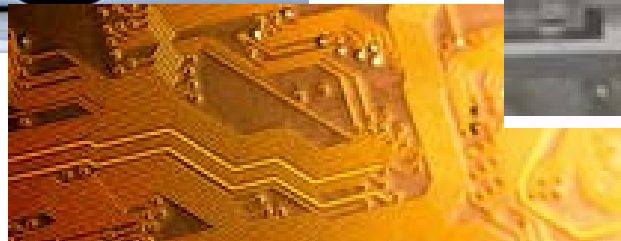
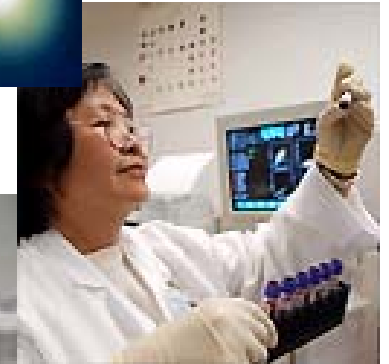


Texas Industry Cluster Initiative

Briefing Document



Engines of the Texas Economy



“This cluster initiative is important because for the first time in the history of this state, we will have a coordinated, market-driven economic development strategy that focuses on areas where we have the greatest growth potential and focuses on fostering that potential.”

Rick Perry, Governor of Texas

Texas’ Six Target Industry Clusters

- **Advanced Technologies and Manufacturing**
 - Nanotechnologies and materials
 - Micro-electro-mechanical systems
 - Semiconductor manufacturing
 - Automotive manufacturing
- **Aerospace and Defense**
- **Biotechnology and Life Sciences**
- **Information and Computer Technology**
 - Communications Equipment
 - Computing Equipment
 - Information Technology
- **Energy**
 - Oil and gas production
 - Power generation and transmission
 - Renewable / Sustainable energy sources
- **Petroleum Refining and Chemical Products**

What gives a Cluster a competitive advantage?

Competitors will eventually and inevitably overtake any company that stops improving and innovating. *Ultimately, the only way to sustain a competitive advantage is to upgrade it.* So why are certain companies based in certain regions capable of consistent innovation? The answer lies in four broad attributes:

- 1. Factor conditions.** *The region's position in factors of production, such as skilled labor or infrastructure, necessary to compete in a given industry*
- 2. Demand conditions.** *The nature of local market demand for the industry's product or service.*
- 3. Related and supporting industries.** *The presence or absence in the region of supplier industries and other related industries that are internationally competitive*
- 4. Firm strategy, structure, and rivalry.** *The conditions in the region governing how companies are created, organized, and managed, as well as the nature of domestic rivalry*

From "The Competitive Nature of Nations"

Michael Porter

Harvard Business Review, 1990

Cross-cutting Issues Identified Through the Cluster Initiative

Four Major Themes for Economic Growth Across the State:

⇒ *Education and Workforce Development*

⇒ *Business Climate*

⇒ *Commercialization*

⇒ *Collaboration*

➤ **The education/workforce pipeline is key for Texas**

- ◆ The state is facing a “demographic cliff”, in which it is losing workers from both ends of the career ladder, with high dropout rates and baby boomers preparing to retire
- ◆ The quantity and quality of educated workers is suffering
- ◆ Industry and state agencies must come together to explore and implement professional certification programs to counter the impending loss of workers to retirement
- ◆ Putting resources together to fill needs is still a challenge
- ◆ “School systems should be the most important economic development organization in the state”

Cross-cutting Issues Identified Through the Cluster Initiative

➤ **Texas Business Climate**

- ◆ “States are going to stop recruiting businesses and start recruiting talent”
- ◆ Tax and regulatory issues remain

➤ **Commercialization** is essential to stimulate and grow economic opportunities

- ◆ Technology transfer
- ◆ Close the “commercialization gap”
- ◆ Retain and capitalize intellectual property in Texas

➤ **Collaboration** statewide will leverage Texas’ resources, focus technology and training investments and lead to a strategy for workforce and economic development.

- ◆ Proactively develop and maintain the technical skills pipeline for emerging companies as part of the Industry Cluster Initiative
- ◆ Facilitate regional dialogues to identify resources and opportunities for collaboration
- ◆ Provide technical assistance in the inter-regional transfer of best practices and resource development deployment

Key Findings

- **Technology is the key to the future for these industries**
 - ◆ Without exception, the industry clusters identified the ability to develop and deploy new technologies as the key
 - ◆ Retention of intellectual capital in Texas has led to several state-wide initiatives
- **An assessment of workforce requirements is needed to match critical skills to training and education**
 - ◆ The teams must identify critical skills and core competencies, then map them to educational curricula and training programs
 - ◆ Under Governor Perry's initiative, the cluster teams have engaged with Texas Education Agency, the Higher Education Coordinating Board, the Workforce Standards Board and the Texas Workforce Commission to begin work.
 - tie strategic skills assessment and delivery system to develop measurement for progress against local, regional, and statewide goals
 - tie regulatory agency and education funding to progress against goals
 - ◆ For the first time, Texas has a coordinated, collaborative market-driven economic development strategy tied to workforce development opportunities in specific high growth industries

Key Opportunities

- ◆ **Technology tools and telecommunications are transforming supply chain and logistics worldwide.** Texas is in a position to leverage its deep expertise in these areas and position itself as a global leader.
- ◆ **Sharing an expansive border with Mexico** places Texas in a unique position to be a driver in developing and fielding innovative policies, processes and technologies.
- ◆ Within many sectors, **security is a growing area of focus:** cybersecurity, homeland and border security, and information security. Texas could leverage what is already in place in these domains and create a National Center for Security, building on the recently announced NSA center in San Antonio.

Workforce Implementation Priorities

Priority: Skills Standards Assessment

- Assess, forecast and recommend solutions for strategic skills by industry cluster for workforce and technical education programs through a strategic skills assessment.
 - Review existing strategic skills assessment models.
 - Develop and implement a survey to identify and measure strategic skill requirements on a 1-5 year outlook.
 - Leverage the strategic skills assessment to identify workforce requirements and training resources

Priority: “Just In Time” Workforce Delivery System

- Refine, develop and maintain the technical skills pipeline for existing & emerging companies and industries to support a “just in time” delivery system design and workforce delivery process.
- Develop follow-on metrics for determination of best practices in education and training.
 - Define the career pipeline options model to meet industry requirements of the education delivery system.
 - Review current efforts that combine short-term industry requirements with an education delivery system.
 - Relate to curriculum development and approval processes, and recommend changes as required for educators, training providers, and certification programs.

Workforce Implementation Priorities

Priority: Continue to customize job training for new jobs and upgrading the skills of new and incumbent workers.

- Review and update industry trends, issues, and requirements by convening cluster team follow-on meetings quarterly and by repeating the regional forum process.
- Relate industry trends and requirements to current job training efforts.
- Develop a common review process by industry to combine local and regional resources, along with state and federal funding, to develop a needs assessment based on the defined skilled workforce.
- Continue to link skills development to statewide or regional cluster analyses as a “best practice.”

Strengthening Economic Development

Leadership is engaged – Industry, Academia and Government

Statewide networks and associations focus resources

- **Define target opportunities and areas for job growth**
- **Identify critical workforce issues -- assets and liabilities**
- **Assess resource requirements for regional and statewide economic growth**
- **Align incentives, innovation and investment**

A collaborative environment leverages and enhances resources (financial, geographic and intellectual) to expand economic opportunities