Information Technology in Texas

About the Information Technology Sector

The Information Technology sector includes a variety of industries that use computer systems to exchange information and manage, process, and protect data. Within the Information Technology sector, the state has identified one target cluster that has experienced rapid growth and is expected to drive innovation in other industries: Information Technology and Artificial Intelligence.

As the world and our economy become increasingly digitized, nearly every industry from art to agriculture to manufacturing is adopting new forms of technology, accelerating the growth of the Information Technology sector. Texas' robust university system, skilled workforce, and growing tech hubs have propelled Texas to the forefront of the sector and position it to create and deploy pioneering IT products and services for years to come.

Information Technology Target Clusters

Target Clusters Fast Facts

Information Technology and Artificial Intelligence

	Workforce	GDP	Exports
Magnitude	**495K** *Total Employment (2021)*	**$71B** *GDP Contribution (2021)*	**$10B** *Foreign Exports (2021)*
Share	**9%** *Share of U.S. Cluster Total Employment (2021)*	**6%** *Share of U.S. Cluster GDP (2021)*	**9%** *Share of U.S. Cluster Foreign Exports (2021)*
Growth	**119%** *Total Employment Growth (2011 – 21)*	**89%** *GDP Growth (2011 – 21)*	**60%** *Foreign Export Growth (2011 – 21)*

Data Sources: IMPLAN, Regions Industry Data, Texas and United States, (2011-21); Guidehouse Analysis

Sector Opportunities

Strengths

Texas' Information Technology sector is thriving.
The Information Technology sector more than doubled in employment from 2011 to 2021, making it the fastest-growing target sector in the state during this period.

Texas' workforce is equipped to support rapid growth in tech.
Texas' Information Technology sector employs a large and specialized workforce, with over 170,000 computer and mathematical occupations supporting growth and innovation.

Within the sector, Texas has strengths in programming, computer systems design, and data processing.
These industries support the advancement of all sectors in Texas, enhancing the efficiency and effectiveness of businesses of all types.

Opportunities

The state can capitalize on growth and foster innovation.
By continuing to provide an environment that is friendly to entrepreneurs and tech workers, Texas can remain a destination for innovation for years to come.

The state can support partnerships between universities, businesses, and workforce partners to align on initiatives.
Higher ed institutions, businesses, and workforce organizations can continue to align on skills necessary for the jobs of the future.

Texas' information technology businesses and workforce are well-positioned to define the cutting edge.
Artificial intelligence and its applications are growing in importance across the globe, and Texas is poised to take a leading role.

Quantitative and qualitative research was performed May 2023 through May 2024; data cited reflects the then-most current and/or granular information for the time periods noted.

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Target Sector Workforce Landscape

The workforce supporting Texas' Information Technology target cluster is relatively specialized, with over 50% of all wage and salary employment represented by computer and mathematical occupations. This sector also requires occupations that support business operations and sales, including management, business and financial, administration, and sales occupations.

In-demand competency areas for the Information Technology target cluster include computers and electronics, customer and personal service, English language, mathematics, and administration and management. Analytical competency skill areas have grown in importance to the Information Technology sector in recent years, including programming, quality control analysis, and complex problem solving.

Workforce Distribution by Occupation Type (2021)

- Architecture and Engineering Occupations 2%
- Sales and Related Occupations 7%
- Other Occupations 4%
- Office and Administrative Support Occupations 9%
- Business and Financial Operations Occupations 13%
- Management Occupations 14%
- Computer and Mathematical Occupations 51%

338K Wage and Salary Employment*
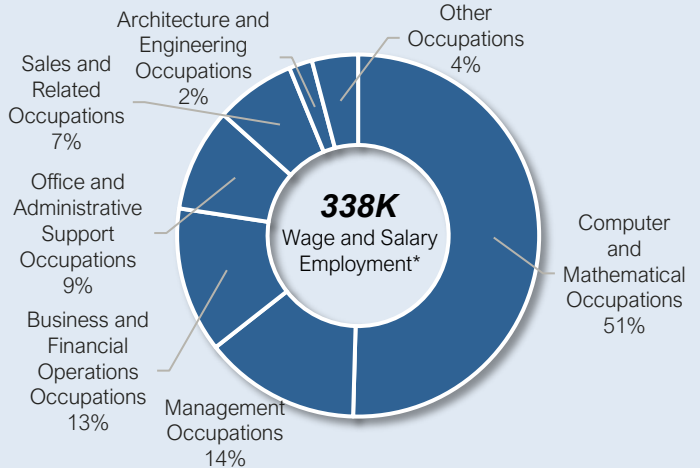
Key Detailed Occupations

Top Occupations by Emp. (2021)	Emp. (2021)
Computer Occupations	166,320
Business Operations Specialists	37,020
Operations Specialties Managers	22,290
Sales Representatives, Services	16,050
Top Executives	13,660

Top Occupations by Jobs Added (2018-21)	Jobs Added (2018-21)
Computer Occupations	23,850
Business Operations Specialists	14,800
Operations Specialties Managers	6,900
Top Executives	5,150
Sales Representatives, Services	4,940

Key Competencies

Top In-Demand Competency Areas (2021)		
Rank	Knowledge Area	Skill Area
1	Computers and Electronics	Active Listening
2	Customer & Personal Service	Critical Thinking
3	English Language	Reading Comprehension
4	Mathematics	Speaking
5	Administration and Management	Complex Problem Solving

High Growth Competency Areas (2018-21)		
Rank	Knowledge Area	Skill Area
1	Sales and Marketing	Programming
2	Geography	Active Listening
3	Transportation	Quality Control Analysis
4	Production and Processing	Social Perceptiveness
5	Sociology and Anthropology	Complex Problem Solving

Data Sources: IMPLAN, Data Library, Texas, (2018-21); Guidehouse Analysis

Workforce Themes

Specialized Workforce
Over half of all Information Technology employees are in computer and mathematical occupations.

Technical Skillsets
Information Technology businesses require a highly technical workforce.

Growth in Programming
Programming skills have grown in importance to the Information Technology sector.

**Note*: Wage and Salary Employment is a headcount of salaried or wage-earning employees. This figure does not include Proprietor Employment, which represents proprietors, partners, and tax-exempt cooperative members.

Information Technology in Texas

Information Technology and Artificial Intelligence

Information Technology and Artificial Intelligence is a rapidly evolving cluster. Ensuring Texas remains at the forefront of cluster growth and innovation will position the state to lead not only in information technology but also in the many industries that leverage IT, automation, cybersecurity, and artificial intelligence. Texas' strong higher education system and startup-friendly environment make it a welcoming location for those looking to build an IT or AI business.

The Information Technology and Artificial Intelligence cluster consists of seven industries that include software-related activities like software publishing and computer programming services along with information-related activities and services like data processing and hosting, cybersecurity, Internet publishing and broadcasting, and web search portals.

The Central Texas and Metroplex regions, which have earned the respective monikers of Silicon Hills and Silicon Prairie, are the main Information Technology and Artificial Intelligence hubs within the state due, in part, to a high concentration of STEM workers and proximity to multiple higher education institutions. Both regions have seen investments from tech companies such as Alphabet and NVIDIA along with strong growth of smaller tech startups.

Within the cluster, the cybersecurity industry is an emerging strength, supported by a variety of cluster assets and anchor institutions. San Antonio is home to the U.S. Air Force's information warfare base and one of the National Security Agency's four Cryptologic Centers. San Antonio has the highest concentration of cyber and intelligence employees outside of D.C., and The University of Texas at San Antonio offers a nationally recognized Bachelor of Business Administration in Cyber Security.
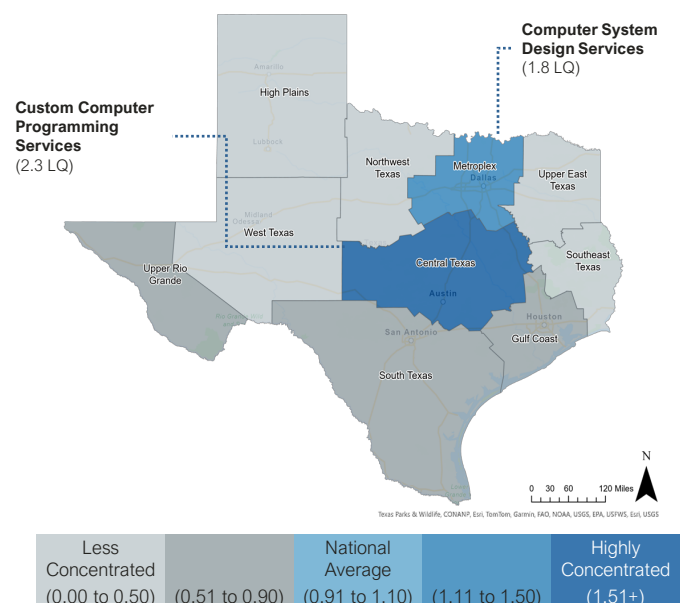
Information Technology and Artificial Intelligence is one the most rapidly shifting clusters, and Texas is on the cutting edge of innovation. Emerging technologies like machine learning, robotic process automation, and natural language processing are the focus of Texas universities and businesses alike. For example, The University of Texas at Austin is launching a Center for Generative AI, one of the largest such centers in the country. Continuing to both grow Texas' technology talent and attract tech workers from outside the state will support cluster growth and build Texas' competitive advantage.

From 2011 to 2021, the cluster grew significantly in employment (119%) and GDP (87%). It is expected to continue to grow steadily, with a projected GDP growth of 67% from 2022 to 2032.

Cluster Fast Facts

	Workforce	GDP	Exports
Magnitude	**495K** Total Employment (2021)	**$71B** GDP Contribution (2021)	**$10B** Foreign Exports (2021)
Share	**7%** Share of U.S. Cluster Total Emp. (2021)	**6%** Share of U.S. Cluster GDP (2021)	**8%** Share of U.S. Cluster Foreign Exports (2021)
Growth	**119%** Total Employment Growth (2011 – 21)	**87%** GDP Growth (2011 – 21)	**58%** Foreign Export Growth (2011 – 21)

Cluster Employment Concentration (2021)

Custom Computer Programming Services (2.3 LQ)

Computer System Design Services (1.8 LQ)

Less Concentrated (0.00 to 0.50)	(0.51 to 0.90)	National Average (0.91 to 1.10)	(1.11 to 1.50)	Highly Concentrated (1.51+)

Data Sources: IMPLAN, Regions Industry Data, Texas and United States, (2011-21); Guidehouse Analysis