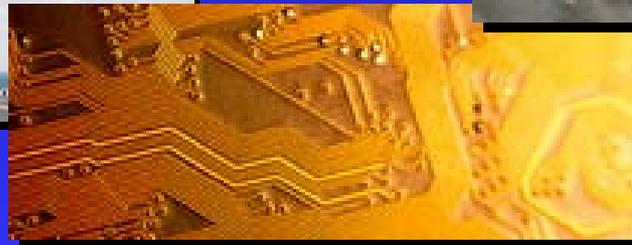
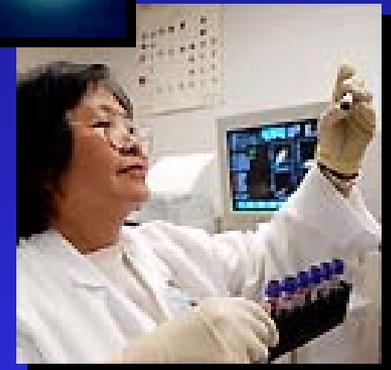


Texas Industry Cluster Initiative

Aerospace and Defense Industry Cluster

Roger Williams, Site Manager, Bell Helicopter Military Assembly Center

December 14, 2005



Industry Cluster

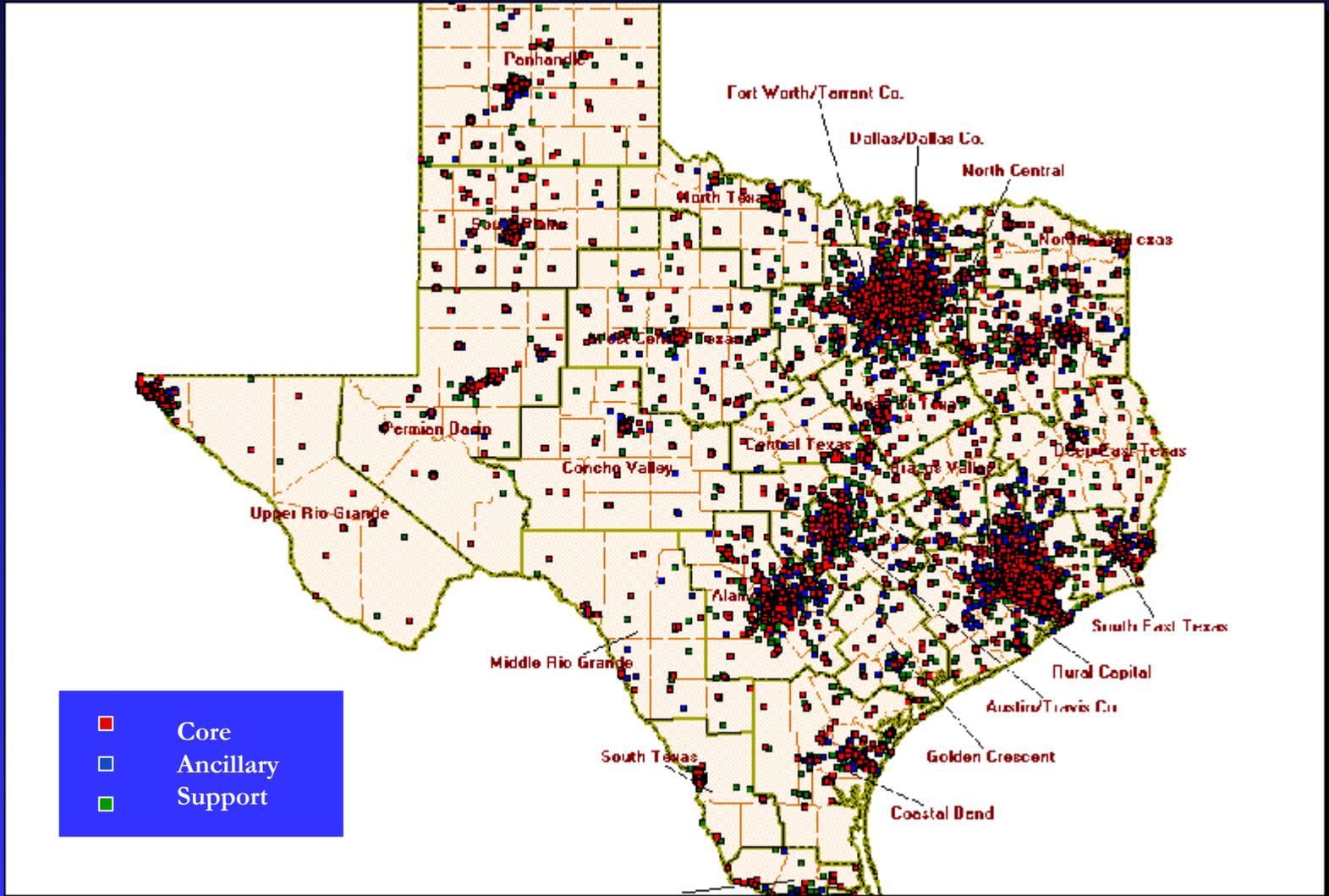
- Established foothold in the state of Texas
- Positioned to profit from investment and market expansion
- Experiencing growth in aviation, space and defense activities including, the introduction of new products, maintenance repair and overhaul (MRO); unmanned aerial vehicles (UAV), space program, commercialization and homeland security
- Challenged by the labor and capital intensive nature of the industries comprising the cluster and demand for high skills talent at globally competitive wages

Leading edge products



Aerospace and Defense Industry Cluster

Concentrations of Employment in Texas



Aerospace and Defense Cluster

Strengths in Texas

- Technology and innovation for aviation, space and defense including UAV, biodefense and composites able to attract federal contracts supporting job growth, manufacturing, skills training, R&D and facilities
- Presence of original equipment manufacturers (OEMs) and mid- to small-tier companies focusing on design, commercialization, manufacturing, testing, sales and maintenance
- Strong presence of airport system infrastructure and commercial and private travel options, military installations, three spaceports, security and border control posts
- Academic institutions with communication channels to industry for the development of curriculum and training programs
- Strong foundation for growth in market segments including UAS (aka UAV), MRO, air taxi service, space programs and homeland security

Aerospace and Defense Cluster

High Impact and Demand-Critical Improvement

Education and Workforce

- Implementation of a comprehensive (all education levels) “just-in-time” workforce delivery system that is adaptable and responsive to cyclical staffing patterns and adoption of advancing technologies

Capital and Commercialization

- Support systems and resources to advance the commercialization of R&D in the state of Texas
- Promote networks that ensure collaboration in incubator and academic environments

Workforce Development



Aerospace and Defense Cluster

High Impact and Demand-Critical Improvement

- Business Climate
- Support entrepreneurial growth, infrastructure build-out and promotion of defense and space programs in economic development strategy and facilities upgrade/expansion
- Address rising healthcare costs and corporate taxes
- Resources and financial models that support development of the supply chain and streamline distribution
- Investment in regional airport system to support logistics and commuter trends

Aerospace and Defense Cluster

High Impact and Demand-Critical Improvement

- Collaboration and Strategic Partnerships
- Regional collaboration for workforce development, infrastructure build-out and information resources for vendors, suppliers and distribution channels
- Centers of innovation for testing new technology and networking
- Shared resources to serve new firms for grant writing and contract negotiations

Collaboration and Strategic Partnerships



Automation & Robotics Research Institute

Aerospace and Defense Cluster

Technology Targets of Opportunity

- **Nanotechnology**



- **Biotechnology**



Aerospace and Defense Cluster

Technology Targets of Opportunity

- Precision composite and lightweight materials



- Homeland security - border control, cyber security, physical security



Aerospace and Defense Cluster

Technology Targets of Opportunity

- **Advanced Manufacturing - precision assembly and tools**



- **Robotics - autonomous robotic vehicles**



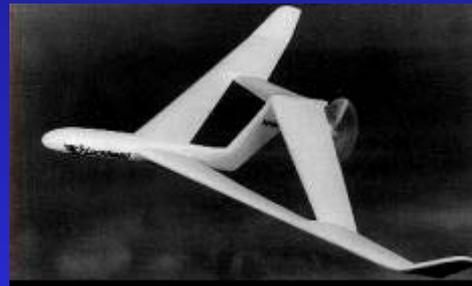
Aerospace and Defense Cluster

Technology Targets of Opportunity

- **Wireless**



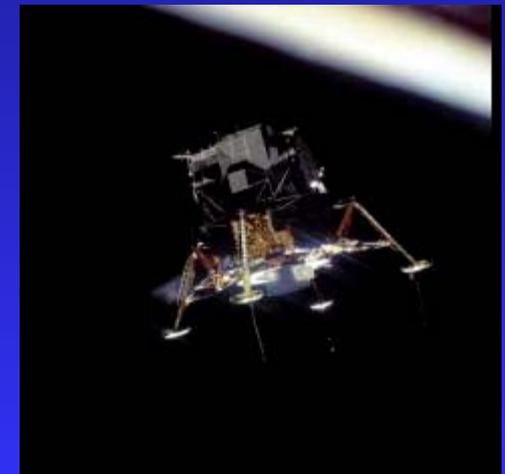
- **Unmanned aerial systems**



Aerospace and Defense Cluster

Technology Targets of Opportunity

- Space-related innovation



Aerospace and Defense Cluster

Implementation Priorities

- Support cross-cluster implementation planning
- Develop a co-op supply chain and fulfillment strategy and support resources
- Determine strategies to reduce costs of doing business and fund expansion and entrepreneurial opportunities
- Prioritize market-segment opportunities and identify support resources through the cluster