

# Continuing to Move Forward

## Research Facility to Fill Gap in Aerospace Testing

The University of Notre Dame is making headway on a \$36 million research and testing facility in South Bend's Ignition Park. Plans were announced June 2014, construction started last October and is expected to be completed by December, and the complex is slated to be fully operational in July 2016.

The unique goal of the Notre Dame Turbomachinery Laboratory is to test real components of gas turbine engines at realistic conditions with some of the most advanced equipment in the nation. The plant will supply high-pressure air up to 900 degrees Fahrenheit at pressures of 10 atmospheres at capacity of 33 pounds per second. Designers are close to completing one test cell that will feature a five megawatt motor to drive a turbine, and there is capacity for another compressor stand with a nine megawatt motor.

"With this capability available, gas turbine engine manufacturers will not have to build their own facilities in this same space," states Robert Bernhard, vice president for research at the university. "We believe there will be a continuing, sustained interest in testing at our facility."

The new facility will complement those at the university's Hessert-Whitefield Labs. That laboratory has been up and running since 2003.

"The (Notre Dame Turbomachinery Laboratory) builds capacity for higher performance levels and greater technology readiness levels," Bernhard explains. "The original facilities still only allow pretty fundamental studies. The new facilities will allow us to get much closer to existing product challenges that the turbine manufacturers would have."

Bernhard predicts suppliers to the gas turbine manufacturers will find these facilities essential as well. Most suppliers are not large companies, yet have needs for testing and research.

"We think this is a potential magnet to get a lot more of the aerospace industry, including the suppliers, to focus on Indiana," Bernhard declares. "We (the state, Notre



"The only other place that either does facilities like this or is considering facilities like this would be NASA (John H. Glenn Research Center) in Cleveland," Robert Bernhard indicates. The Notre Dame Turbomachinery Laboratory is expected to be fully operational in July 2016.

Dame and its partners) have to do a lot of business development to fully exploit it, but we think it has potential."

General Electric Co. was Notre Dame's launch sponsor for the first test cell and has committed \$13.5 million to fund testing and research for five years. The project is expected to create 60 jobs.

"This (laboratory) represents a very good example of what we're trying to do to be

good partners with companies and with the state and with the region," Bernhard describes. "We're interested in being a catalyst for economic development in North Central Indiana and the state. At the same time, we're focusing on things that would help get our intellectual property and discoveries into the marketplace, to be a force for good. This is a model for what we want to do several times over (in other areas)."

**RESOURCE:** Robert Bernhard and Notre Dame Turbomachinery Facility, University of Notre Dame, at [www.nd.edu](http://www.nd.edu)

## RedTire Program Putting ‘Success’ in Business Succession

Rural Kansas and rural Indiana share a common problem – small business owners preparing to retire with no succession plan.

The University of Kansas (KU) is tackling this issue with the Redefining Retirement (RedTire) program that matches graduates of Kansas Regents institutions with business owners who are looking for a successor. It’s a win-win-win: Colleges and universities retain or attract back talent in the state, graduates take ownership of a successful business and retiring owners rest assured their company is in capable hands.

RedTire was initially developed as part of Jayhawk Consulting, an entrepreneurship consulting program in the university’s business school. It’s since grown into a formal program and is grant-funded by the U.S. Economic Development Administration.

The program focuses on “staple organizations” like medical and dental practices and veterinary clinics that keep small communities thriving, says Austin Falley, director of communications, University of Kansas School of Business.

“This (lack of succession planning) is something that has plagued rural Kansas for generations,” Falley concedes. “Unfortunately, there’s no better way to shutter an entire community than losing simple access to health care and animal care and other basic services.”



RedTire brokered its first official match in February 2014, closing the transaction of Flint Hills Veterinary Hospital in Junction City, Kansas from Casey Thomas (right) to Julie Ebert, a Kansas University alumnus.

Falley says the program has made six buyer-seller matches since launching in 2012, including two animal clinics, a dental practice, a meat processing plant and a small publishing house, and the staff is currently assisting more than 100 business owners with succession. KU helps both parties navigate the transaction and provides business counseling for the new owners. The full process can take anywhere from six months to a year and a half.

Forbes.com called the RedTire program one of the strongest national models for addressing rural small business succession planning, and other states have already contacted the staff to learn more. RedTire is working with the University of Missouri Kansas City’s School of Dentistry and Oklahoma State University’s School of Veterinary Medicine on similar models, and soon the staff will partner with a Michigan institution to develop a program.

“This rural succession program is for a national, systemic problem,” Falley concludes. “It doesn’t just affect Kansas, so we’re happy to help other states figure out a way to handle this. We don’t have the manpower yet to expand the model outside of what we’re currently doing in Kansas, but we’re excited about the potential it has in other markets and other regions.”

**RESOURCE:** Austin Falley and RedTire program, University of Kansas School of Business, at [www.redtire.org](http://www.redtire.org)

## Breaking Down the Middle Market Exporting Numbers

Increasing Indiana’s exports to achieve a “Top 5” ranking per capita among all states is a goal in the Dynamic & Creative Culture driver of the Indiana Chamber of Commerce’s long-range economic development plan, *Indiana Vision 2025*.

Currently, Indiana ranks in the middle among U.S. states in terms of number and share of middle market firms (defined as businesses generating between \$10 million and \$1 billion in revenues) engaged in exporting.

Of the 2,798 total middle market firms in Indiana, 124 (4%) are exporters, according to *Middle Market Power Index: Taking the Global Stage*. The report, from American Express and Dun & Bradstreet, was released in July. Nationally, there are more than 136,000 middle market firms with 7,066 (5%) engaged in exporting.

This activity rises significantly with firm size, however; 34% of large firms beyond the middle market stage – generating \$1 billion or more in revenues – are actively exporting products or services.

Few states deviate from the average level of middle market exporting activity. Upper Plains states (including Montana, North Dakota, South Dakota and Wyoming), as well as the District of Columbia, New Mexico, Oklahoma and West Virginia all have 2% or fewer middle market firms exporting, while Florida and New Jersey have 10% and 8%, respectively. Middle market firms in Puerto Rico and the U.S. Virgin Islands are significantly more likely than average to have scaled their firms through exporting.

This is the second in a series of Middle Market Power Index reports. The first, released in April 2015, analyzed the state of middle market companies and found they make an outsized economic impact across industries. Less than 1% of U.S. businesses fall into the middle market category, but 21% of revenues come from the middle market, and these firms employ 28% of private sector workers.

Middle market enterprises are more likely than average to be found in the manufacturing sector, resulting in a larger than average share in several Midwest “Rust Belt” states. The report ranks Indiana as “somewhat above average” in terms of its share of middle market firms.

**RESOURCES:** *Middle Market Power Index: Catalyzing U.S. Economic Growth* and *Middle Market Power Index: Taking the Global Stage*, American Express and Dun & Bradstreet