



CREATING MOMENTUM:
As treasurer and member coordinator of Madison Spinal Cord Injury & Issues (see p. 72), Tina McFadden helps support and encourage other people with disabilities.



ON A ROLL: Rowwheels is poised to transform the wheelchair industry by offering wheels that a user pulls rather than pushes.

REINVENTING THE WHEEL

THE WIDE-OPEN FIELD OF ASSISTIVE TECHNOLOGY IS RIPE FOR REVOLUTION



Serial entrepreneur **Rimas Buinevicius** spent only ten weeks of his life in a wheelchair, but it changed everything. The former Sonic Foundry CEO and co-founder of the Madcelerator early-stage business incubator slipped while sailing in 2011, suffering a spiral fracture on his leg. After only three days in a standard, medical-grade wheelchair, he was fed up with shoulder pain and the difficulty of pushing. And as a guy who'd built a career based on thinking outside the box, he just knew there had to be a better way.

Four years, a partnership with quadriplegic NASA inventor and scientist Salim Nasser, a 2012 Governor's Business Plan grand prize and a new Madison business later, Rowwheels is poised to potentially break the \$2 billion wheelchair market wide open with its brilliant, seemingly basic innovation: Why push when you can pull?

"When you look at a rowboat, it's not called a push boat; it's called a rowboat for a reason. And that's because it's just easier on your body," says Buinevicius of the wheels that easily attach to most any standard manual wheelchair on the market, allowing its users to pull instead of push. Rowing actively engages eight of nine upper-body muscles; pushing, on the other hand, engages only two, often leading to chronic pain and repetitive stress injuries, and the sort of hunched-

PHOTOS: (THIS PAGE AND OPPOSITE) COURTESY OF BRANDON NORSTED / ROWHEELS

A BETTER WHEEL:
Product developer
Brandon Norsted
demonstrates
desirable posture
using the “pull”
motion of Rowheels
wheels.

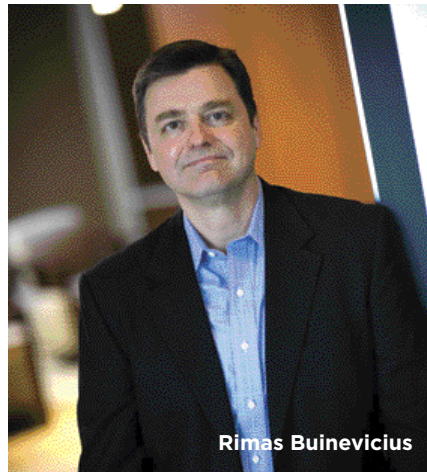


over posture common to long-term wheelchair users. Rowheels is in the beginning phases of production here in Madison (using many Wisconsin manufacturers, including Madison’s Saris Cycling Group for the rim, tire, tubes and spokes), while the marketing team is out introducing it to the health care industry around the country at places like trade shows and hospital and medical centers’ in-service trainings.

“I’ve had in-service sessions where

literally the nurses were crying,” says Buinevicius. “It’s really rewarding, because you get into these in-services where the people really know what we’re doing because they’ve been treating this forever, and that’s where I think people really get blown away by it. And it hasn’t even hit the market en masse yet.”

Buinevicius never set out to make anybody cry, or even make anybody’s life easier—he just saw a gaping need and an entrepreneurial opportunity. That’s kind of how it went for Jay



Rimas Buinevicius

Martin, too, a UW-Madison engineering professor who, in 1999, experienced the worst: his sixteen-year-old son, Liam, suffered a cervical spinal injury in a diving accident that left him paralyzed from the chest down. As an engineer, with a brain calibrated to see problems and solve them, in those dark months in the hospital after his son’s accident, Martin saw problems everywhere he looked.

“It was so eye-opening to me that I no longer could work on anything else,” says Martin, who dragged a then-rare, uber-expensive, shipped-from-Switzerland low air loss mattress into Liam’s hospital room on a Sunday—“because you can do anything in a hospital on a Sunday”—to ward off pressure ulcers, the deadly condition that killed Christopher Reeve. (He says the hospital has since switched to these mattresses, although he takes no credit for it).

Martin then left the competitive field of combustion for assistive technology and co-founded the UW-CREATE lab, or the Center for Rehabilitation Engineering and Assistive Technology, where his students went on to design innovations like the Funicular, a platform that uses a chain hoist and rollers to drive wheelchairs up stairs. And in 2013 he left UW to start his

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WITH
MICHAEL FELDMAN

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- B** 6 locations all east of the Mississippi
- C** 12 locations, all over the country





INSPIRED INNOVATION: Jay Martin (*left*) rigged his hangar so it can lift son Liam (*center*) up to his plane. The space also serves as a lab for Martin Product Design, where James Guither (*right*) also works.

own design firm, with chief business development officer Jim Guither, and chief operations officer Liam—who not only managed to graduate high school with his class after his accident, but went on to earn a UW-Madison bachelor's degree.

One of the most promising products in the one-hundred-plus Martin Product Design portfolio is a sort-of garden-hose-reel device that solves the problem of piles of jumbled hospital cords. Because while working in combustion, particularly as it relates to advancements in auto technology, Martin had to find slivers of subtle, highly specialized problems to solve if he wanted to make any kind of difference. "But when I looked at the field of assistive technology, there was nobody. And there were so many problems. I mean, to find a good problem, all you had to do was walk out the door and there it was," he says. "And when I say walk out the door, there's almost no building in Madison that has the door buttons in the right place."

Just as Buinevicius is clear that Rowheels is about innovation and Liam

is clear he doesn't want to be some sort of inspirational wheelchair poster boy, Martin insists that he's doing what he loves and that he's found a field where "the sky's the limit." Guither points out Liam's \$200 water bottle, one he's had to modify and the only one like it available on the market in a country where the rest of us puzzle between hundreds of styles, colors and materials, and breaks it down in capitalist terms: "There's a tremendous unmet market need here," says Guither, before turning the conversation in a more philosophical direction. "We know we can do so much better."

Like so many other components of Universal Design, Martin's user-centered innovations are not only good business, they're better for everyone. That hospital cord device, for example, has real implications for patient care professionals, for one, but also for actual garden hoses. The hands-free devices so many of us use in our cars started with assistive technology. That perennial wedding registry item, the Cuisinart food processor, was invented to accommodate people with physical

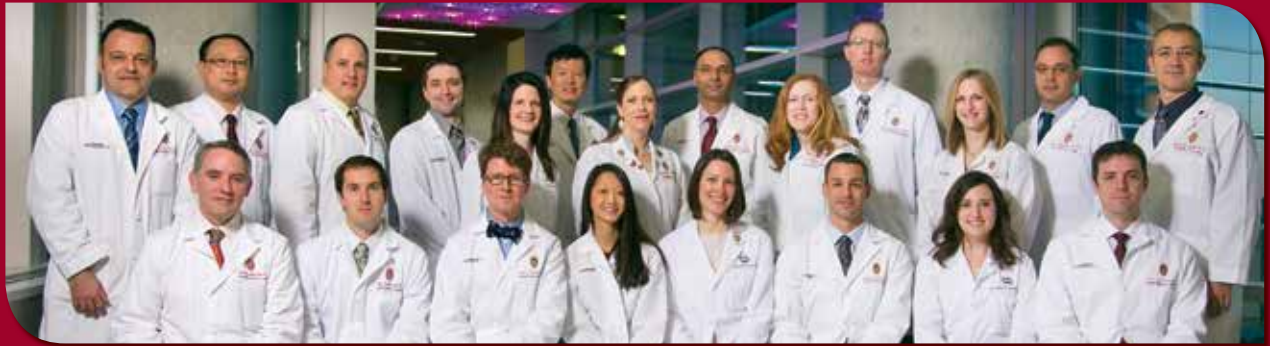
limitations. When we're pushing our babies in strollers down the sidewalk, we're shocked when we can't find a curb cut. When we press the elevator button over here and the doors open way down there, we've got time to wander in and get settled—that pause was designed to accommodate people with disabilities. Just like the "door buttons" Martin mentioned, those squares we palm-slap to open doors when we're carrying groceries or backpacks or kids. We're benefiting all day long from assistive technology, even as the multitude of remaining problems stay invisible to us. And the potential for economic growth and groundbreaking innovation in the field of assistive technology is staggeringly big.

"It's funny because in my former life, if you work in combustion you're associated with automobiles, and our automobiles are amazing devices right now. If they don't work perfectly, everybody's totally upset," says Martin. "In the world of disability, it's so different. If it works at all, you're happy."

— Maggie Ginsberg

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THE EDGEWATER

The Edgewater is where memories take shape this spring

Join us for Easter brunch and an egg hunt, Mother's Day dining, and to celebrate UW graduation

EASTER FESTIVAL Sunday, April 5

Enjoy Easter brunch at The Statehouse or the Grand Ballroom and family activities on The Plaza including a visit with the Easter bunny, live entertainment, a bounce house, and more!

UW GRADUATION WEEKEND Saturday, May 16

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MOTHER'S DAY Sunday, May 10

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For more information, visit the Events Calendar at theedgewater.com and call 608-535-8223 to make reservations.

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