

## **VIRTUAL SHOOTER IN 100 SECONDS!**

U.S. Immigration and Customs Enforcement—ICE—tests about 200,000 ballistic rounds each year, mostly firing them by hand.

LOWELL JOHNSON: Depending on the type of testing we're doing, either firearms or ammunition, we would fire several thousand rounds a week.

This repetitive firing takes a toll.

LOWELL JOHNSON: The recoil forces [by firing—and again we're talking handgun, firing handguns—the forces] that are generated on the hands, shoulders, joints, is, over time, is debilitating. [It is repetitive—again thousands of times a week—] and it ends up causing repetitive workplace injuries, joint pains, chronic joint pains.

ICE asked the DHS Science and Technology Directorate to develop a solution, and, in cooperation with Radiance Technologies, the Directorate developed Virtual Shooter.

CHUCK MARTIN: We call this a virtual shooter, simply because it is mimicking our motion.

Virtual Shooter is constructed along the lines of the human body — with adjustable components that mimic joints and muscles. So while other firing devices lock the handgun in one position, Virtual Responder allows and responds to recoil just as a human arm does.

PRICE: The wrist movement, the arm movement, the torso movement, and everything that goes in between. What this allows us to do then is go ahead and replicate that in a mechanical function, a robot if you want to call it something outside that, that goes ahead and takes the stress off humans from doing large amounts of shooting, but [Y]ou get the same feel, look, and response from a weapon and the ammunition as you would if it were a real person.

CHUCK MARTIN: We want to be able to simulate a small person, without a lot of strength, way up to a large person who has been working out with weights for the last 30 years.

As a result, the device is enabling researchers to learn more about the mechanics of shooting—information that could help officers in the field fire handguns more accurately and with less strain.

But Virtual Shooter's primary objective remains to spare ballistics testers from injury.

JOHN PRICE: Nobody wants to be injured, nobody wants to have problems, health problems, as a result of overshooting. That's what we're working on.