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During an open house at the new medical device laboratory, University of Minnesota mechanical engineering grad students Nathan Knutson, left, and Dillon Hodapp in June modeled 3D glasses that allow doctors to view live surgeries in 3D using the Da Vinci S surgical system.

A CALL TO ARMS

- A report says that Minnesota is falling behind in med-tech advances and gives the U of M some lumps for failing to convert research into profit.

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Minnesota is losing its competitive edge in medical devices and should expand into other promising technologies, including animal science, biopharmaceuticals and renewable materials, an industry report recommends.

In a sweeping assessment of the state's economic future, the report, dubbed Destination 2025, cited Minnesota's strengths in research and human capital, but warned that the state was falling short of creating companies that add jobs and bring new technologies to market.

Destination 2025 was produced by the BioBusiness Alliance of Minnesota and Deloitte Consulting.

"The environment that existed in Minnesota and enabled the growth of strong economic clusters such as food and medical devices is not as favorable as it once

was," the report says. "The state's public, private, and academic communities have gradually drifted apart ... and [the state] is no longer 'best in class.' It is average, and in some cases, below average.

"Critically, unlike nearly 30 states across the country, Minnesota has not developed, funded or implemented a major, comprehensive science and technology initiative to support recruitment and retention of talent, develop and maintain infrastructure, encourage research and attract external financing critical to Minnesota's competitive position in the growing knowledge-based economy."

The problems outlined in the report have taken on new urgency, given the rapidly deteriorating economy, said Dale Wahlstrom, BioBusiness Alliance CEO.

Report continues: State a leader in ICDs, but those markets are slowing. **D5** ▶

DESTINATION 2025

What is it: Sponsored by the BioBusiness Alliance of Minnesota and Deloitte Consulting, Destination 2025 is a sweeping plan to promote and develop life-science companies in Minnesota. Key recommendations include:

Medical devices: Use Minnesota's experienced labor force in implantable heart-related devices to lure companies that specialize in faster-growing applications such as neurology, gut stimulation and diagnostics and monitoring.

Higher education: Establish a two-year technical degree program at the Minnesota State Colleges and Universities system that focuses on developing products made from renewable materials.

Public policy: Provide tax incentives to professionally managed investment funds that can offer expertise to specific industries.

New industries: Apply Minnesota's expertise in food production and disease management to create new companies in food safety and defense.



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Senior research associate John Santiago in November tested a staphylococcus vaccine under development by start-up Syntiron.

REPORT A WAKE-UP CALL AT U

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Major companies such as Target Corp, 3M Co, Best Buy Co. Inc. and IBM Corp. have recently laid off thousands of Minnesota workers.

Even top-tier medical device firms such as Medtronic Inc. and Boston Scientific Corp. are pulling back.

"We're in a confidence crisis," Wahlstrom said. "There is a lack of confidence in where the economy is going. Right now, we are in a period of time where people need to be totally impatient."

Minnesota remains a leader in implantable cardiovascular devices such as pacemakers and defibrillators, but those markets are slowing. The state needs to expand into rapid-growth technologies — drug-device combinations, neurology, gut stimulation and diagnostics — the report says. Companies such as Medtronic and St. Jude Medical Inc. may be based in Minnesota but operate some of these businesses elsewhere.

Minnesota is known primarily for cardiac devices, said Dave Stassen, managing director of Split Rock Partners, an early stage venture capital firm based in Eden Prairie. "It's never good to be highly focused in one area," he said.

"Our companies focus on steadying or growing market share instead of creating new, innovative products."

If the local medical device industry suffers from a creative funk, a big share of the blame goes to the University of Minnesota, the report says.

"The University of Minnesota has lost its once-recognized leadership role in medical device research," it says. The school "must reestablish its premier status among universities by supporting research relevant to the medical

device industry."

The surprisingly frank assessment caught university officials off-guard.

"I was a little surprised," said Tim Mulcahy, vice president of research. "I don't think the U would ever say that. [The report's] conclusions differed from our internal conclusions," Mulcahy said. "It's a wake-up call."

In June, the university opened a \$400,000 Medical Devices Center, a hub for faculty, students and professionals to transform research into real companies. Mulcahy said the school is expanding its ability to conduct clinical trials and is making investments in neuroscience, drug discovery and nanotechnology.

The report notes that the state has expertise in animal science, renewable materials and food production that could serve as a springboard for developing new companies. For instance, Willmar Poultry Co. spun off Epitepox, an animal vaccine company, which in turn spun off Syntiron, a start-up that is using Epitepox technology to develop human vaccines against plague and anthrax. Minnesota should also use its experience in food and agriculture to launch companies that focus on food safety and defense.

"With its combination of human- and animal-health capabilities, Minnesota is in a unique position to heavily influence the future of the [medical device] industry," the report says.

"The state has world-class research and world-class manufacturing. The critical pieces that are missing are world-class collaboration and a clear understanding of how to leverage the capabilities across the boundaries that exist today."

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