

# Purdue

July/August 2014

## A L U M N U S

# Living the American Dream

At the helm of recreational vehicle giant Thor Industries, sits a proud Boilermaker.



## Purdue

A L U M N U S

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Loyalty lives here.



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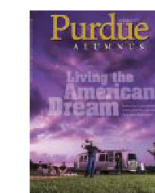
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- ▶ Listen to an interview with Bob Martin (LA'93) with *RV Business*.
- ▶ View the Purdue Day of Giving Thank You video.
- ▶ Check out an Intel video that features Ted Ullrich and Tomorrow Lab.

### ON THE COVER



Bob Martin (LA'93) has been with Thor Industries since July 1998 and currently serves as president and chief executive officer. A life-long RVer himself, you can often find Martin and his family enjoying a tailgate at the base of Slayter Hill on a Purdue Football Saturday. Photo by Charles Jischke



Ted Ullrich spends his time dreaming up big ideas at Tomorrow Lab, the innovative startup he founded in 2010.

Photo by Ewan Burns

# Big Apple Entrepreneur

**B**eing born in 1984 is significant to Ted Ullrich (E'06). The founder of Tomorrow Lab would learn of the Super Bowl commercial that unleashed the Mac on the world, and he grew up on Apple, ever cognizant of software solutions for a hardwired world. Ullrich's recent appearance on the cover of *Entrepreneur* magazine suggests that his time and his company have arrived.

Tomorrow Lab, comprised of Ullrich and partners Dean DiPietro and Pepin Gelardi, is a New York City-based startup that works with other startups, often reshaping great ideas through sleek designs, and delivering them to the marketplace. Some of their biggest successes to date: a wireless pill bottle that alerts users to missed dosages via text messages and phone calls; a lightweight, lockable "trunk" for bicycles; and a portable vending solution for charging smartphones.

For Ullrich, the desire to arrive at elegant solutions through engineering and design could be a byproduct from his own Illinois childhood. "My father managed the media and design department at Fermilab," Ullrich says. "They were using photography, along with video and graphic design, to communicate the really complex science that was happening in the accelerator lab."

Desperately wanting a creative component to go along with his engineering studies, Ullrich discovered the interdisciplinary engineering program at Purdue. "It's this great combination where I could have a certain recipe of engineering courses related to the design and manufacture of a product," says Ullrich, who took an array of courses in electrical, industrial, and mechanical engineering. "With each, I extracted something that could be applied to creating something else."

## Inventor by design

Finding his way through his college days, Ullrich says he spent much of his time on campus in Pao Hall, wrapping his hands around projects in the industrial design program. "Purdue has one of the oldest and best industrial design programs in the country," he says. "They've recently had a lot of inventions around bicycles, portable water cleaning, and on-demand shelters for disaster relief."

Shortly before graduation, Ullrich went to Copenhagen on a summer study abroad trip where he was grappling with the idea of going into architecture. Stops in Sweden and Finland broadened his worldview and perhaps shaped some of his ideas on innovation. "They have fantastic transportation systems and a different way of life there," he says. "They also seem to have a lot of questions figured out on how a society or a city could be set up. But I'm convinced now that Americans have a better entrepreneurial spirit because Denmark is one of those places where life's very comfortable."

Ullrich earned a master's in industrial design from Georgia Tech, but didn't stick around Atlanta too long after that. A self-taught web developer, he moved to New York City in 2009 and was able to find work as a freelancer. "Before coming here, I researched places that I felt would be good landing spots for someone with my background," he says. "One of those places is the Eyebeam Art and Technology Center in Manhattan."

Engineering alumnus is standing out among the startup crowd.

BY WILLIAM MEINERS



TOMORROW LAB®

### Tomorrow Lab Byproducts

From improving the lives of city dwellers to enhancing favorite childhood toys through technology, Tomorrow Lab has helped bring the following startups to life. For more, visit [www.tomorrow-lab.com](http://www.tomorrow-lab.com).

**AdhereTech** tackles the expensive problem of medication adherence with a smart, web-connected pill bottle that can count the number of pills inside.



**WayCount** provides an open data platform for crowdsourcing automobile and bicycle traffic counts. "We are building the world's first open data set of car and bike traffic counts to create better cities," Ullrich says.



**KeenHome** is a smart HVAC vent that allows homeowners to save money and add comfort by answering the question: "Why is your bedroom the same temperature as your living room?"



**Rally** takes a collaborative consumption approach to mobile device charging by providing a vended power solution that you return. Ullrich says, "It's like the bottled water of energy."



Ullrich immediately began working with individuals in their fellowship program at Eyebeam. There, in addition to technical research, he participated in social research projects, looking at how to grow food in urban places and uncovering new ways of communicating media.

He met Ryan Rzepecki before he was CEO of Social Bicycles, now the fastest growing bicycle sharing company in the US. Unlike Citi Bikes, which require a docking station after a ride is done, Social Bicycles work more like Zipcars that can be parked anywhere. All the mobile communications and locking devices are built into the bicycles themselves. For the startup founder looking for investors, this innovation equated to about a \$4,000 implementation savings per bicycle.

"This is what I love about New York," Ullrich says. "Entrepreneurs can bump elbows here and just try things out. I worked with Ryan for about a year and a half and even traveled back to Copenhagen to pitch Social Bicycles to the city."

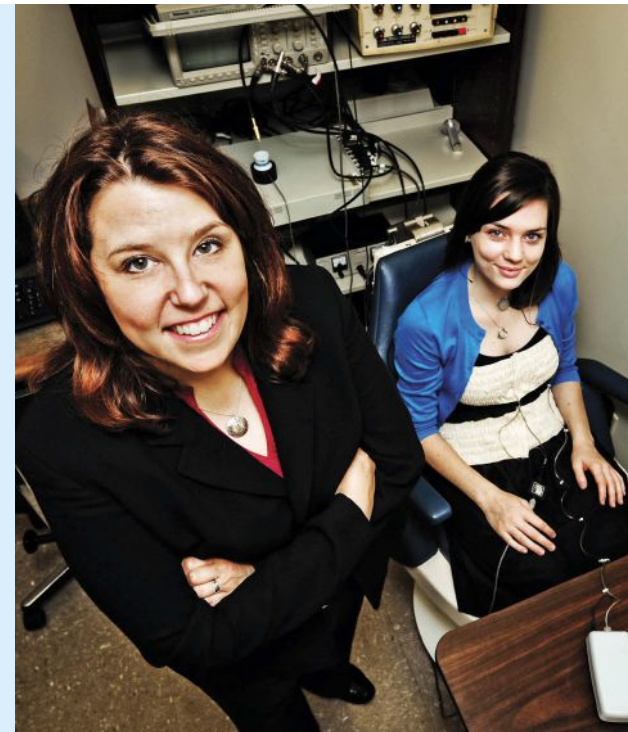
Constantly working to improve prototypes, Ullrich began to form philosophies about entrepreneurship. Tomorrow Lab, born in 2010, has sought to apply engineering and business acumen toward the design of products. The concept, he hopes, could empower even the small-pocket inventor. "We're working specifically with startups and new ideas," he says, "prototyping these things to create new ventures that have strong opportunities to grow into really relevant businesses."

### Startup Darwinism

As word spread of Tomorrow Lab's unique collaborations, not as a funding source, but a sophisticated partner willing to build upon inventions, their reputation quickly grew within the city. "We work like an architecture firm in some ways," says Ullrich, referring back to another aspect of his education. "We create a proposal and put a lot of thought into the different phases of development. Although creating new products is different from buildings in that you may end up in a very different place from where you started."

The startup clients (see lefthand sidebar), who are charged a cash fee and may or may not offer some equity in the new company, seem generally satisfied with any alterations in the course. And the *Entrepreneur* cover story, though maybe not the cover of *The Rolling Stone* equivalent, has furthered Tomorrow Lab's cause.

"From a press standpoint, you have to pull your own cart in a lot of ways," says Ullrich, who points to an Intel-sponsored commercial for the company's "near future" thinking. "Other companies have approached us, as well as other individuals who might not have



Andrew Hancock

## A Boiler Bridge to Business

Jessica Huber's invention, SpeechVive, a device that cues patients with Parkinson's disease to speak more loudly and clearly, is just hitting the market. An associate professor of speech, language, and hearing sciences, Huber believes that many of the qualities that make her an accomplished faculty researcher translate well into being an entrepreneur.

Huber's road from the lab to the marketplace has been a learning experience in itself, fostering cross-disciplinary work with biomedical engineers and exploring business development options. As the faculty fellow for entrepreneurship at Discovery Park's Burton D. Morgan Center for Entrepreneurship, Huber is now helping students and faculty negotiate that same path.

without seeing the magazine."

Throughout their own tribulations in the trial and error phases of building prototypes, the Tomorrow Lab trio and their staff have become more adept at identifying the project ideas that need to go back to the drawing board. The potential inventor, Ullrich says, must have answers to three critical questions. "What problem are you trying to solve? What's your business plan? What prototypes have you made?"

A residual effect of all the prototyping in the lab is the potential for other products. Even in a company of just six employees, Tomorrow Lab has a built-in research and development department.

"Big companies are now the customers of small companies," says Ullrich, citing Facebook's recent \$2 billion purchase of Oculus Rift, a virtual reality machine that gives humans the sensation of flying like a bird. "They are buying

Those shared qualities between inventors and professors could start with tenacity. "Entrepreneurs tend to be pretty creative people who are willing to think outside the box or are a little less risk averse," Huber says. "That's a great fit for a lot of faculty. You still have to be extremely driven and take rejection fairly well because it takes many no's to get to the one yes."

Still, creating a campus culture that embraces entrepreneurship can make all the difference. And on that front, Purdue seems all in. "This goes back to our charter as a land grant institution," says Dan Hasler, president and chief entrepreneurial officer of the Purdue Research Foundation. "Our mission is to positively impact the people around the state and the country."

If the great ideas go no further than the laboratory doors, then there is no impact, Hasler says. To that end, a number of initiatives are easing the path to the marketplace. Here are but a few.

A \$12 million Foundry Investment Fund seeks to join with other investors to fund companies that are based on Purdue technology or expertise in the areas of human and animal health and life sciences.

Through a program known as DIFF, or Deliberate Innovation for Faculty, several faculty entrepreneurs are providing mentoring for Purdue innovators.

The Purdue Startup Guide is a 36-page online publication offering expert advice on patenting and commercialization.

An express startup license for Purdue innovators and entrepreneurs is helping deliver on good ideas sooner.

Discovery Park now provides startup offices for student entrepreneurial activities and Purdue and industry partnerships.

The Burton D. Morgan Business Plan and the Elevator Pitch competitions put students on a fast track to business.

"All these activities are designed to try to help these inventions find their way to the marketplace," Hasler says. "Of course there are several channels and it's not just about startups. We also do that by licensing different technologies to companies that have done research with Purdue over the years."

technology that has already been vetted. I liken it to startup Darwinism. It's the bird that has survived through all the startups."

As the design engineers at Tomorrow Lab continue to work on their own products, they've been approached by industry heavyweights like Unilever and BMW. "What that says to me is that R&D departments are shutting down all over the world or they know they need to look outside to the startup culture," says Ullrich.

For Ullrich, the 30-year-old design engineer with a mind for startups, that culture isn't about selling out. He believes it's about making life better. Tomorrow Lab, a startup invention center in the heart of New York, could make that a possibility for all of us. And sooner than you think.

**P** William Meiners is editor-in-chief of *Sport Literate*, a Chicago-based literary magazine.