a battery out of service when it reaches a certain capacity level. They can even monitor whether the battery has enough power to last the employee's entire shift—another important factor when determining when a battery should be pulled out of service.

**“A firefighter can’t worry about battery life when they’re on the job, and this made sure they didn’t have to.”**

Rick Krueger, city of Madison’s radio shop foreman

“Using the digital display on the charger,” Krueger says, “the manager can see how much capacity each battery has, letting them be sure the batteries they’re sending out are ready to go. A firefighter can’t worry about battery life when they’re on the job, and this made sure they didn’t have to.”

## SMART TECHNOLOGY FOR SMART BATTERIES AND CHARGERS

The smart technology in IMPRES batteries and chargers took the guesswork out of day-to-day and long-term battery maintenance for the city of Madison, letting it rest easy knowing each radio had the power it needed to get through the day. “Because the batteries are smart,” Krueger says, “that means users have one less thing to worry about. With a smart battery, life is good.”



IMPRES batteries

**“In the long run, IMPRES batteries are considerably cheaper than other batteries because they’re more reliable and they last longer.**

Keith Lippert, communications operations supervisor

It’s easy to understand why Krueger was pleased. IMPRES batteries and chargers automate battery reconditioning, storing and evaluating usage patterns to determine the optimum reconditioning interval and, ultimately, optimizing the battery life. They also store critical information so managers don’t have to worry about keeping charging and usage records, displaying clearly when batteries need to be replaced. “All of the features IMPRES offered were designed to let users not have to worry about them,” says Krueger. “They can put the battery in their radio, put the radio on their belt and know it’s going to do what they ask of it.”

### **A VERY GOOD DEAL FOR THE CITY OF MADISON**

From the very beginning, the city of Madison knew IMPRES batteries and chargers were the right fit for it, and over the next ten years it has seen what kind of benefits a smart, reliable battery and charger solution can provide. Paramount among these benefits is ROI. “In the long run,” Lippert says, “IMPRES batteries are considerably cheaper than other batteries because they’re more reliable and they last longer.”

After ten years, Keith Lippert, Rick Krueger and the city of Madison are still thrilled with what IMPRES batteries have done for them. And with the enhancements Motorola has made to the IMPRES technology over the years, the relationship between Motorola and Madison has only grown stronger. Though they have a choice between IMPRES and non-IMPRES batteries, Madison has demonstrated its continued satisfaction with IMPRES technology. Today, IMPRES batteries account for 84% of the city’s battery inventory. Lippert explains this number and sums up his and the city of Madison’s feelings about IMPRES batteries in just a few words, “We’ve been so happy with IMPRES solutions that, unless we have to, we don’t even look at other batteries.”

For more information on how Motorola’s IMPRES batteries can improve your field sales and field service operations, please visit us on the web at [www.motorolasolutions.com/IMPRES](http://www.motorolasolutions.com/IMPRES)

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