



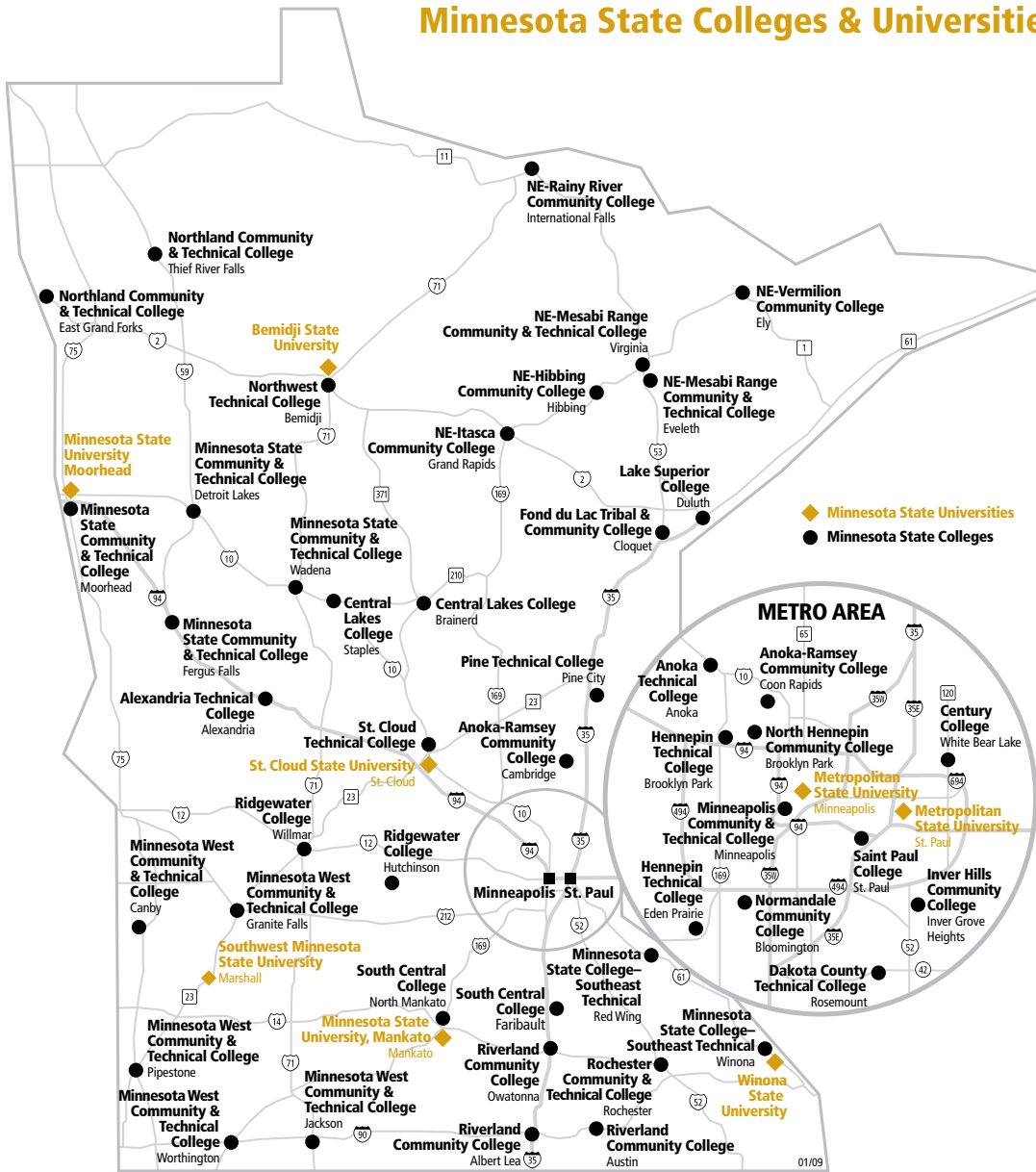
**Minnesota**  
STATE COLLEGES  
& UNIVERSITIES

# Workforce of the Future: Leadership Reaches Out to Business



**Final Report | May 2009**

# Minnesota State Colleges & Universities



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# Workforce of the Future: Leadership Reaches Out to Business

## Summary

Minnesota companies – of every size and in every region of the state – depend on Minnesota State Colleges and Universities to prepare and maintain a skilled work force, increase employee productivity and support new business growth. From July 2008 to January 2009, presidents and leaders of the Minnesota State College and Universities system visited 352 private sector companies in Minnesota to learn how the system could better work with businesses to enhance the prosperity and quality of life of the state's residents. Based on recommendations that emerged from the visits, the system's colleges and universities will embark on a plan in the coming year to:

- **Strengthen courses and programs so that students learn emerging skills identified by employers.**
- **Expand internship and apprenticeship options for students and on-the-job training for employees.**
- **Strengthen relationships with local businesses through outreach, communication and collaborations.**
- **Expand educational offerings to include more experience-based learning, online education and flexible options.**

The Minnesota State Colleges and Universities system is proud to be the state's premier education and training resource. We educate Minnesota; we make it work.

# Workforce of the Future: Leadership Reaches Out to Business

## Introduction

In visiting 352 businesses, the presidents and system leaders were interested in finding out about the unique characteristics of these companies and how education and training for current and future employees could benefit them.

Notwithstanding the current economic climate, business leaders seemed pleased to engage in a discussion around workforce education and the skills employees need now and in the future. Conducting the business visits is one of four initiatives that comprise “Workforce of the Future,” a part of the system’s 2009 Action Plan. The other three initiatives are expanding outreach to business, partnering with business and trade associations for new education opportunities, and creating a “one-stop shop” through Internet and toll-free telephone access for information on how employers can meet their immediate training needs.

This report, *Leadership Reaches Out to Business*, provides information on the themes and recommendations that emerged from interviews with the Minnesota business leaders.

The purpose of these visits was to:

- Understand the competitive advantages that Minnesota businesses bring to the global marketplace,
- Identify economic and workforce needs of the state’s employers,
- Develop new or refine existing education programs, services, applied research and customized training solutions to meet these needs,
- Strengthen the synergy between the 32 Minnesota State Colleges and Universities and business leaders and
- Establish a methodology to collect and interpret ideas and opinions from business leaders for future system planning and initiatives.

What did we hope to learn by reaching out to businesses?

Why does higher education need to understand the competitive advantage of Minnesota businesses? Simply put, competitive advantage is how a firm generates greater sales, higher profit margins or more customers than its competition. There can be many types of competitive advantage, including a firm’s cost structure, product offerings, distribution network and customer support.

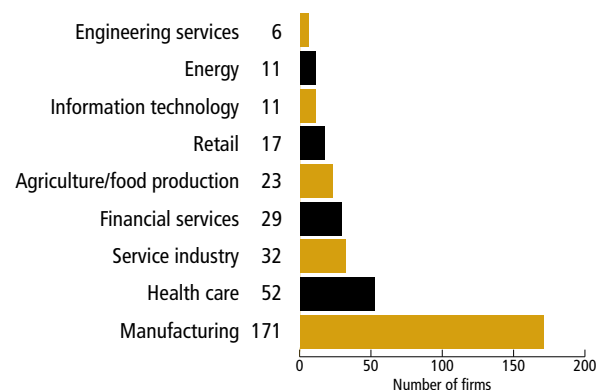
In Minnesota, education and training have been identified as a key driver of competitive advantage. With industries changing so quickly, higher education’s partnership with Minnesota businesses requires constant attention, ongoing communication and coordinated action.

During the business visits, employers were asked the following questions:

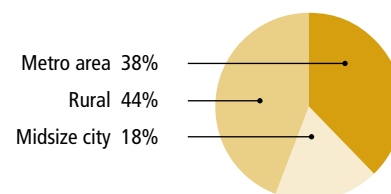
1. What niche of the industry is your company in? What do you think contributes to your company’s success or strengths? What competitive advantage do you have over other firms in this industry?
2. Why is your firm located in Minnesota or this region in particular? Are there ways we can help you grow in this area or do you see barriers to growth?
3. What skills are you seeking in the people you hire? Are there skills current employees need to develop?
4. What will your business look like in 2020? Can you anticipate what skills employees will need in the future? What can the Minnesota State Colleges and Universities system do to support you?

## System leaders visited a cross section of businesses

### Business visits by industry



### Business visits by locations



## Research methodology

Researchers conducted a qualitative analysis of the interview data as reported by the college, university or system leader who conducted each interview. To identify common themes, the information from business leaders was synthesized using a computer-based content analysis software program. In addition to looking for qualitative themes, quantitative data were gathered on the number of times a theme was brought up in the 352 interviews.

System officials visited a cross section of Minnesota industries. The views of a select number of organized labor and government leaders also are included in this report.

Sixty-two percent of the visits were conducted with Greater Minnesota businesses, either in rural areas or midsize cities. The remaining visits were in the Twin Cities metropolitan area. These locations reflect the geographic distribution of the 32 Minnesota State Colleges and Universities.

## Company strengths and competitive advantages

Business leaders were asked to identify what contributes to their companies' strengths and their competitive advantage over other firms in their industry. Three main themes emerged:

- Business-specific indicators,
- Intellectual capital of the workforce and
- Customer-focused products and services.

Business-specific indicators included comments from leaders specific to their companies. Examples of company strengths included quality-certified products or services, company location, financial security, company investment in technology, research and development, the operational efficiency of the company and the length of time in business.

Business leaders frequently pointed to the intellectual capital of the workforce as a key to their competitive advantage. Innovation, entrepreneurial spirit, creativity and flexible thinking were cited as strengths in their workforces. Company leaders also talked about their focus on developing talent and the competitive advantage created with a technologically competent workforce. One energy company executive said the company's success lies with the skills of its employees. But the executive added that employees' values and attitudes are so important that in the future the company will hire for attitude and train for skills.

Business leaders also saw customer-focused products and services as another competitive advantage. They often noted that building and maintaining long-term relationships with customers are important to maintaining their edge. A manufacturing executive said that the company's business culture is built on "customer intimacy" and team-oriented entrepreneurship. An executive for an international manufacturing company noted that innovation is an ongoing company effort and that the capacity to solve customer problems is a key aspect of the company's competitive advantage.

## Value of Minnesota location

When business leaders were asked why their businesses were located in Minnesota, three main themes emerged:

- Connections to the region or state,
- Availability of an educated and skilled workforce and
- Quality of life.

The business leaders said their companies had selected their current locations because of the knowledge level of the employees who live in the region, the affinity of the company founder for the area or the appeal of the locale to the company's ownership. Leaders often said they value the work ethic of people in their area and appreciate the access to higher education. Some executives also said their communities are good places to raise families.

## Barriers to growth

Business leaders overwhelmingly identified an insufficient supply of educated and skilled workers as the primary barrier to growth. Manufacturing companies specifically noted the shortage of qualified employees with skills in blueprint reading, computerized numerical control manufacturing, welding and basic math. Health care companies shared concerns about shortages of employees in such critical occupations as primary care physicians, nurses and laboratory technicians.

Common themes that emerged as barriers to growth included difficulty in attracting qualified engineers, the need for stronger business-related analytical skills among information technology employees and the need to hire people with knowledge and experience in quality management.

In light of rapidly evolving technology and dynamic market demand, the executives expressed concern about whether

their current and future employees would have the necessary skills and knowledge to remain competitive. This concern challenges higher education to become more nimble and responsive to the future needs of business and industry.

## Skills and competencies for the future

When asked about the skills employers seek in new employees, three themes emerged. Business leaders spoke overwhelmingly of the need for:

- Technology skills,
- Business-critical “soft” skills and
- Skills necessary for emerging business practices, such as using “green” products and responding to global competition.

Most employers did not distinguish between a need for these skills now compared with the future (2020) other than to indicate that these skills are important to their company’s future success and that over time such skills will become increasingly valuable in spite of the recent downturn in the economy.

### Theme: Employees must know how to use technology

Business leaders emphasized that understanding how to use a personal computer is only the beginning of a lifelong continuum of technology learning for students and workers. They reported that work environments increasingly will rely on technology for manufacturing processes using robotics and automation, medical record keeping, managing financial systems, customer marketing and sales through e-commerce, agricultural production and new construction methods using “green” materials. Individuals with the skills to manage a company’s information technology infrastructure are and will continue to be in particular demand.

With one-half of the visits involving manufacturing and engineering firms, many business leaders described their employment needs in terms of specific occupations – welders, fluid power mechanics, electronic technicians, computer numerical controlled machinists, designers, fabricators, maintenance workers – in addition to specific technical skills, such as drafting, blueprint reading, computer-aided design, test measurement, manufacturing costing, statistical process control and other manufacturing skills.

The clear message from nearly every manufacturer was the need for more highly skilled technicians. Employers did not

report a need for general laborers. Instead, they consistently reported a need for employees with technical skills and an ability to leverage technology. More than 50 manufacturing employers specifically mentioned the need for employees trained in automated systems and robotic controls.

Employers identified the need for engineers in specialized fields such as metallurgy, industrial design, civil engineering, software development, electronic systems and mechanical engineering. They also said they wanted engineers with skills in project management, quality control, testing, systems knowledge, design and innovation.

A leader of one manufacturing company that hires about 30 college graduates a year, mostly engineers, said the company’s business is based more on the relationships the company builds than on the specialized engineering knowledge of their engineers. This leader said the company outsourced its specialized engineering work so it needed engineers who are extroverted and can engage people – fundamentally, people who are energized by talking with others.

Another executive said the company needed people with intellectual curiosity who can think out of the box. The engineers hired by this company must be able to innovate because each new product application brings new challenges that must be overcome. The leader explained that this company doesn’t produce thousands of a standard product; rather, each one is unique and serves a unique application so the engineering staff must have the desire to push the envelope of technology. There is no status quo at this company, the leader said.

### Theme: “Soft” skills are critical

Business leaders are redefining “soft” skills. Employers noted the importance of high-level skills involving customer relations, innovation, flexibility, adaptability and teamwork as vital to the future of their businesses.

**Customer relations:** Employers described numerous skills that employees need to work effectively with customers – responsiveness; willingness and ability to solve problems (customer empathy); ability to build relationships; communication skills; sales experience, including knowledge of the company’s products; integrity, honesty and trust; conflict resolution; and creativity in meeting customers’ needs.

**Innovation and creativity:** Employers said innovation and creativity are critical to their businesses. Specifically, these attributes are necessary for product development, continuous

improvement, new models of health care, integration of information technology, understanding areas outside of one’s professional discipline, and general research and development.

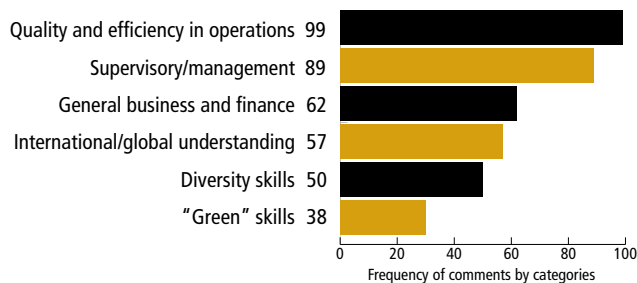
**Flexibility and adaptability:** Employers underscored the importance of “learning agility” – a willingness to learn and keep up with change, to be energized by change and transformation, and to have the flexibility to adapt and maintain an entrepreneurial edge.

**Teamwork:** This skill was described by employers in three ways – leadership in building a team approach for company success, project management skills and effective interpersonal skills in a collaborative work environment.

**Theme: New workplace competencies are emerging**

Business leaders cited a need for employees who have management and leadership skills, understand fundamental business principles in finance and accounting, can implement “lean” or quality improvement processes and recognize the importance of the global market.

**Business leaders identify emerging workplace competencies**



Nearly one-third of business leaders mentioned skills related to quality and efficiency in operations (e.g., “lean” practices). While the comments reflect the large number of manufacturing firms in the sample, health care providers and financial services companies were just as likely to mention the need to provide high-quality products or services that are delivered efficiently. Business leaders described these skills with an equal emphasis on knowledge of lean principles, attentiveness to efficiency in operations, and knowledge of product quality and improvement.

When business leaders discussed management, supervision or leadership, they expect employees to have skills in conflict management, employee development (working with

apprentices, mentoring and coaching), performance reviews, communication and adapting to change. Some employers described these skills with personal attributes, such as ethics, integrity, “well-centered,” grounded, or having an action-orientation or decision-making ability.

Other business leaders discussed skills that are essential for managing teams or leading projects such as timeliness, organization, strategic planning, cost control and contingency planning. Typical comments were along the lines of “We need our supervisors to build teamwork” or “We look for the ability to listen to the ideas of employees and to follow through with them to implementation.”

A few employers mentioned specific management or leadership programs such as Stephen Covey’s *Seven Habits of Highly Effective People*, Quint Studer’s *Hardwiring Excellence* and Training Within Industry, a learn-by-doing approach for developing supervisory skills and credentialing management skills.

When referring to general business skills, more than half of the business leaders specifically mentioned finance and accounting skills. Other employers identified marketing, sales or other general business principles, particularly in the areas of e-commerce, Internet sales, customer service and using technology for personalized marketing.

In describing global understanding or international experience, business leaders named the following skills: global awareness or perspective, language skills, managing remote teams, understanding different learning styles, customer service in a global marketplace, experience living or studying in a foreign country and international business skills. Quite a number of business leaders expressed an interest in working with educational institutions to learn where students are studying abroad because they see global markets as a growth area in the future.

Diversity skills often were described in the same way as global understanding. Employers are looking for employees who reflect customer diversity, understand and work well with individuals from other cultures or different generations, seize opportunities to recruit a diverse workforce and speak languages other than English.

“Green” skills were most often mentioned by energy firms where education and training for sustainable energy production are gaining momentum. Other companies

mentioned the need for employees who know about renewable products, alternative energy sources and how recycling practices and “green” products cut costs and improve energy efficiency. An energy executive noted that Minnesota needs 3,500 wind turbines in the next 16 years, so there is a need to accelerate training in the system’s wind energy programs. One maintenance worker is needed for every four turbines, not including related workers for supply, said the executive. He also noted that wind energy technicians must have hearty attitudes and physical abilities, a willingness to work in inclement conditions any time of the day or night and be adaptable to change in the evolving energy field.

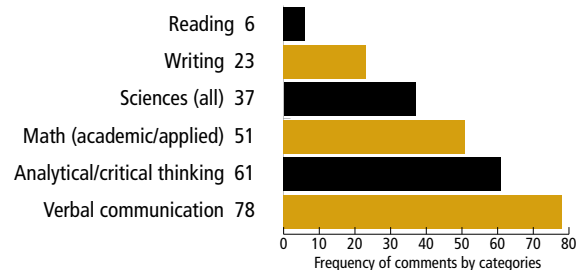
### Secondary themes

Secondary themes mentioned by business leaders included a variety of desirable academic skills and personal effectiveness characteristics. It is clear that a close intersection exists among verbal communication, interpersonal skills and the value employers place on customer relations.

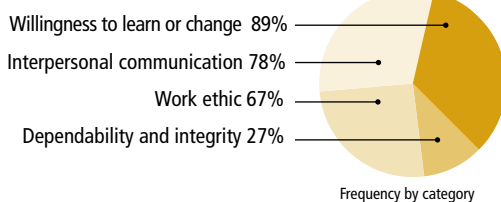
Business leaders also value employees who are willing to learn or change. Notably, only 13 employers identified the importance of prior experience, but 128 mentioned the role that on-the-job training, internships or apprenticeships play in assuring a skilled workforce for the future. Given the rapid pace of technology advances noted by many business leaders, it is evident they place a premium on employees who are engaged in formal company training and are willing to adapt to changing business needs.

### Employees need verbal skills, ability to learn

#### Verbal communication skills emphasized



#### Willingness to learn rated high



A precision manufacturing executive said the company needs people who have an intellectual curiosity to develop innovative ways to apply proven technology. They need to have excellent problem-solving skills and a desire to reduce costs through innovation, he said.

An energy company leader said adaptability is critical to the industry and framed it like this: “I may know what I want, but I’m not sure how to get it.”

A food production company executive said the employees in that company are allowed to “play without penalty.” They have the freedom to try new things without fear of failure. They budget for innovation.

An engineering services company official said that company is looking for project engineers who have a high level of technical skill, but who can manage projects and increase sales by adding value through product development. The company also wants engineers who add value to customers’ products and employees who understand the business of its customers so that they better meet customers’ needs.

### Preparing the 2020 workforce

When asked about the future of their businesses in 2020, many business leaders indicated they do not plan that far in advance (a one- to two-year business planning cycle often was mentioned). Many leaders reiterated that they expect the skills currently identified will be the predominate ones needed in the future.

Employers who talked about 2020 mentioned that they see their business success tied to growth in international markets, so they value employees with global awareness. Yet, many companies expressed concern over financial pressures that may limit growth. It is reasonable to assume that employers will seek employees skilled in financial analysis or accounting and who can adopt business practices that promote efficiency and quality in operations and product development.

An executive for a retailer said workers in the future will need even more interpersonal skills and a deeper understanding of budget, finance and technology. The Minnesota State Colleges and Universities should focus on producing graduates with a broader span of knowledge. This leader advised colleges and universities to do a better job of providing information to businesses about their program offerings and building strong connections to their local business communities.



## Recommendations

In responding to the needs of Minnesota businesses, four recommendations emerged as a beginning point for a broader conversation among constituents of the Minnesota State Colleges and Universities system – the Board of Trustees; institution leadership and faculty; Office of the Chancellor staff; and business, labor and government partners.

### **Recommendation:**

***Strengthen courses and programs to ensure students learn emerging skills identified by employers.***

Business leaders were clear about the skills they want their employees to have now and in the future: technology know-how, business-critical “soft” skills, and skills necessary for emerging business practices, such as using “green” products, and responding to global competition. In addition, these skill areas may have implications for several areas across the system:

- Minnesota Transfer Curriculum,
- Liberal arts requirements for associate and bachelor’s degrees,
- New certificates at both the undergraduate and graduate levels,
- Study abroad programs,
- Technical education financing and support,
- Specific curriculum areas in business and information technology,
- Programs of study as required by the Carl D. Perkins Vocational and Technical Education Act of 2006 and
- Professional development for faculty.

### **Recommendation:**

***Expand internship and apprenticeship options for students and on-the-job training programs for employees.***

More than one-third of business leaders mentioned a strong commitment to employee development through on-the-job training, apprenticeships or internships. Business leaders see talent development as a competitive advantage and a critical factor in the future success of their company. Colleges and universities should see local business and industry as partners in educational delivery and explore opportunities to assist students in understanding that businesses deeply value employees who are willing to learn and change.

### **Recommendation:**

***Strengthen relationships with local businesses through outreach, communication and collaborations.***

About half of the business leaders indicated they are interested in continuing or renewing relationships with their local college or university. College and university presidents should continue to visit local businesses to stay abreast of trends in employment and the need for skills identified in this report. Among the many opportunities business leaders recommended for colleges and universities were:

- Offers for college or university leaders to participate in business-led councils,
- Assistance to secondary and post-secondary education partnerships on career information and technical education,
- Mentoring or coaching students,
- Access to business-owned equipment or facilities,
- Customized training opportunities,
- Interest in research partnerships,
- Offers for business leaders to participate on college or university advisory councils or centers of excellence and
- Opportunities to promote education and training to company employees.

### **Recommendation:**

***Expand education program offerings to include more experience-based learning, online courses and other flexible options.***

Business leaders stressed the importance of flexible program delivery. While difficult financial circumstances may seem to preclude employers from exploring training opportunities, one employer indicated he may move employees to less than full-time status so they could pursue retraining opportunities at the local college.

Many business leaders said the Minnesota State Colleges and Universities can help businesses now and in the future by providing adaptable and flexible programs. A telecommunications company executive suggested flexibility should be built into certification programs for specialties and online learning certificates. The executives also want colleges and universities to ensure students have enough education (however many credits that takes) to meet industry employment standards. This perspective offers opportunities for customized training and continuing education programs.

## Conclusion

While business leaders provided specific advice for the Minnesota State Colleges and Universities system, many expressed gratitude and satisfaction with their relationships with local colleges and universities.

One health care provider said the company's relationship with a college over the past decade has been improving. The college is responsive, particularly the nursing department. One of the defining elements of the current college administration is that leadership is more customer-focused and demonstrates greater public involvement.

A robotics manufacturing executive said the company's relationship with a college is very important, noting the company has grown from 35 employees to about 80 people in the last four years. About 30 percent of the company's employees are graduates of the local college.

A packaging manufacturer said the company has been very happy with a college's increased efforts to reach out to the business community. The company has used the college for safety training and has been satisfied with the ease of scheduling and responsiveness. The executive said it feels like the technical college of old and the executive feels as though he is part of a college system.

Presidents and administrative leaders involved in the visits also reported they appreciated the opportunity to connect with employers and expressed an interest in continuing to reach out to business.

This report will be shared broadly with chief academic officers, business and industry outreach administrators, advancement staff and business and industry partners of the Minnesota State Colleges and Universities system. Feedback and suggestions are welcome.

## How do I connect with training resources?

You can arrange training at your work site, on a campus or online. If you're not in a community with a campus, we'll come to you. To order a copy of *Open for Business—Your Guide to Training, Education and Business Services*, call the number below. For more information about business services offered by any of the Minnesota State Colleges and Universities, contact:

**Business Information Center**

**1-800-366-7380**

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### About the system

The Minnesota State Colleges and Universities provide career education to more than 6,000 employers and 150,000 employees each year in addition to the 250,000 students who take credit courses. With 54 campuses in 47 Minnesota communities, the Minnesota State Colleges and Universities system – which includes all public colleges and universities except the University of Minnesota – is the state's largest higher education provider.





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