

Syrma Technology Case Study

<https://www.syrmatech.com/dna/>

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RFID Tags for Mobile DNA Analysis

Customer Background

Modern DNA science has revolutionized law enforcement and military field operations, revealing, with all-but-indisputable accuracy, the identities of criminals or terrorists—or quickly exonerating the innocent—as well as correctly identifying human remains. Where such pinpoint analysis once took extensive testing by trained lab technicians, one US-based company has developed a mobile, self-contained DNA analysis instrument.

This device enables non-technical personnel at the scene to analyze and record full DNA profiles—from human blood or tissue samples or swabs from previously handled items such as drinking glasses, cell phones, or even chewing gum or cigarette butts. This game-changing innovation reduces the timeframe of DNA identification from days or weeks at the lab to as little as two hours in the field.

A key element of this automated solution is the incorporation of RFID tracking technology. Scannable tags are embedded into the caps of vials holding individual DNA test samples, matching those original containers to the final test results. These tags not only need to meet rigorous performance specifications, but also protect subjects'

personal data in accordance with HIPAA and other government regulations. The company turned to Syrma for custom development of these essential components.

Building Upon Syrma's RFID Reputation

Syrma was initially referred to this customer by another supplier, one of America's leading microchip manufacturers, based on prior collaborative successes. Having designed the handheld reader hardware that scanned the vials, they sought embedded tags that would seamlessly integrate with that equipment with quality and long-term reliability for both police and military users.

Following careful consideration of the customer's specifications, the Syrma engineering team recommended a 10 x 1.6-millimeter ISO 15693 tag encased in a flat, circular epoxy housing which could be easily embedded into the lids of the sample vials, specially tested for compatibility with the existing reader chipset for optimal performance.

Proactive End-to-End RFID Development

After Syrma offered competitive pricing estimates, thanks largely to the cost-conscious advantages of Syrma's long-established supplier ecosystem, the customer green-lighted initial production runs of 200-piece quantities, keeping pace with their own factory production rates.

Syrma's key role in developing components for this groundbreaking DNA analysis solution represents yet another leading-edge application of mobile RFID tracking technology. Syrma remains well-positioned to adapt their extensive RFID expertise toward helping bring OEM customers' next-generation product concepts from the drawing board to the marketplace.

For more information about Syrma's innovative RFID solutions, visit:
www.syrmatech.com/rfid-solutions.