

*25 years and going strong*

## Iowa State's partnership with Deere a model of long-term strategic collaboration

There are many successful university-industry relationships across the country, but it's likely there are few that check as many of the collaboration "boxes" as the one between Iowa State University and its industry partner, heavy equipment maker Deere & Co. Here are just a few examples:

- Deere has employed close to 2,000 Iowa State alumni;
- At any one time, about 20 faculty members from different disciplines interface with Deere;
- A significant number of interns and full-time employees are hired by Deere each year;
- Research collaborations are ongoing in multiple units.

This longstanding and comprehensive partnership also includes capstone projects, Deere participation in college and department advisory councils, and philanthropic contributions.

And in recent years, Deere has committed to significant co-location at Iowa State, including the opening of a technology innovation center in 2018 and an engineering research facility in 2019, both in the university's research park.

Beyond what is already in place, a team consisting of numerous university departments and Deere representatives has been discussing strategic initiatives covering the next five to 10 years. They include:

- Increasing diversity in STEM areas;
- Long-range workforce development (IT, automation, data science);
- More extensive research collaboration in key areas like cybersecurity, manufacturing systems engineering, and precision farming.

"This is one of our longest running partnerships -- as a whole, about 25 years," reports **Matthew Darr**, PhD, professor and Kinze Manufacturing Fellow. "We've had a master agreement in place

since 2006, which tells you the depth of the relationship; it's more than just a one-off."

Darr sees the relationship as a "win-win" for the university and its industrial partner, and one that "checks every box we consider" when seeking industry engagement. "It allows us to help contribute to innovation and projects, a direct opportunity to have positive impact on stakeholders globally, and also leads to a lot of unique opportunities for our students -- like internships and full career opportunities," he says. "Also, Deere is involved in the classrooms -- they serve as a voice to make sure we're teaching the right material and offering the right content. And they're there to put resources in the classroom as well."

Darr serves as "the point person for the relationship" and also collaborates with Deere on research projects. He is responsible for helping to ensure the relationship stays "healthy and productive." This includes, among other things, seeing that important information is shared among the partners, and making sure Deere is aware of areas where there are opportunities for additional collaboration.

### **Of 'bricks' and little wins**

Darr does not see such partnerships as being defined by giant steps. "We really believe partnerships are built brick by brick," he says. "We communicate with Deere very frequently through direct projects we're involved in, but at least on a quarterly basis we touch base to make sure we're in good alignment."

Strong, regular communication, he continues, is key. "We listen to each other, we think about how things we're doing will impact each other, and we always take feedback on ways we can improve or

help the partner connect in an even deeper way," says Darr. "It's rare that we jump to some big major outcome; success is based on 1,000 little wins adding up to long-term strengths."

The classroom environment, he continues, is a prime example. "Universities do not offer courses because one company says they should, but Deere has been very helpful talking to us and communicating about the direction their business is going, and the types of people they are looking for today and in the future," Darr shares. "We really value that; they have insight, and we have the ability to shift gears to make sure we create the right people for those long-term jobs."

One great example, he says, is the digital transformation that has taken place in agriculture during the last five to eight years. "They understood the need for more IT, more cyber security, more data automation skillsets," says Darr.

Another "brick," he adds, involves working together on the diversity/inclusion initiative. "We want to recruit a very diverse set of students on campus, and they want to recruit very diverse career employees; we mutually benefit by partnering in those areas," states Darr.

He cautions against understating the importance of that philosophical connection. "Industry partners find lots of talented people at many universities," Darr concedes. "We've surveyed our partners, and it always comes back to the people - not the expertise. Are there shared values? Similar passions? That's what drives the strength of a partnership."

### **Co-location brings more opportunity**

As valuable as all those "bricks" are, Darr does not dispute the huge significance of Deere's co-location commitment. Still, he notes, it was only made possible through the combined weight of earlier "little wins."

"We felt philosophically comfortable working on projects ranging from early R&D to applied research that would eventually become commercialized," he explains. "We communicated that we found value in the entire paradigm. By being able to work in both spaces, that demonstrated to Deere and to industry in general that we consider and understand the duality of the benefit structure needed to be successful in these partnerships. Think of many little bricks leading to a road.

"As we moved more and more towards that diversified model," adds Darr, "Deere continued to come back and look for more opportunities to leverage that philosophy and view how we work with industry. Eventually, they recognized they had already hired a bunch of people from this university, they saw the research philosophy we shared, and they made the decision that co-locating was just the way to maximize that -- increasing the depth of the partnership, mutually beneficial outcomes, a talent pipeline, opportunities to tap into key research talent -- value derived from both ends."

**David Spalding**, Raisbeck Endowed Dean of the Ivy College of Business and interim vice president for economic development and business engagement, agrees. "Deere is a great partner in the [research] park, for several reasons. One, through their great collaborations with faculty like Matt, our faculty is engaged in groundbreaking research funded by Deere and done on a collaborative basis," Spalding says.

"Another advantage is for our students," he continues. "They employ a number of students as interns in the research park, year-round. Industry usually hires traditional summer interns [who leave when they finish their projects]. They go back to campus, go to a career fair and get hired by another company. Deere has them work year-round, putting them in a position to better understand those students, and leading to job opportunities."

Yet another major benefit for ISU "is that having a company like Deere at the research park communicates a great message to other companies. And they are very much a part of the community; Deere is a great partner in all of the activities that go on out there."

### **Internal, external benefits**

Spalding sees benefits from the partnership not only for the university, but also for the local and regional ecosystems -- not the least of which is the impact on local employment opportunities. With the students who get to work there, "Deere does not call them interns, they call them employees," he reports, "whether they're there for the summer or part-time workers."

The company, he adds, clearly benefits from the university's research efforts. "They would not have built a facility for research here if they did not benefit," he asserts. "The company has to make a profit

and show benefits -- [show] that they get a high return from the investments made here."

The area has also reaped benefits, he continues. "Eight years ago, Iowa State and a chamber group in Ames set up a Cultivation Corridor group in central Iowa to create more opportunities, which quickly grew around the state," he says. "Deere and others became involved in the group, and when one of their execs became chair, they turned it more broadly to Iowa-wide. They brought in corporate partners from all parts of the state to that group."

Another benefit for Deere, he continues, is that faculty members are doing groundbreaking research in areas of real interest to the company, such as sensor technology. "That's one of the pillars of the relationship," Spalding observes. "They have a chance to work with the best of the best -- not just faculty, but the students that come out of those programs."

The strength of the partnership, says Darr, extends to the current COVID-19 challenge.

"We're all balancing the concerns for health and safety with getting the work done," he says. "What Deere requires and our safety protocols are very much aligned."

In fact, he adds, Deere has gone "above and beyond" in trying to minimize the COVID impact, as seen in their approach with internship management.

"Historically, interns have to be out at the Deere facility," he notes. "They could have just laid all of those students off. Instead, they have worked out new and creative ways the students could contribute, such as VPN access. They felt those college students were so critical to their long-term success that they shifted policies and made things happen."

That level of buy-in from Deere does not surprise Darr. "I consider this to be the gold standard for what a university-industry relationship is," he concludes.

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