



QUALITY PROGRAM SUMMARY

January 2012

Michigan Technological University's Academic Quality Improvement Program is documented at <http://www.mtu.edu/aqip/>. Our Systems Portfolio was completed in 2009; six action projects have been completed and three are in progress. The quality program is the responsibility of the University's Executive Team (president, six vice-presidents, chief information officer and chief financial officer); an associate provost is charged with oversight and coordination of the program. The Executive Team reviewed the 2009 Systems Appraisal; it was also disseminated in presentations to the Academic Forum (academic deans, chairs, and directors), the University Senate, and the University-at-large through university forums.

The 2009 Systems Appraisal stated that Michigan Tech complies with each of the five criteria for accreditation. It identified three issues affecting institutional strategies, and provided feedback on the nine AQIP categories. This report will address Michigan Tech's response to these strategic issues and category improvements.

The first strategic issue addressed alignment between degree program outcomes and institutional learning outcomes. In 2010-11, Michigan Tech developed eight [University learning goals](#) in an iterative process with multiple stakeholders (faculty, staff, students, Board of Control and advisory boards) that drew upon the University's [strategic goals](#), the learning goals of professionally accredited programs in business, engineering, technology, and forest resources and environmental science ([AACSB](#), [ABET](#), [SAF](#)), [AAC&U's LEAP learning goals](#), and [Student Affairs learning outcomes](#). The General Education Program adopted seven of the eight goals as General Education goals (Goal 1, disciplinary knowledge, is the purview of academic programs). In fall 2011, the College of Sciences and Arts engaged in an intensive process of developing learning goals for each program and addressing their alignment with University learning goals. The University learning goals thus provide a framework for integrating the learning experience across the general education curriculum and the degree programs, as well as a framework for regular, system-wide assessment of student learning that assures that student achievement of learning outcomes is central to the awarding of a degree.

The second strategic issue addressed building systemic, University-wide processes that are commonly understood, consistently implemented, and provide opportunities to share best practices. With respect to academic program decision-making, while many aspects are decentralized to be responsive to disciplinary standards, there are continuous efforts to build systemic, University-wide systems to improve efficiency and effectiveness of academic affairs. For example, each academic unit is governed by a [charter](#); however, in 2011 new [Senate policies](#) (see governing documents) mandated standard content for charters as well as University-wide processes for School dean and chair searches and reviews that are consistent

with existing College dean search and review processes. Program development is decentralized, but there is an annual University process to implement new courses or programs; the provost and deans recently completed a thorough review of existing programs and eliminated or shelved outdated programs. Academic advising is decentralized; to provide more coordination, in 2011 an associate provost was charged with oversight for training and assessment of advising (an outcome of an AQIP action project). Assessment has been decentralized and responsive to professional accreditation; in response to the 2009 Systems Appraisal, in 2010 the Assessment Council was reconstituted to oversee and coordinate University-wide assessment.

Important mechanisms for defining, planning and implementing University-wide academic processes include standing meetings of academic administrators (deans, chairs and directors) and the University Senate; at the College level, College councils meet monthly and standards for professional accreditation (ABET, AACSB, SAF) reinforce quality processes.

Non-academic units have implemented new processes that have University-wide impact.

- Effort Reporting: Michigan Tech was chosen in 2011 as one of four universities nationwide for a [Federal Demonstration Partnership](#) pilot project on payroll certification as an alternative to effort reporting for federally-funded research. This will result in a significant reduction of forms to be filed.
- Safety and Compliance: A new Office of Compliance, Integrity and Safety disseminates understanding of and enforces compliance with the highest standards of responsible conduct of research.
- Budget transparency: To improve transparency and understanding of the budget process, strategic finance workshops modeled on processes of the [Association of Governing Boards](#) (funded by the Lumina Foundation) have been conducted with the Executive Team, academic administrators and the University Senate.
- Crisis Management: Crisis management planning processes have been implemented and a broad-based campus Incident Command Team was formed to address any crisis situation that may occur. The team has received FEMA National Incident Management training and coordinated mock incidents, table tops and other training activities with local EMS, fire, police and local hospitals. In addition, our [Early Intervention Team](#) meets weekly to discuss and provide follow up support to students of concern.
- Data Standards: A Data Standards Task Force revised the [University Compendium](#), an internal source of comprehensive information for University performance (available only to Michigan Tech members). A new Institutional Research Team has been established to support strategic planning and information resource management.
- Document Control: SharePoint has been piloted in Sponsored Programs for document control and is being introduced to other campus units.

The third strategic issue addressed integrating annual planning, dashboard metrics and strategic planning into a comprehensive continuous improvement process. Strategic planning at Michigan Tech is continuous and integrated. Every three years the University's five-year strategic plan is reviewed and revised as needed by the Executive Team and academic deans;

five times each year the University's Board of Control reviews progress against strategic metrics. This strategic plan guides decision-making during the annual budget cycle. In addition, the University has a [vision for 2035](#) to guide decision-making with long-term impacts. For example, in 2011 an Action Project on gender diversity was initiated to develop metrics for 2035 and practices to achieve these metrics.

These strategic issues will also be addressed in the following update on progress in the nine AQIP categories.

Category 1. Helping Students Learn

Michigan Tech is a decentralized system, with many decisions made at the departmental level. However, there are many mechanisms for defining, planning and implementing processes at the University, College and School levels. Academic administrators (provost, deans, chairs and directors) meet regularly to develop common understanding and share best practices. The General Education Council, the Assessment Council and the University Senate define, plan and implement processes across the University.

To respond to opportunities for student learning identified in the Systems Appraisal, the University Assessment Council was tasked with developing a common University framework for regular, system-wide assessment of student learning. The process of developing these goals was discussed earlier (see "first strategic issue"). The University Assessment Council also serves as a place to share best practices for assessment of student learning—in Council meetings, in joint meetings with the General Education Council, and in Council-sponsored forums and workshops on assessment. The development of learning goals, the practice of curriculum mapping, and the use of rubrics for embedded, direct assessment of learning is being disseminated across units. Building on ABET practices for curriculum mapping, the General Education Council and programs in the College of Sciences and Arts have started to map learning goals onto respective curricula and identify gaps. [AAC&U LEAP goals](#) and associated rubrics aligned with University learning goals were used to assess student learning in four general education core courses, and will be used to assess several University learning goals across curricula. As a member of the [Voluntary System for Accountability](#) (VSA), Michigan Tech is advocating the use of LEAP rubrics as a standard for assessment that can be used to compare student learning nationwide.

As a result of these assessment activities, the General Education Council and a working group of department chairs led by the dean of the College of Science and Arts began in 2011 to review the decade-old General Education Program to strengthen it with respect to learning outcomes.

The Assessment Council emphasizes the use of direct, embedded measures of student learning. Many departments use field tests and other exams as direct measures, as well as indirect measures such as student satisfaction and alumni surveys. Since the campus-wide [National Survey of Student Engagement](#) and Michigan Tech Student Satisfaction Survey will be implemented in spring 2012, the Council has identified or added questions reflecting University learning goals to gather additional evidence of student learning. Analysis of past NSSE results, compared with peer institutions, has led to a focus on improving global literacy and

communication skills. In 2012-3, annual reports on assessment activities for all programs will be required to demonstrate how units are engaged in “closing the loop” on student learning.

Also, please note that AACSB (Business) and SAF (Forestry and Environmental Science) do have assurance of learning programs. Unlike ABET, which prescribes learning goals, AACSB and SAF are mission-driven—Schools develop learning goals appropriate to their mission. The College of Science and Arts has begun to develop learning goals and an assessment program, which will prepare it for external program review. The evaluation of teaching effectiveness is currently conducted by the Center for Teaching, Learning and Faculty Development, and not by the Assessment Council.

Category 2. Accomplishing Other Distinctive Objectives

Other distinctive objectives that complement student learning and fulfill other portions of Michigan Tech’s mission were identified in the Systems Portfolio as research, technology transfer, economic development, community (including student) enrichment, and community outreach. The Vice-President for Research regularly communicates research objectives and results to the Board of Control, deans, and University Senate; he chairs the Michigan Tech Research Advisory Council. Comparative research performance data is used by deans, chairs and the provost to determine opportunities for [strategic faculty hiring initiatives](#): in 2008, six new faculty were hired in sustainability; in 2009, six new faculty were hired in computational discovery and innovation; in 2010 and 2011, 11 new faculty were hired in health and energy systems; and in 2012 and 2013, new cluster hiring is targeted for [transportation and water](#).

Several new initiatives strengthen processes related to research and technology transfer. To support a goal of six new start-ups annually to move early-stage discoveries to commercialization, the Michigan Tech Entrepreneurial Support Corporation (MTEC) was established in 2011 to assist faculty with necessary requirements to develop a start-up company and to receive SBIR funds. To improve data systems in support of strategic planning and resource management, an Institutional Research Team was established. To streamline reporting, Michigan Tech is one of four universities engaged in a [Federal Demonstration Partnership](#) project on payroll certification as an alternative to effort reporting on federal grants and contracts. To improve communication, the MTEC SmartZone, a business accelerator, worked with a communications consulting firm to improve outreach to the University and the community.

Category 3: Understanding Students’ and Other Stakeholders’ Needs

University-wide, the annual student satisfaction survey and the 5-year longitudinal climate survey are examples of coordinated, purposeful processes that gather information from and address the needs of stakeholders. Several channels of communication have been developed to review regular, formal, and targeted feedback.

The vice president for student affairs implemented a [Student Affairs Assessment Team](#) to regularly collect, analyze, and disseminate data collected by various stakeholders, including students, advisors, staff, faculty, and precollege students. The University Student Commission

is another opportunity for students to discuss their experience: it is a broad-based group of students, staff and faculty that work together to enrich the student experience by eliminating or minimizing barriers that are problematic, inefficient or unproductive. In the past 6 years, the Commission has addressed over 170 different issues and has resolved over 140.

Additionally Michigan Tech works closely with Campus Labs (formally Student Voice) to develop and implement various assessment instruments, as well as train staff members on how best to access, review, and analyze collected data. In 2010-11, collected data was used to assess academic advisor satisfaction, strengths, and areas for improvement; this led to the creation of an Academic Advising Council. Eighty to one hundred assessments have been completed annually using Campus Labs.

The University regularly surveys students using the National Survey of Student Engagement (NSSE) and the Michigan Tech Student Satisfaction Survey. These findings are distributed campus wide to deans and directors for review and discussion, leading to changes and new initiatives. Results were used in 2010-11 for planning by the University Assessment Council and a new AQIP action project on student success.

Student Affairs has completed external reviews of every department within the division (16 total) and a division-wide external review in fall 2011. Feedback and recommendations have been used to improve student learning and success, including the creation of The Student Service Center (a one-stop student-centric service area combining the offices of registration, veterans' services and cashiers) and relocating Career Services to central campus.

Category 4: Valuing People

Valuing people is a strategic priority for Michigan Tech. The first of its three strategic goals is "a world-class and diverse faculty, staff and student population." It will be achieved by developing and maintaining an outstanding professional, diverse, inclusive and collegial environment through competitive compensation, recognition, leadership and development opportunities, diversity initiatives, and an exceptional infrastructure that is efficient, responsive and technologically and ecologically superior. Michigan Tech's philosophy is to recruit and retain the best people and assist them to reach their potential. Consistent with its valuing of people, after several years with no compensation increases due to a poor Michigan economy, the University's Board of Control in 2011 approved a mid-year raise of 3% that was intentionally merit-based (not across-the-board) to demonstrate it values performance and productivity.

Faculty. Ethical hiring practices and faculty retention are indicators of effectiveness in valuing people. Michigan Tech has implemented two new processes to improve ethical hiring: required training in unconscious bias and legal requirements for all faculty serving on hiring committees (an outcome of our NSF [ADVANCE](#) grant), and software to manage and expedite blind reviews of Strategic Faculty Hiring Initiative applicants. The diversity of candidates that receive and accept offers as well as the efficiency that enables timely offers to preferred candidates are measures of valuing people.

Retention processes include University-wide and departmental orientation programs, mentoring, learning opportunities to improve teaching and research, and a rigorous and fair review process for tenure and promotion. All academic departments have mentoring plans for new faculty; the associate provost reviews the plans and conducts an annual survey of new faculty to identify areas for improvement. The ADVANCE team has benchmarked processes to improve mentoring for mid-career faculty and made recommendations which are under review by academic chairs and deans.

To help faculty improve teaching and research, the CTLFD, Van Pelt and Opie Library, and Office of Sponsored Programs conduct regular training sessions for faculty and solicit feedback on their effectiveness; they also survey faculty regularly on the effectiveness and adequacy of training and available information. One identified need is instructional technology and training for blended and online learning: a rigorous review of competing learning management systems (LMS) by faculty users and Information Technology staff led to selection of a new LMS and training is currently underway for users. A task force is also developing a new University organizational structure to support an enhanced learning environment for faculty and students. Another area of concern is responsible conduct of research (RCR). A new Office of Compliance, Integrity and Safety was established to conduct and oversee mandatory RCR training for all graduate students, and for faculty and postdocs engaged in sponsored research.

Fair and ethical evaluation processes that demonstrate valuing faculty effectiveness and productivity are critical. All tenure-track faculty are reviewed annually by peers and supervisors on teaching, research and service. Tenured faculty are reviewed for merit raises. Departments have discretion to develop their evaluation process based on disciplinary standards valued by faculty, and benchmarking peer and aspirant institutions. Data for informed decision-making on faculty productivity is accessed through three databases which have been continually improved in response to user feedback: Faculty Activity Reporting (Digital Measures), University Compendium (Institutional Resources), and ASPIRE.

Staff. Human Resources is working on multiple initiatives that demonstrate we value staff. Michigan Tech's philosophy is provide opportunities for high performing staff and promote from within. Human Resources is developing a new welcome process for all Michigan Tech employees to assist them in accessing important services and benefits. It is using People Admin software to improve our online recruiting application process to identify the best talent. Recognizing that training is an opportunity for significant improvement, in 2011 Michigan Tech initiated an AQIP action project to create a systematic employee development process. Professional development training for staff aspiring to administrative and executive assistants will be completed in May to assist with succession planning. Supervisory training is planned for 2012 for all non-faculty supervisors to enhance supervisory skills to prepare for annual performance reviews of all non-represented, non-faculty staff. Planning is underway for a Leadership Academy beginning in September 2012 that will train cohorts in a set of leadership competencies that will be used for performance reviews.

Senior Administration and Executives. Academic and non-academic administrators are encouraged to attend conferences for leaders in their area/discipline with significant

opportunities for peer interaction and professional leadership. Nonetheless, Michigan Tech recognizes there are still opportunities for setting expectations and evaluation of performance. The President and Vice Presidents are evaluated annually by the University Senate, and the President is evaluated by the Board of Control; deans and chairs are evaluated on 4- and 3-year cycles, respectively, in accordance with Senate processes.

Category 5. Leading and Communicating

One measure of effectiveness in leading and communicating is the annual [University Senate evaluation](#) of University the president. All University constituents are invited to take a survey which evaluates the president. Response rates have steadily increased from 18% in 2009 to 34% in 2011. In 2011, [survey results](#) for presidential leadership were 3.86 and communication 3.79 (on a 5-point scale), up slightly from 2010. Attendance at presidential campus forums, an opportunity to communicate directly with the president, is high for professional staff and administrators, but low for faculty. The president, provost and vice president for research meet regularly with the Senate; the provost meets monthly with Senate leadership.

The president is also evaluated annually by the Board of Control on leadership and performance targets. In 2011, a strong evaluation by the board resulted in the extension of the president's contract through 2016. [Marty Richardson](#), chair of the Board of Control, stated that "Michigan Tech is thriving under Glenn's [the president's] leadership because there is a sound strategic plan and he insures that all major decisions connect to it."

The Executive Team is currently promoting a set of characteristics of exemplary leaders, adapted from IBM, to improve leadership on campus. However, they have not yet been integrated into a performance management system.

Category 6. Supporting Institutional Operations

Units which support institutional operations have taken many steps to respond to the Systems Appraisal's recommendation that Michigan Tech identify and implement more formal processes to complement and validate informal processes, and integrate performance measures related to institutional operations within the strategic planning process. Michigan Tech has embraced lean thinking and principles that provide a framework for understanding the importance of purposeful data collection (measure what's important), verification that services are meeting needs they're designed to meet (truly understanding the current state and defining value from the customer perspective), and determining frequency and the use of technology (standardized work). In 2009 the position of Manager of Process Improvement was created to support, develop and expand lean/continuous improvement initiatives on campus. In 2010, a [lean/continuous improvement website](#) was created as a resource for employees. The use of kaizen teams has expanded to include a total of 46 administrative and academic departments. Plans to expand the use of kaizen teams and lean thinking will be implemented in 2012; a Labor-Management Committee for Continuous Improvement was established in 2011.

The Van Pelt and Opie Library implemented [LibQual+ Lite](#), a survey developed by the [Association for Research Libraries](#), in fall 2011. With a response rate of 35.5% (54.8% faculty

response rate), the survey provides the basis for a new library and information services assessment program on the quality of library service, collections and physical space. In 2012 a full-time librarian will focus on developing an assessment framework and responding to service quality gaps. LibQual+ data enables the deployment of a Lean Principles approach coupled with an Appreciative Inquiry model.

Auxiliary Services practices the lean technique of using an A3 format for strategy deployment. This guiding document purposefully establishes goals and tactics that are aligned with the University's strategic plan and identifies measurable achievements. The A3 is deployed out to the functional units, reviewed quarterly by the Auxiliary Services Leadership Team, and re-focused annually. This (as well as deploying "baby A3s" down to the functional unit level) integrates an individual unit's performance measures with the strategic planning process. Auxiliary Services has established unit-level metrics in alignment with the University's strategic plan that are measured on a weekly, monthly, and annual basis for all functional units. These metrics are reported at weekly Auxiliary Services Leadership Team Huddles and are displayed in the various units on metric boards. "Continuous improvement experience" has also been added to some higher-level position descriptions. A formal kaizen event is being held in January 2012 to identify standards for measuring customer satisfaction for all major programs and services in all functional units of Auxiliary Services.

Facilities Management used a lean kaizen event to develop a process for initiating, prioritizing, and managing Capital Projects. Ranking categories with numeric values were established, including Strategic Importance, Financial, Capacity and Quality Enhancement, and Urgency. This process provided a clear understanding of requested projects and enabled prioritizing campus needs. It has also provided Facilities Management the opportunity to practice more efficient and effective planning and engineering of these projects.

SHW Group (an external consultant) in conjunction with facilities staff performed a high-level facility condition assessment of all campus buildings in May of 2011. The purpose of the study was to provide an inventory of the University's facilities in a database format, allowing quick access to facilities information; to determine the general condition of the buildings; to create a needs index for each building; to prioritize project totals for capital planning purposes; and to meet the goals of the strategic plan through timely maintenance of the physical backbone of the University.

Human Resources is implementing People Admin, a web-based human resources software. It will track the average number of weeks to fill a position, which will be used as a baseline metric for process improvement initiatives. In 2012, staff will focus on designing and implementing an on-boarding process for new employees. Human Resources is also reviewing the annual turnover rate and reasons for leaving the University. It has conducted a close examination of the data maintained in the Banner database system, and adjusting codes and additional process review will conclude in 2012.

Information Technology conducted a [user satisfaction and services survey](#) in spring 2010 to identify strengths and weaknesses. IT responded to low satisfaction scores for the University email provider (Zimbra), learning management system (Blackboard), High Speed Computing,

and faculty data reporting (Digital Measures) by contracting with Canvas (LMS) and Google (email), bringing Digital Measures consultants to campus to work with IT and user groups to improve processes, and developing an Advanced Research Support group to support research needs for high performance computing, computational research, computational modeling, and geographical information systems. To provide superior service at minimum cost in a user-focused environment, in 2011, Michigan Tech consolidated most IT support organizations into a central group of service providers. Users now access one phone number and one email address for all help requests, or visit a centrally-located IT Help Center in the library. Most student computing labs on campus are now open to all students. A standard Windows 7 computer image containing every program used by students in every major is installed on every computer in the Windows-based student computing labs and classrooms. The consolidation has already resulted in efficiencies in software licensing that benefit the campus. For example, IT has purchased campus-wide site licenses for Mat Lab and SPSS. During the 2011-12, IT will be working with the campus community to develop a robust, sustainable IT Governance System that will set IT policies and spending priorities in future years.

Safety. In response to the Systems Appraisal concern that Michigan Tech does not have a safety philosophy to proactively guide its safety efforts, several steps have been taken. Auxiliary Services has established a framework for the purposeful development of a safety culture that flows from annual goal setting to safety as a topic during unit-level daily team meetings. Recently, Dining Services has established a Safety Observation Team that meets monthly and a Safety Review Board that meets tri-annually to further develop and deploy a safety culture. Safety training compliance is measured monthly and the number of days since an employee incident/accident is measured weekly. Facilities Management established an employee training matrix and record program to track the training required for each employee and alerts for refresher training. Training is provided by external consultants and through Michigan Tech's OSHS department.

The University has established a Health and Safety Task Force that reports to the Executive Director of Compliance, Integrity and Safety, and supports the Presidential Committee on University Safety and Environmental Health. This committee facilitates compliance with OSHA, EPA, and other safety and environmental regulations. The task force meets monthly and is working on processes and communication related to safety reporting. Its first task was to develop a template and method for compiling data for employee safety statistics that will be reported regularly to the Board of Control. It has also advised on revisions to the Incident Report Form and has made recommendations to emphasize a strong safety record on high-level job descriptions and to highlight a safety culture during the President's campus forums.

Categories 7 & 8. Measuring Effectiveness and Planning Continuous Improvement

The overarching measure of effectiveness at the institutional level is the University [dashboard](#), which consists of four metrics developed by the Executive Team and deans: incoming Freshman ACT scores, number of PhDs awarded, sponsored program awards and endowment value. They measure progress in achieving our strategic goals. The dashboard now allows

users to drill down to unit levels: academic and administrative units measure their unit's progress on these same metrics.

An explanation of how these metrics were selected is available on the [dashboard website](#). The selection process for the metrics, as well as the [2035 Portrait](#) (25 year plan), 5 year plan to move towards the portrait, and 1 year budget process to allocate resources to the plan, has taken firmer shape following two recent Association of Governing Board (AGB) workshops; the Board of Control will be reviewing the process during their February 2012 retreat with an AGB consultant.

Lower-level metrics such as undergraduate and graduate enrollment, minority and female student enrollment, retention, graduation and placement, tuition and discount rate, loan default rates, faculty teaching loads, faculty-student ratios, faculty publication rate, space utilization, national rankings, alumni, etc., measure progress on institutional initiatives or monitor operational activities. Some of these metrics are reported externally (Voluntary System of Accountability's [College Portrait of Undergraduate Education](#), the [National Center for Education Statistics](#)) and benchmarked against peer and aspirant institutions. Other metrics are reported internally by [Institutional Analysis](#) in the Compendium, which has been heavily revised to provide information that departments, Schools, and Colleges need to manage and allocate resources. It includes over 100 variables for each unit, collected and defined in standardized ways. These metrics are used to drive decision making at all levels.

The Data Standards Task Force drove the development of information management systems that provide University leaders the data required for decision making. In 2011 an Institutional Research Team (IRT) was established as a resource for initiatives related to new or improved data systems in support of strategic planning and resource management; to provide support to the Executive Team, deans, and directors in developing data-informed decision-making support systems, and to act as the main contact point for external reporting. In 2012-13, this team will institute a "crosswalk" between the Compendium and strategic planning goals to integrate strategic and operational metrics; incorporating research proposal information into ASPIRE to project future indirect cost-recovery for financial projections; and projecting strategic needs for equipment acquisition.

Academic department, School and College goals are aligned with University goals through iterative annual and long range planning processes engaging chairs, directors, deans, the provost, and the Executive Team. Currently, there is significant discussion, for example, about an appropriate and optimal mix of undergraduate, masters and PhD students in each unit to achieve our 2035 goals. Comparative data and best practices in the disciplines and professions are gathered and implemented through professional accreditation, professional associations, and external program reviews. ABET, AACSB and SAF all have high disciplinary standards for accreditation based on best practices in the disciplines. Professional staff are engaged in a variety of professional associations such as NASPA (student affairs professionals) and NACADA (academic advisors) to identify best practices and implement them at Michigan Tech.

Non-academic departments engage in a similar iterative process in which directors identify initiatives to achieve strategic goals and improve metrics that drive success. Vice-presidents bring these to the Executive Team for review and prioritization since many goals require working across units to complete. A good example is the development of ASPIRE, which was initiated to determine space allocated to research for sponsored programs; it now has classroom and classroom lab utilization metrics for departments to use in allocating space and scheduling classes, and research lab metrics which have enabled at least one department to reassign lab space due to low levels of activity.

Category 9. Building Collaborative Relationships

Our Systems Portfolio describes many of the collaborative relationships that enable Michigan Tech to advance its strategic goals. These relationships tend to focus on professional associations and business/industry partnerships. Over the past two years, the Board of Control has been working with the [Association of Governing Boards](#) to develop its processes for working with the University administration and define and clarify the responsibilities of governing board members. President Mroz is currently chair of the [Presidents Council, State Universities of Michigan](#) (PCSUM), which builds collaborative relationships with the other Michigan public universities and affords opportunities through its extensive network of committees for the Executive Team to work with their peers at other institutions.

Michigan Tech has an extensive set of collaborative relationships with business and industry at all levels that advance the University's strategic goals. These relationships are critical to the success of students and faculty, as well as funding strategic priorities. The network of advisory boards, including [School](#) and [College](#) deans advisory boards, [departmental advisory boards](#), the [Corporate Advisory Board for Institutional Diversity](#), the [Presidential Council of Alumnae](#) and the [Office of Corporate Partnerships](#) all provide feedback on strategic planning, goal achievement, and best practices. To improve effectiveness in external relationships with business and industry, Michigan Tech recently moved corporate and foundation development staff from Advancement to the Vice President of Research, combining corporate development with technology transfer to form the [Office of Innovation and Industry Engagement](#). This fostered a strategic shift from focusing on corporate gifts to emphasizing corporate relationships. This comprehensive, integrative approach allowed customized planning with significant corporate partners such as General Motors, Ford, 3M, and Caterpillar, as well as increased cooperation with the local cities, Michigan Economic Development Corporation, and [Keweenaw Economic Development Alliance](#) through the [Michigan Tech Enterprise Corporation SmartZone](#). The latter has led to two Fortune 500 companies opening offices in this community, employing about 60 students; two more will soon be announced.