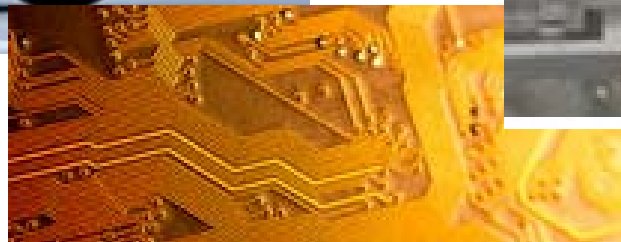
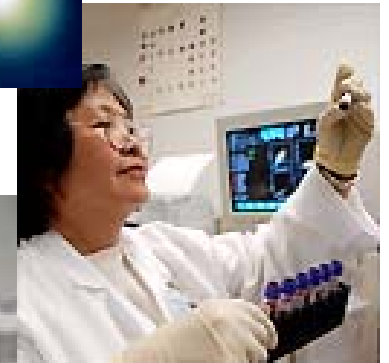
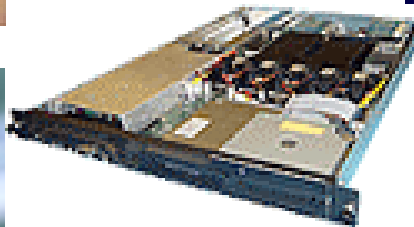


Texas Industry Cluster Initiative

Advanced Technologies and Manufacturing

Dennis Dellinger, President and COO, Stewart and Stevenson

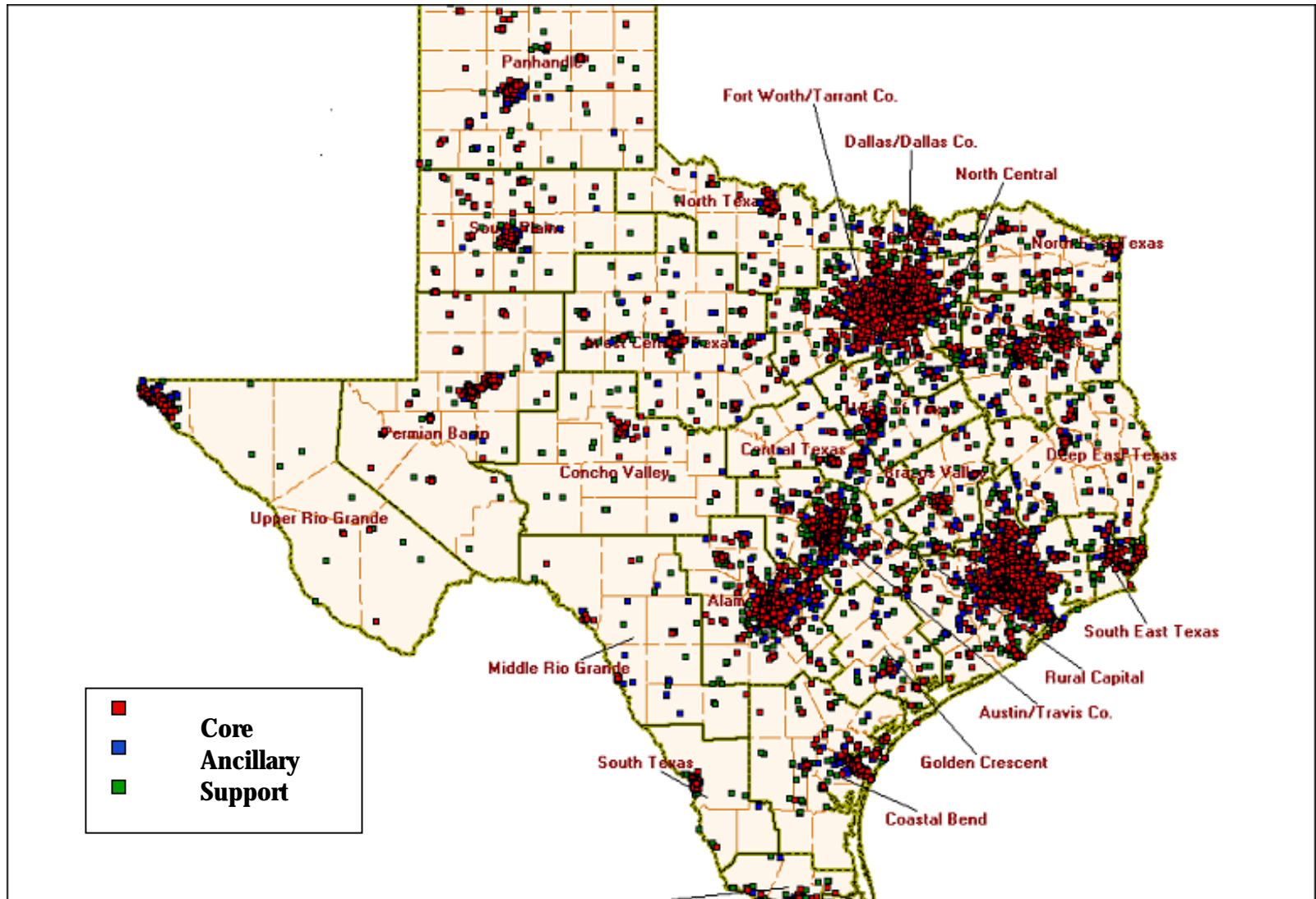
December 14, 2005



Advanced Technologies & Manufacturing

- Driving force of technology and economic advancement
(Stanford Economic Indicators)
- Perception changing as next generation production is faster, cleaner and cheaper (National Coalition for Advanced Manufacturing)
- Strength in the creation of new companies, new markets, advanced processes and high skill careers
- Challenged by the capital intensive nature of the industry and demand for high skills talent at globally competitive wages
- System wide optimization characterizes the future

Advanced Technologies & Manufacturing Concentrations of Employment in Texas



Advanced Technologies & Manufacturing Cluster Strengths in Texas

- Strong technology associations promote and foster networks that generate entrepreneurship and company alliances
- Presence of original equipment manufacturers (OEMs) and mid- to small-tier companies form the core of AT&M Cluster activity. These companies create jobs and the innovation behind technologies spawning new markets in research, design, manufacturing, product testing, sales and operations
- Transportation and trade hubs provide the infrastructure that is imperative to the supply chain
- Demonstrated ability to attract federal dollars for research and spawn of new companies, including funding from Department of Defense (DoD), National Science Foundation (NSF), National Institute for Science and Technology (NIST), Department of Labor (DOL) and Department of Health Sciences supporting new technology and job creation, R&D, skills training and facilities
- Post-secondary academic institutions with established communication channels to industry develop curricula and training programs to upgrade workforce skills

Advanced Technologies & Manufacturing

High Impact and Demand Critical Improvement

Education and Workforce

- Financial incentives to attract and retain top research and engineering talent to Texas universities.
- Develop curricula that emphasizes math and science in early years, and applied (rather than basic) research at the university level.
- Collaborative partnerships between industry and academia to develop flexible workforce properly trained just-in-time for introduction to industry.

Capital and Commercialization

- Joint allocation of state, company, and private funds that can be specifically used as match for federal grants.
- Incentives for adoption of technologies and processes that create efficiencies in production

Advanced Technologies & Manufacturing

High Impact and Demand Critical Improvement

Business Climate

- Make available resources and financial models that support development of the supply chain and streamline distribution.
- Reform tort system, workmen's compensation, and healthcare costs.
- Provide tax exemptions on R & D equipment.
- Use economic development funds to foster start-up and growing companies, especially in key technologies.

Collaboration and Strategic Partnerships

- Advance Manufacturing and Innovation Advisory Council.
- Statewide branding and marketing campaign.

Advanced Technologies & Manufacturing Technology Targets of Opportunity

- **Nanotechnology**
- **Microelectronic Mechanical Systems (MEMS)**
- **Advanced Manufacturing Processes**
- **Supply chain distribution and fulfillment**
- **Robotics**
- **Sensors**
- **Hybrid vehicle technologies**
- **Polymers, advanced materials and new plastics**
- **Emerging applications (e.g. armor)**

Advanced Technologies & Manufacturing Implementation Priorities

- Support cross-cluster implementation planning.
- Implement the six “immediate impact” recommendations from our report. These emphasize use of councils and teams to promulgate currently available assistance for companies.
- Implement the nine “long term impact’ recommendations in the report. These are more specific and invoke the cluster specific priorities listed earlier.
- Promote incubation and commercialization strategies.