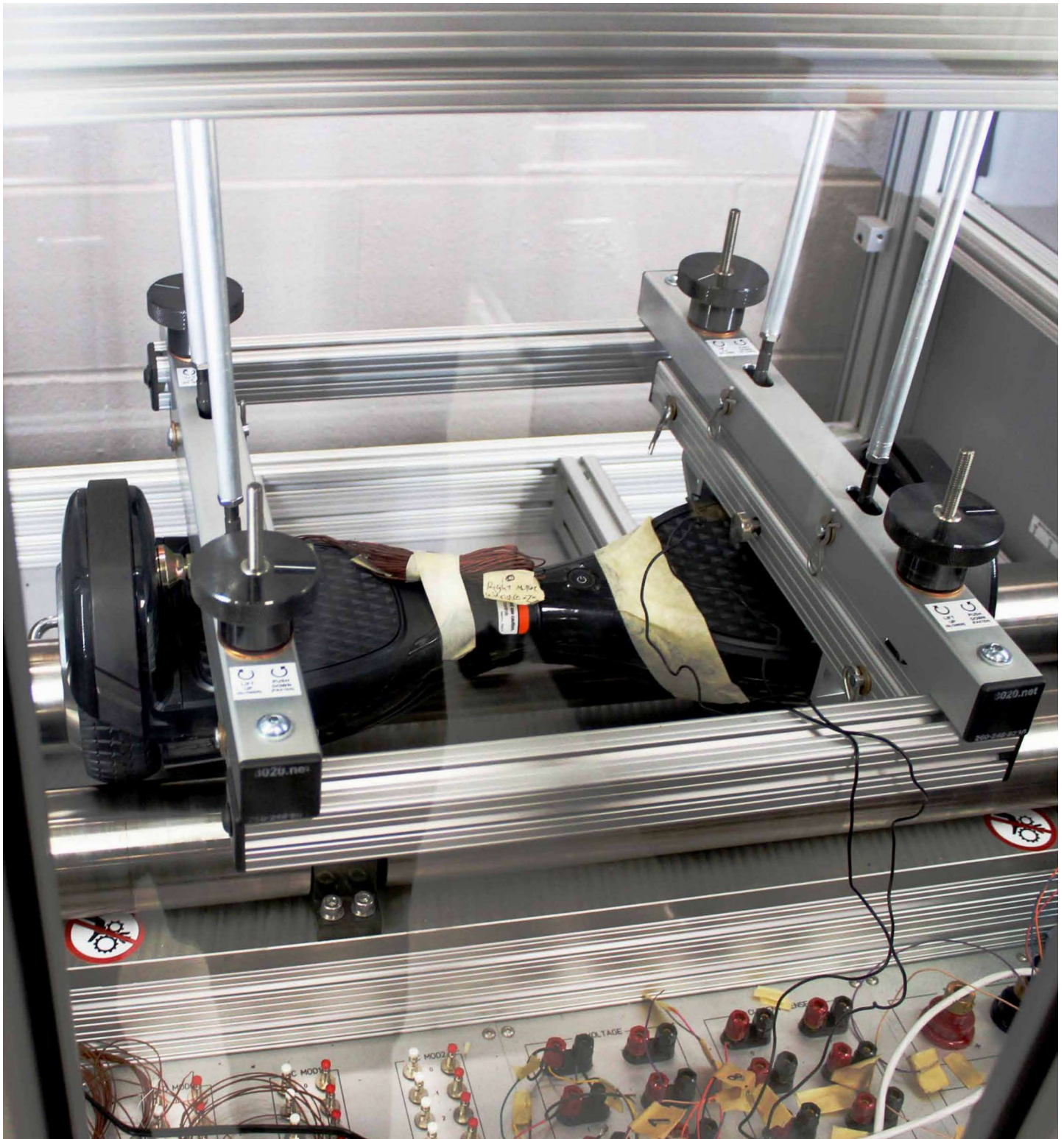




The Mark of safety

UL testing lab intent on finding out where flaws lurk in batteries

By Marco Buscaglia

Jesse Rodriguez gets to blow things up for a living.

Batteries, mostly. He gets to drop batteries, crush batteries, submerge them in water and pump them full of way too much electricity.

Rodriguez is especially proud of puncturing things, which takes place when technicians drill holes into batteries.

"This is usually pretty fun for the kids," Rodriguez says, pointing to the exploded bits of battery embedded in the ceiling and assuring us that everyone stood outside of the enclosed space when the battery exploded. "We did it on Take Your Child to Work Day. The kids had a lot of fun."

The kids?

"OK, it's pretty cool for us, too," he says.

Rodriguez is one of four engineering technicians who work in UL's battery-testing lab in Northbrook, Ill., and push various batteries and cells to their

breaking point to see if they comply with UL's Standards. In some cases, they'll stress a batteries component — overcharge them, overheat them — to test the batteries' casing.

The lab itself is in a space that seems smaller than its role, but it is a testament to efficiency filled with small, enclosed rooms, various-sized explosion-proof boxes, numerous exhaust fans and vents and an abundance of screens filled with charts, graphs and an ever-changing collection of numbers, all tied to the various testing mechanisms in the lab itself.

"It's a pretty elaborate setup," says Matthew Thomas, the lab's senior engineering technician. "We do a lot in a fairly small space."

Thomas isn't kidding. With three or four technicians moving throughout the room, there is a calming atmosphere that stands in direct contrast to the exploding, overheating, drilled-through and crushed

batteries that are being tested throughout the space.

"It's pretty calm down here," says Rodriguez. "We're all very tuned in to what we do, and we take every precaution necessary. It's not like we're running around blowing things up. There's an order to all of it."

Thomas says that calm comes from a staff who has worked together for a number of years, and a methodical approach to a job that requires precise results and measurements.

"It's a pretty elaborate setup. We do a lot in a fairly small space."



“We are testing batteries to their breaking points, so everything has to be precise—how we set up the equipment, how we set up the batteries and cells, how we measure our results—it’s an exact science when it comes to testing,” Thomas says. “The testing itself can be loud and messy but we track the results as precisely as we can. There’s no fluctuation when it comes to testing our Standards.”

Standards rule

The Standards, in fact, are king, ruling everything that happens within the lab once they’ve been passed down from UL engineers and the UL Standards

committees.

Diana Pappas Jordan, a senior programs manager and standards technical panel chair at UL, manages the process of setting the battery standards.

Each UL Standard is governed by a Standard Technical Panel (STP), which is the consensus body and is required to have a balance of interest. The STPs are an important part of the process by which UL develops and maintains its Standards for safety.

The STP is comprised of different interests, such as, producers of products; supply chain participants, like suppliers and retailers; consumer advocate groups;

government organizations; inspectors, testing and standards organizations and general interest, like consultants.

Most UL Standards are American National Standards (ANSI).

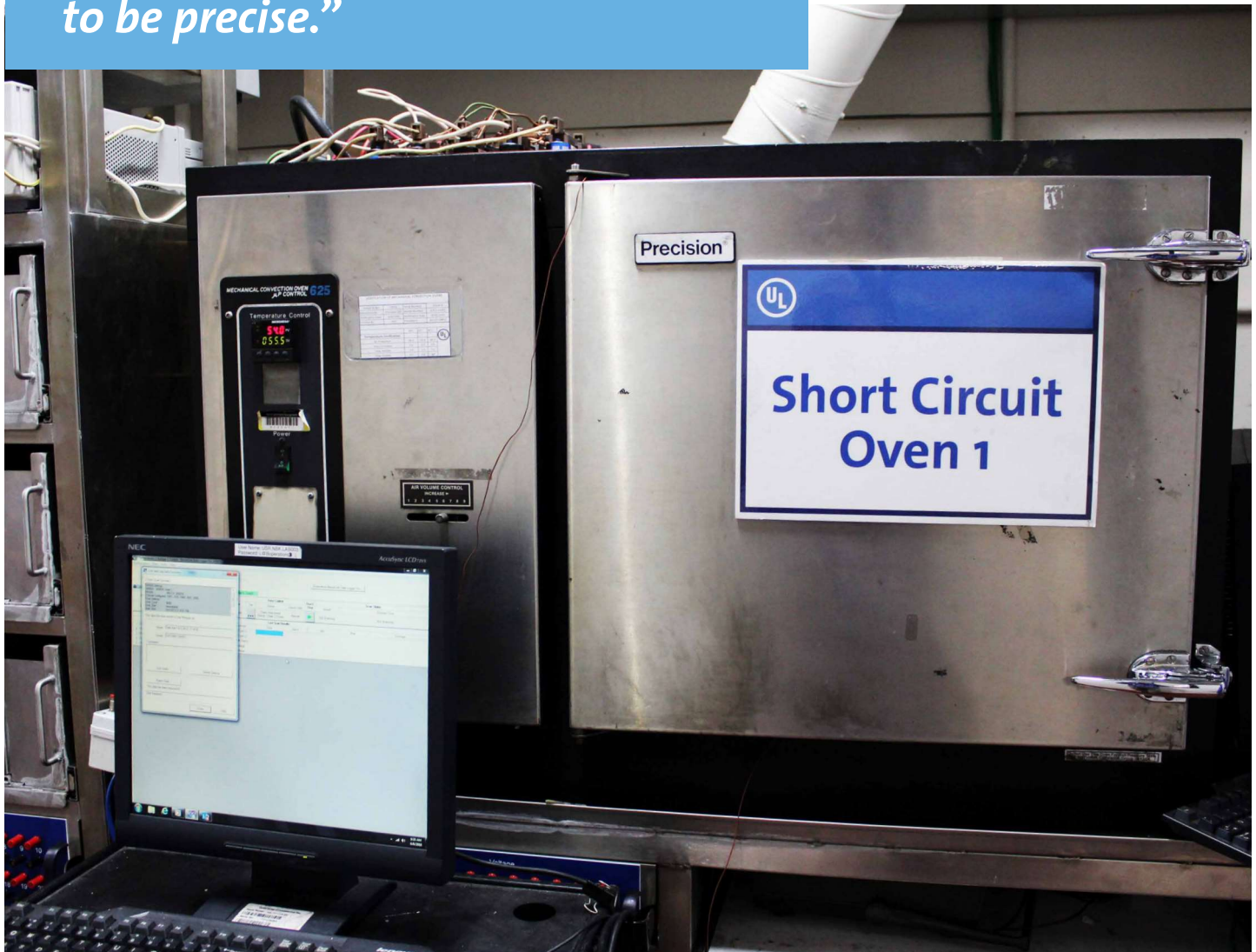
“Standards continue to evolve and change as technology changes and new products are developed,” Pappas Jordan says. “Scopes and requirements of current UL Standards may need to be revised to address new technology features.”

Skaters and smokers

Thomas, who has been with UL for 19 years, says the UL Standards can apply to a complete battery or a single cell. In some cases, they’ll test batteries in tandem with the products they power, especially if those products, by design, might put a lot of stress on the batteries.

“Hoverboards are the best example

“We are testing batteries to their breaking points, so everything has to be precise.”



right now,” Thomas says. “We’ll run tests to see how the batteries will react under certain conditions, which are much different than the conditions for a laptop or a phone.”

Thomas says he thinks testing small batteries for e-cigarettes is about to play a major part in the lab’s daily activities.

“Things are happening in the news every week, it seems,” he says. “The e-cigarette Standard is out there but there are some external standards, too. It’s going to take some different equipment and different ways to test the normal wear and tear: how the battery charges, how the vapor impacts the battery. The batteries are really complex. I was amazed at how much they fit into that little battery, so there’s a lot to test.”

The Mark matters

Thomas says that UL’s Standards are as relevant now — if not more so — than ever.

“Back in the day, my grandparents would say they would never buy something without a UL Mark,” he says.

Because of what he knows, Thomas says his job has had a direct impact on his life as a parent, consumer and member of society in general.

“There are things I would never let my family buy,” he says. “I see some of these chargers and I’m like, ‘No, no, no. Not for us.’”

Thomas says he’s confident UL Marks matter to those consumers who take the time to do a little research.

“It’s peace of mind,” Thomas says. “I know what goes into setting safety standards and testing safety standards, so I see what can go wrong if things aren’t properly tested.”

As can Rodriguez and the other engineering technicians in Northbrook.

“We see the news, we know what can happen,” Rodriguez says. “We joke around about blowing things up, but we know what we do is important.”

—Marco Buscaglia is a freelance contributor

