



# ADVANCED TECHNOLOGY & MANUFACTURING

The Advanced Technology and Manufacturing cluster is made up of three sub-clusters: nanotechnology, semiconductors, and automotive manufacturing. Texas' world-class universities and research facilities, highly trained workforce, strong government and private business support, and a thriving business climate make Texas a national and global leader in all three sub-clusters.



Texas is the birthplace of the integrated circuit, invented by Texas Instruments' Jack Kilby in 1958.



The manufacturing industry employs over 874,450 Texans with an average annual wage of \$71,500.



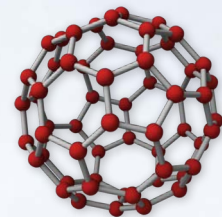
Texas exported over \$24.4 billion in transportation equipment in 2013.



Toyota and General Motors are the two largest auto manufacturing employers in Texas.



Texas is the top U.S. state for manufacturing exports and value of shipments.



The buckyball, discovered at Rice University's Richard E. Smalley Institute for Nanoscale Science and Technology won three professors the 1996 Nobel Prize in Chemistry.

## Education, Research, and Development

Texas universities and other educational institutions are heavily invested in research and development (R&D). In 2012, state expenditures for R&D at higher educational institutions exceeded \$3.7 billion, according to the Texas Higher Education Coordinating Board.

### Advanced Technology & Manufacturing Education and R&D Programs

- ★ Rice University - Richard E. Smalley Institute for Nanoscale Science and Technology, the Center for Biological and Environmental Nanotechnology, and the International Council on Nanotechnology
- ★ The University of Texas at Austin - Microelectronics Research Center
- ★ University of Houston - The Texas Center for Superconductivity

## Industry Private Workforce Averages

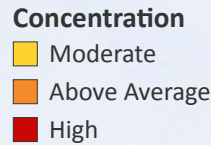
Texas' superior workforce, vibrant economy, and excellent business climate, along with the state's central location, relatively low production costs, and incentive funding have lured many U.S. and foreign business to expand or relocate in Texas.

Industry	Industry Code	Firms	Jobs	Annual Wage
Semiconductors & Electronics Components	3342	183	13,021	\$ 114,982
Electronic Instrument Mfg	3344	431	43,425	\$ 106,869
Communications Equipment Mfg	3345	534	23,504	\$ 85,072
Motor Vehicle Mfg	3361	30	8,800	\$ 79,101
Motor Vehicle Body & Trailer Mfg	3362	179	7,792	\$ 41,755
Motor Vehicle Parts Mfg	3363	300	17,184	\$ 48,190

Source: U.S. Bureau of Labor Statistics (2012)

## Regional Industry Workforce Concentration

The maps below identify the regions with above-average workforce concentrations in each industry relative to the size of the local labor force. Industry clusters can lead to the development of a skilled labor force, as well as attract business expansions or relocations to that region.



Semiconductors & Electronics Components



Electronic Instrument Manufacturing



Communications Equipment Manufacturing



Motor Vehicle Manufacturing



Motor Vehicle Body & Trailer Manufacturing



Motor Vehicle Parts Manufacturing

## Select Companies in Texas



Alcatel-Lucent



EMERSON



APPLIED MATERIALS®

Raytheon



A PACCAR COMPANY