



VISION 2020: TECHNOLOGY CLUSTERS

The Research Centers of Excellence established in Wisconsin must be supported by local business and community-based development organizations and networks. Local land developers and builders must help to locate and construct research parks and facilities with the needed laboratories and equipment. Funding for directed research must be provided by a combination of private philanthropy, government subsidies and tax incentives, and contract research paid for by local businesses. Angel investors and venture capitalists need to be included in the technology development networks of each Research Center.

Once in place, these networks will encourage private sector sponsorship and ultimately lead to a clustering of related technology-based businesses around each Research Center.

The role of Technology Clusters in accelerating the development of successful new businesses has been widely reported. In October 2001, the U.S.

Council on Competitiveness published a report citing the benefits of regional clusters of innovation, benefits that it believed could form the foundation for future U.S. competitiveness in global markets. The concept of Technology Clusters is based on the growing evidence that nurturing the state's key industries can improve the competitiveness of businesses within those industries, in turn boosting the state's overall economy.

A Technology Cluster is a geographic concentration of interconnected companies, specialized suppliers, service providers and associated institutions in a particular field that collaborate through partnerships that better prepare members to face the challenges created by the global marketplace. Technology Clusters combine the market knowledge and expertise of businesses within the industry with the shared resources of technological research, education and workforce development, and regulatory relationships with all levels of government.



"Technology clusters solve common problems and exploit shared opportunities—a powerful combination for Wisconsin."

*>> John Torinus,
Chief Executive Officer
Serigraph Inc.*

VISION 2020

TECHNOLOGY CLUSTERS

Structure	Community based, private sector driven
Complement	10 to 15 independent public and private businesses
Access	Access to local Research Centers of Excellence
Leadership	Led by 1 to 3 large anchor companies
Influence	Surrounded by 10 to 12 small, emerging companies
Support	Supported by local angel network and regional VCs
Advice	Supported by local legal, financial, and consulting services

Successful technology clusters enhance overall competitiveness by improving productivity, fostering innovation and accelerating the commercialization of innovations.

Successful Technology Clusters enhance business competitiveness by improving productivity, fostering innovation and accelerating the commercialization of innovations. The specific advantage of Technology Clusters include: lower operating costs, more efficient supply chains, the ready availability of specialized technical services, knowledge spillover, joint workforce training, labor market pooling and opportunities for joint actions and business partnerships through networking.

The existence of one or more Research Centers of Excellence within Wisconsin's Technology Clusters will link the clusters to the Institute for Inter-Disciplinary Research and create an environment for rapid prototyping of new ideas, rapid build up of resources and rapid roll out of the new products. Winning companies get to the market first and use early wins in the market to block out competitors and then accelerate their growth as the product gains market acceptance. The

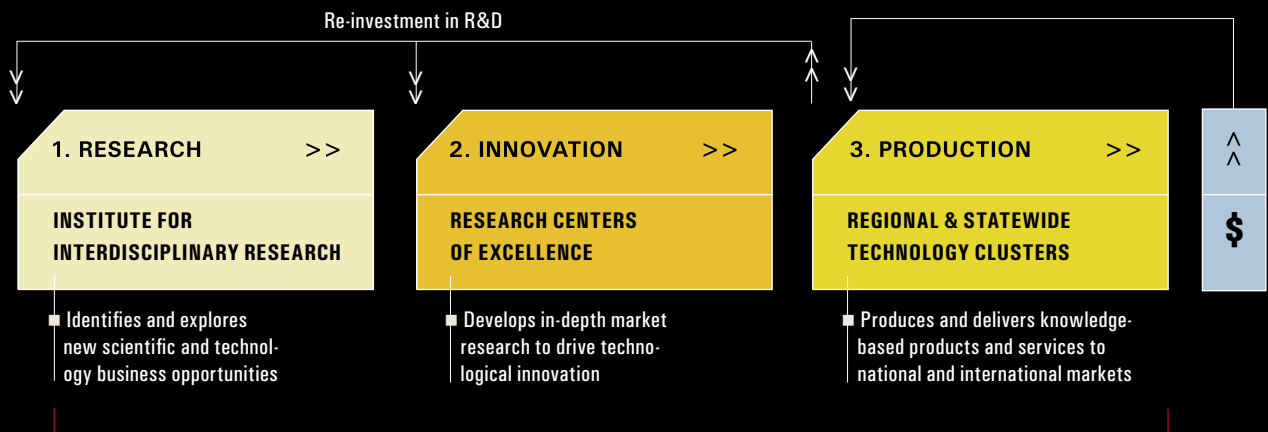
environment of a Technology Cluster, with its built-in infrastructure, creates a significant competitive advantage.

The size and structure of each Technology Cluster will vary from industry to industry. Some clusters may be statewide clusters, others will be more local in scope, and still others may have participants from other countries. Researchers will normally migrate from the Research Centers into local businesses to facilitate the efficient transfer of newly developed technology. At times the flow may go the other way. The proximity of numerous companies in one industry will enable job-sharing and create an environment for the knowledge workers of the future who seek flexible work environments that offer professional development opportunities and career advancement. The existence of clusters will help to attract and retain the human talent necessary to fuel the growth of a high-tech economy in Wisconsin. ■

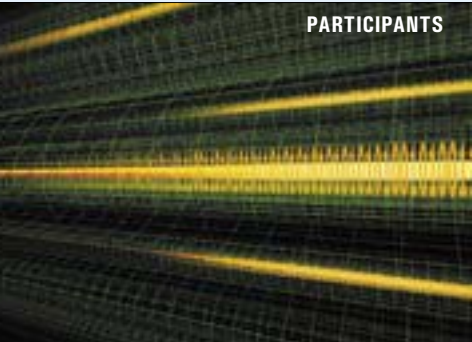

EXPANDING MARKETS BY TRANSFERRING KNOWLEDGE


<p>Develop Knowledge Assets</p>	<p>The knowledge strategy for Wisconsin assumes that the Institute for Interdisciplinary Research will develop plans and strategies for exploiting Wisconsin’s burgeoning knowledge assets.</p>
<p>Rapid Transfer to Business Community</p>	<p>The strategy presumes that the intellectual property developed at Wisconsin’s Research Centers of Excellence are increasingly and rapidly transferred to local, entrepreneurial businesses in affiliated Technology Clusters where it can be embedded in knowledge intensive products and service that are sold to national and international buyers.</p>
<p>Cultivation of International Markets</p>	<p>The model also projects a steadily expanding base of high-tech services that are sold to international customers who travel to Wisconsin to be served. The existence in our state of internationally recognized, high-tech service companies will expand the market for Wisconsin knowledge-based economy by pulling foreign buyers into the local marketplace.</p>

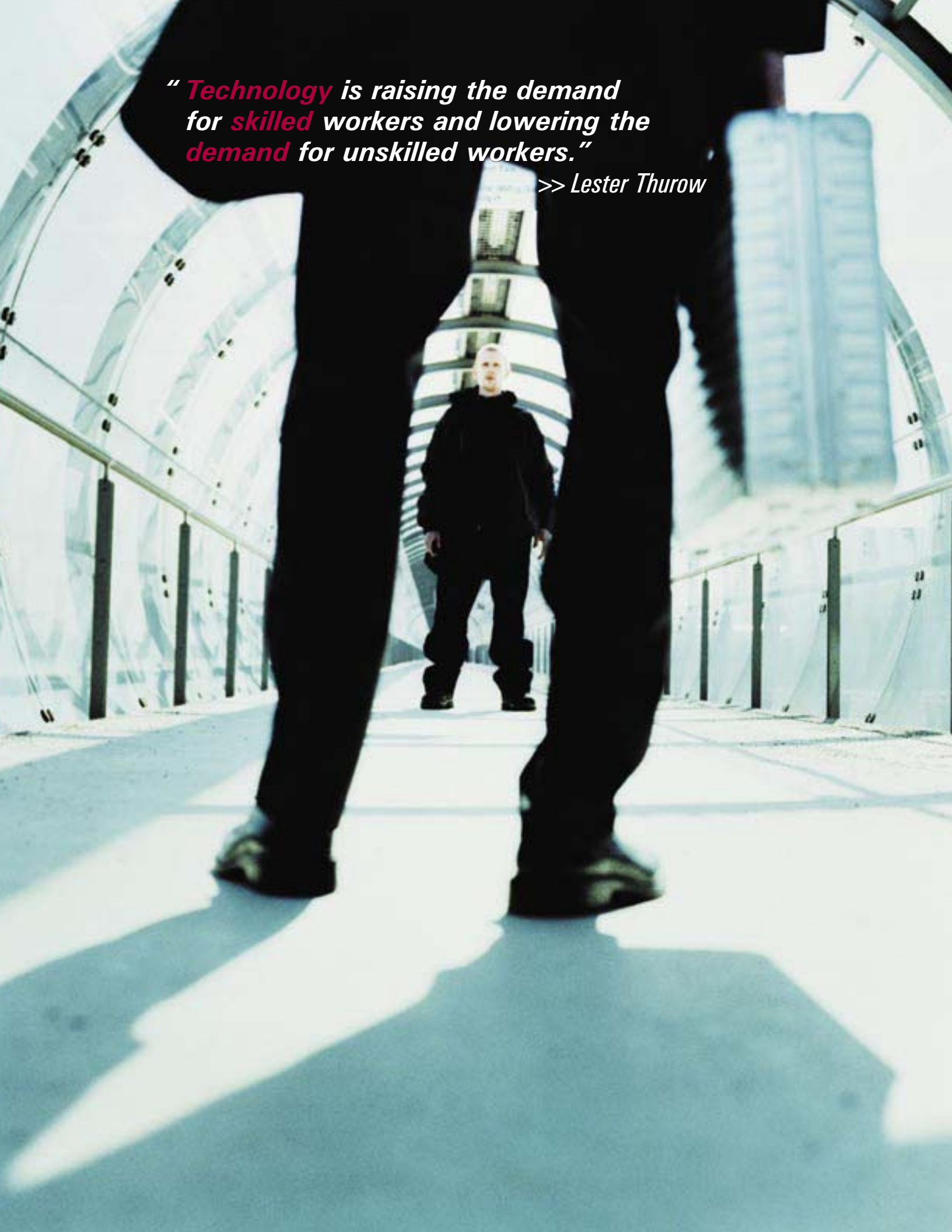
In-state Knowledge Transfer Strategy



POTENTIAL STATEWIDE CLUSTERS IN KNOWLEDGE-BASED INDUSTRIES

FOCUS	HEALTHCARE	WORKFORCE EDUCATION	
<p>OPPORTUNITY</p> <p>AGENDA</p>	<p>To create an internationally recognized, high quality healthcare system that will attract patients to Wisconsin from around the world.</p> <ul style="list-style-type: none"> ■ Develop an integrated supply chain strategy to maximize sourcing and “just in time” JIT-delivery of healthcare products and services among Wisconsin-based businesses that participate in the cluster. ■ Coordinate development of Research Centers of Excellence within the cluster that focus on a shared agenda of infrastructure development and research projects to create a competitive advantage in healthcare. ■ Develop shared plans and strategies for healthcare workforce development including continuing education, employment practices and policies and support facilities and systems. ■ Develop shared plans and strategies to increase the export of high-technology healthcare products to foreign markets and the import of foreign customers for high-technology healthcare services. ■ Create interface to IIR for intergovernmental and educational coordination. 	<p>To make Wisconsin a national center for workforce education and retraining, including content development, delivery and credentialing.</p> <ul style="list-style-type: none"> ■ Develop an integrated supply chain strategy to maximize sourcing and JIT-delivery of workforce education products and services among Wisconsin-based businesses that participate in the cluster. ■ Coordinate development of Research Centers of Excellence within the cluster that focus on a shared agenda of infrastructure development and research projects to create high-tech distance learning tools and software for on-line course work and educational credentialing. ■ Aligning Wisconsin’s existing public and private educational resources to address entire spectrum of workforce needs, including K-12, higher education, skills testing and workforce readiness. ■ Develop content for workforce education targeted at selected, vertical markets in Wisconsin, national and international markets. ■ Develop shared plans and strategies to increase the export of high-technology workforce education products to foreign markets and the import of foreign customers for high-technology workforce education services. ■ Create interface to IIR for intergovernmental and educational coordination. 	
<p>PARTICIPANTS</p> 	<ul style="list-style-type: none"> ■ Hospitals and integrated delivery networks ■ Health insurance providers and organizations ■ Medical clinics and practice management companies ■ Emergency medical and disaster recovery agencies ■ Medical and nursing schools ■ Medical research laboratories ■ Pharmaceutical companies ■ Medical device and diagnostic companies ■ Medical informatics and software companies 	<ul style="list-style-type: none"> ■ Public and private colleges and universities ■ Staffing companies ■ Executive search firms ■ Distance learning companies ■ Educational publishers ■ Digital content producers 	

FOCUS	MEDIA & DESIGN	INFORMATION & DATA MANAGEMENT	
<p>OPPORTUNITY</p> <p>To create a statewide environment of openness diversity, and creativity that will attract innovative people to Wisconsin from around the world.</p> <p>AGENDA</p>	<p>To create a statewide environment of openness diversity, and creativity that will attract innovative people to Wisconsin from around the world.</p> <ul style="list-style-type: none"> ■ Develop an integrated supply chain strategy to maximize sourcing and JIT-delivery of media and design products and services among Wisconsin-based businesses that participate in the cluster. ■ Coordinate development of Research Centers of Excellence within the cluster that focuses on a shared agenda of infrastructure development and research projects to create synergistic use of Wisconsin's resources in broadcast and print media, entertainment and the arts, industrial and commercial design to improve access to global information sources and thought leaders. ■ Develop shared plans and strategies for media and design workforce development including continuing education, employment practices and policies and support facilities and systems. ■ Develop shared plans and strategies to increase the export of high-technology media and design products to foreign markets and the import of foreign customers for high-technology media and design services. ■ Create interface to IIR for intergovernmental and educational coordination. 	<p>To make Wisconsin a global center for data processing and mass storage of mission-critical data processed over public and private networks.</p> <ul style="list-style-type: none"> ■ Develop an integrated supply chain strategy to maximize sourcing and JIT-delivery of information and data management products and services among Wisconsin-based businesses that participate in the cluster. ■ Coordinate development of Research Centers of Excellence within the cluster that focuses on a shared agenda of infrastructure development and research projects to create future services for transaction processing, mass data storage and data mining for financial services, healthcare, scientific research, and governmental and military applications. ■ Develop shared plans and strategies for information and data management workforce development including continuing education, employment practices and policies and support facilities and systems. ■ Develop shared plans and strategies to increase the export of high-technology information and data management products to foreign markets and the import of foreign customers for high-technology information and data management services. ■ Create interface to IIR for intergovernmental and educational coordination. 	
<p>PARTICIPANTS</p> 	<ul style="list-style-type: none"> ■ Television, radio and newspapers ■ Web-based publications ■ Entertainment and cultural organizations ■ Colleges and universities ■ Printers and graphic artists ■ Advertising and marketing firms ■ Architects and builders 	<ul style="list-style-type: none"> ■ Outsourced data processing services ■ Internet service providers ■ Application service providers ■ Network management consultants ■ Telecommunications businesses ■ Software and hardware manufacturers 	



*“**Technology** is raising the demand for **skilled** workers and lowering the demand for **unskilled** workers.”*

>> Lester Thurow