

APPENDIX B: TARGET SECTOR PROFILES

About the Target Sector Profiles

Our global economic leadership is supported by the diversity of our industries and our ability to excel in multiple areas. To build on our standing as a global economic leader, it is critical that we continue cultivating the growth of our historic strengths while bolstering the development of emerging economic opportunities. A key element of “**Bigger. Better. Texas.**” is the selection of target sectors and clusters, which identifies industries that will best position the state to leverage our competitive advantages and catalyze economic growth. In-depth analyses of the target sectors and clusters are incorporated into the target sector profiles to provide information and insights for various stakeholders supporting our economic growth.

The target sector profiles can serve as a resource for our economic development leaders at the state and local levels. These leaders can leverage the analyses and key takeaways in the profiles to better understand the economic impact of the target sectors and the clusters nested within them. The profiles can also be used to promote the target sectors and clusters to businesses, decision-makers, and site selection consultants. Businesses can also leverage the profiles to understand the state’s target sector and cluster landscape and assets that may be beneficial to as they seek to establish and grow their business.

Composition of Target Sectors

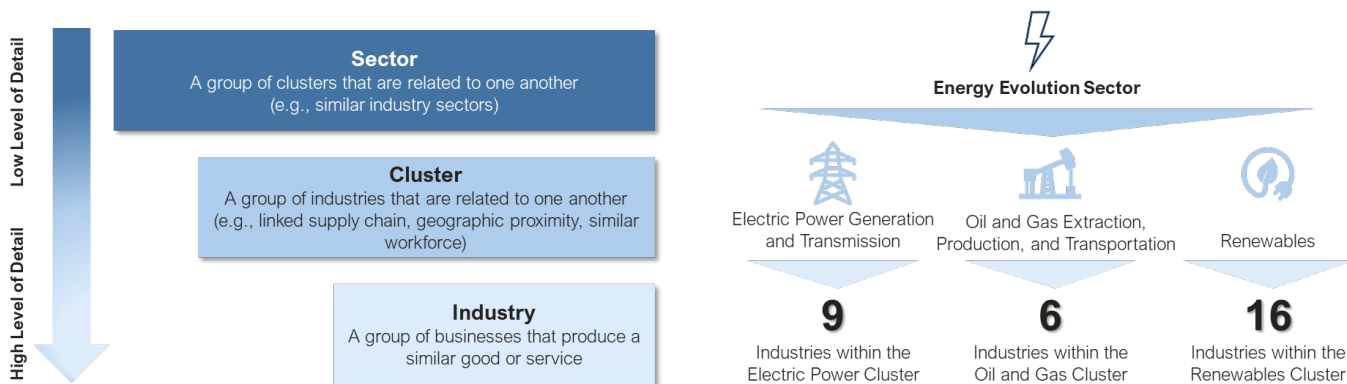
As detailed in Figure 22 below, each of these target sectors acts as a “nesting doll” with multiple layers of detail underlying it. The levels of detail included are as follows: sector, cluster, and industry.

At the top in dark blue are **sectors**, which are the least granular level of detail. For the purposes of this plan, a sector is a group of clusters that are intertwined with one another. Below sectors are **clusters**, which are groups of industries related to one another through connections like linked supply chains, geographic proximity, and a similar workforce. At the bottom in light blue are **industries**, which are the most granular building block. An industry is a group of businesses that produce a similar good or service. Simply put, an industry is a group of businesses, a cluster is a group of industries, and a sector is a group of clusters.

Figure 22 below visualizes the three key terms and how they nest together using the Energy Evolution sector as an example. Energy Evolution includes three target clusters: Electric Power Generation and Transmission; Oil and Gas Extraction, Production, and Transportation; and Renewables. Each of these target clusters includes several underlying industries, as shown on the bottom layer of the figure.

Our target sector profiles include data and takeaways at the sector and cluster level. The industries that underlie each target cluster are included in Appendix D.

Figure 22. Composition of Target Sectors with Example

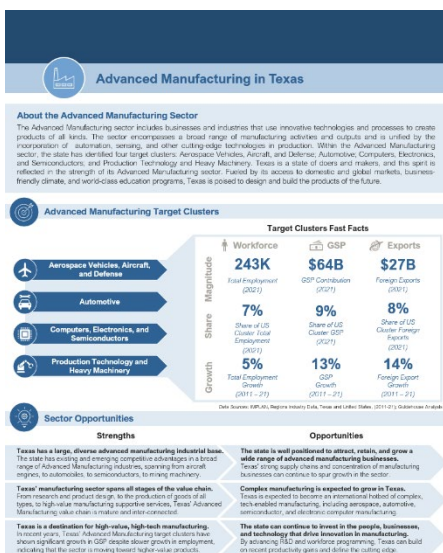


How to Read the Target Sector Profiles

The profiles consist of the following pages for each target sector, which are sampled in the figures below:

- **Target Sector Profile Cover Page:** The first page begins with an overview of the sector that establishes a common definition and summarizes fast facts for the target clusters, including statistics on the target clusters' total workforce, GDP contribution, and foreign exports.
- **Target Sector Profile Workforce Page:** The second page provides detailed data and insights regarding the target sector's workforce, including a distribution of total employment by occupational group, key occupations, and key competencies held by workers.
- **Target Cluster Profile Page(s):** The target sector profiles then contain one page dedicated to each of the target clusters that make up the sector. This cluster profile page includes a narrative introduction and summary of the cluster's strengths, key assets, growth projections, regional presence, and the cluster's history in Texas as well as fast facts about its workforce, GDP contribution, foreign exports, and geographical concentrations.

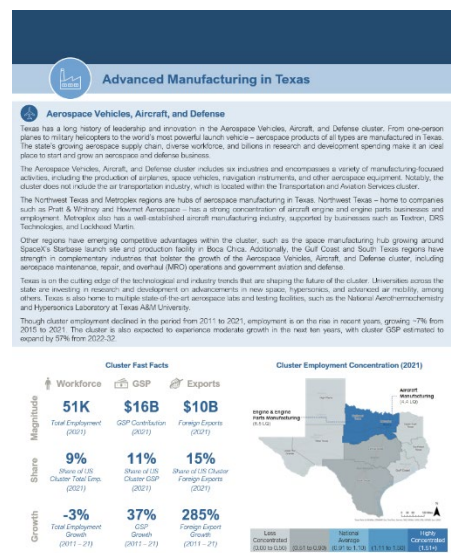
Sample Sector Profile Cover Page



Sample Sector Profile Workforce Page



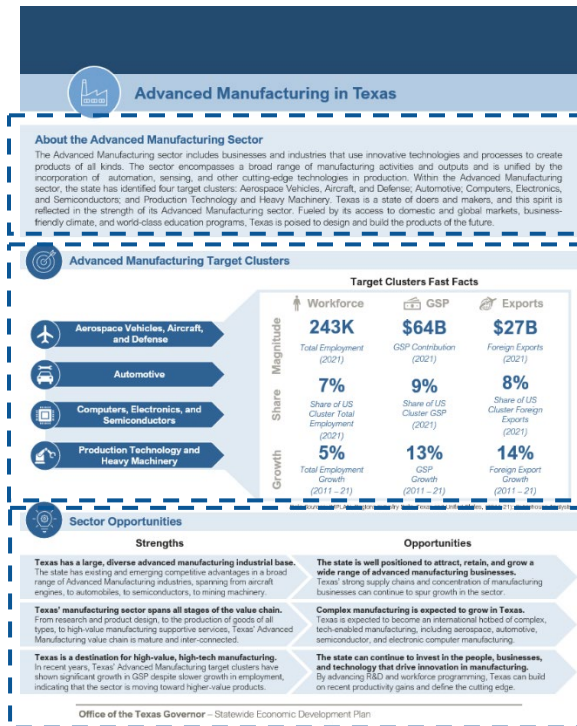
Sample Cluster Profile Page



Key Elements of Target Sector Profiles

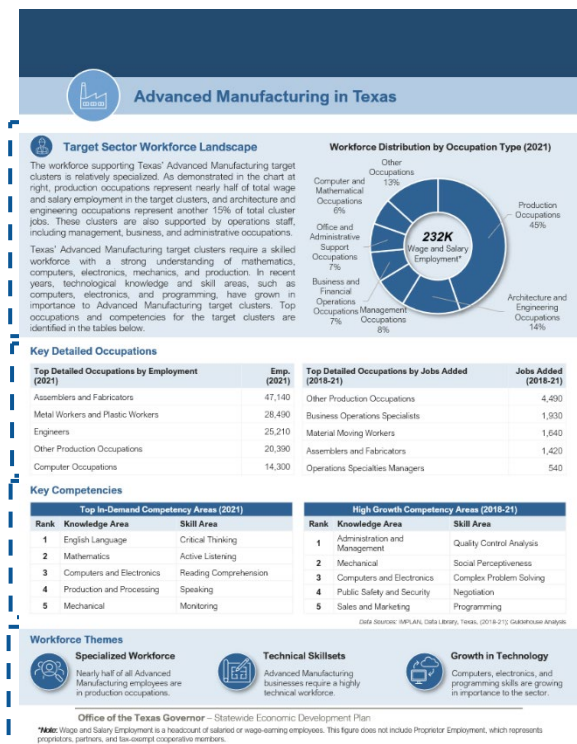
The target sector profiles contain the following key elements, which are highlighted and described next to the sample pages below:

Sample Sector Profile Cover Page



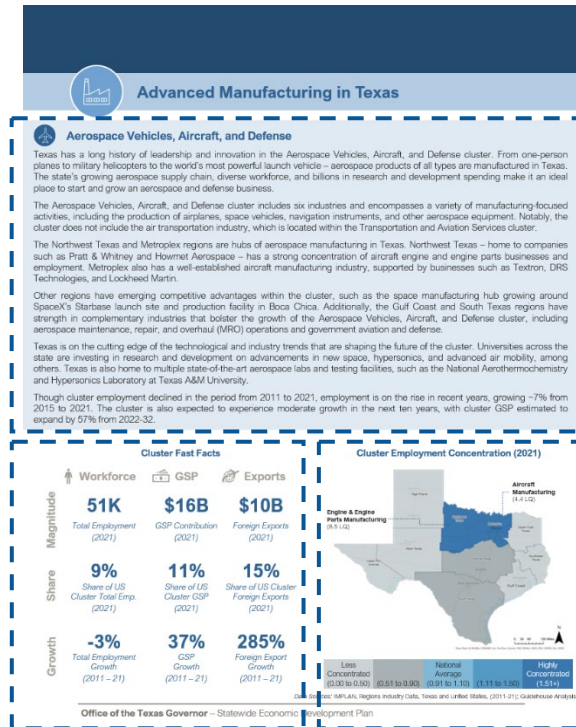
- **Target Sector Definition:** The first panel of the cover page provides a narrative definition of the target sector, including a list of the target clusters that nest within the target sector.
- **Target Clusters Fast Facts:** The second panel of the cover page summarizes fast facts for the pool of target clusters, including statistics about the magnitude, relative size, and growth of the target clusters' total workforce, GDP contribution, and foreign exports.
- **Target Sector Opportunities:** The last panel on the cover page provides key takeaways for the target sectors, including high-level strengths and opportunities.

Sample Sector Profile Workforce Page



- **Target Sector Workforce Landscape:** The first panel paints a landscape of the workforce supporting the target sectors, along with a narrative introduction of key takeaways and a distribution of total employment by occupational group.
- **Key Detailed Occupations:** The second panel summarizes key detailed occupations supporting the target sectors, first by total employment and then by jobs added in the target sector.
- **Key Competencies:** The third panel on the page summarizes key competencies held by the target sector's workforce. The first table shows top in-demand knowledge and skill areas; the second table shows high-growth knowledge and skill areas.
- **Target Sector Workforce Themes:** The last panel highlights key themes emerging from the analysis included on the workforce page.

Sample Cluster Profile Page



- **Target Cluster Fast Facts:** The bottom left of the cluster profile pages summarizes fast facts for the target cluster, including statistics about the magnitude, relative size, and growth of the target cluster's total workforce, GDP contribution, and foreign exports.

- **Cluster Definition and Description:** The first panel of the profile page includes a narrative introduction and summary of the cluster's strengths, key assets, growth projections, regional presence, and the cluster's history in the state, along with any other noteworthy attributes about the cluster in Texas.

- **Employment Concentration Map:** The map on each cluster profile shows the relative concentration of cluster employment in each of Texas' 10 regions. This map uses Employment LQ. Employment LQ indicates the concentration of employment of a given sector in Texas' regions compared to national averages. For example, if a region has an LQ of 2.5 in a given cluster, then employment concentration in that cluster is 2.5 times that of the US average. An employment LQ greater than 1.1 is considered relatively concentrated. In this map, the level of employment concentration is visualized with shades of blue, with the darkest shade of blue representing the highest level of concentration. These maps are meant to help the reader understand which regions have concentrated cluster activity, but they rely on high-level data and do not capture all industry activity.

Target Sector Profile Resources

The target sector profiles were compiled using a combination of data from IMPLAN and information from other sources. The fast facts data is taken directly from IMPLAN, while the narrative components were constructed using resources that can be found in the tables below. These resources were accessed on the web between February and April of 2024 and may have since been updated.

Sector or Cluster	Reference Source	Title	Reference Type
Aerospace Vehicles, Aircraft, and Defense	Texas Office of Economic Development and Tourism	<i>Texas Aerospace, Aviation & Defense Industry</i>	Report

Aerospace Vehicles, Aircraft, and Defense	Texas Economic Development Corporation	<i>Texas Aerospace, Aviation & Defense Industry</i>	Report
Automotive	Tesla	Gigafactory	Website
Automotive	Toyota	Toyota Motor Manufacturing, Texas (TMMTX)	Website
Automotive	Texas A&M University	<i>Unmanned Systems Lab</i>	Article
Automotive	Texas Office of Economic Development and Tourism	<i>Texas Automotive Industry</i>	Article
Automotive	Texas Office of Economic Development and Tourism	<i>Texas Manufacturing Industry Snapshot</i>	Article
Computers, Electronics, and Semiconductors	University of Texas Austin	<i>A Texas Semiconductor Boom on the Horizon</i>	Article
Computers, Electronics, and Semiconductors	AXIOS Dallas	<i>North Texas' "Silicon Prairie" Gets Billions in New Investment</i>	Article
Computers, Electronics, and Semiconductors	The Texas Tribune	<i>With \$1.4 Billion Investment, Texas Hopes to Sprint to the Front of the Microchip Manufacturing Race</i>	Article
Computers, Electronics, and Semiconductors	CNBC	<i>How Samsung and Texas Instruments Made the Lone Star State the Hub of US Chip Manufacturing</i>	Article
Computers, Electronics, and Semiconductors	Texas Office of Economic Development and Tourism	<i>Texas Semiconductor Industry Snapshot</i>	Article
Computers, Electronics, and Semiconductors	Texas Economic Development Corporation	<i>Advanced Manufacturing in Texas</i>	Article
Production Technology and Heavy Machinery	Texas Economic Development Corporation	Advanced Manufacturing in Texas	Website
Production Technology and Heavy Machinery	Texas Comptroller	<i>Machinery Manufacturing</i>	Report
Production Technology and Heavy Machinery	Texas Office of Economic Development and Tourism	<i>Texas Manufacturing Industry Snapshot</i>	Article
Electric Power Generation and Transmission	University of Texas at Austin	Smartgrid/Microgrid	Website
Electric Power Generation and Transmission	Houston Chronicle	<i>Why Does Texas Have its Own Power Grid? ERCOT Independence and Possible New Connections Explained</i>	Article
Electric Power Generation and Transmission	Texas Comptroller	<i>Texas Energy Tour: ERCOT</i>	Report
Electric Power Generation and Transmission	ERCOT	About ERCOT	Website

Oil and Gas Extraction, Production, and Transportation	Half	<i>10 Interesting Facts About Texas Oil and Gas</i>	Article
Oil and Gas Extraction, Production, and Transportation	Keystone Energy Tools	<i>Top 10 Trends Shaping the Oil and Gas Industry</i>	Article
Oil and Gas Extraction, Production, and Transportation	US Energy Information Administration	<i>Texas State Energy Profile</i>	Report
Oil and Gas Extraction, Production, and Transportation	Texas Railroad Commission	Texas Oil & Gas Producers by Rank	Website
Oil and Gas Extraction, Production, and Transportation	Texas Office of Economic Development and Tourism	<i>Texas Energy Industry Snapshot</i>	Article
Renewables	The University of Texas at Austin	Geothermal Energy	Website
Renewables	CNET	<i>Texas' Unique Energy Industry Is Helping the State Become a Renewables Leader</i>	Article
Renewables	E.ON	<i>E.ON Invests in 440 Megawatt Wind Farm in Texas</i>	Article
Renewables	Texas Comptroller	<i>Biomass Overview</i>	Report
Renewables	Texas Comptroller	<i>Hydroelectric Power Overview</i>	Report
Food Processing	CRB Group	<i>6 Innovative Food Processing Technologies</i>	Article
Food Processing	Dairy Processing	<i>GEA Opens New Food Processing Tech Center</i>	Article
Food Processing	Austin Technology Incubator	Food & Agtech	Website
Food Processing	Texas Office of Economic Development and Tourism	<i>Texas Manufacturing Industry</i>	Article
Livestock Processing	WAFB9	<i>New Innovative Cattle Feed Being Donated to North Texas</i>	Article
Livestock Processing	Inven	<i>Top 22 Meat Processing Companies in Texas</i>	Article
Livestock Processing	Animal AgTech	<i>16 Animal AgTech Innovators Transforming the Livestock Industry</i>	Article
Livestock Processing	Texas Department of Agriculture	Marketing and International Trade	Website
Film, Music, and Culture	Native Instruments	<i>9 Music Trends to See in 2024</i>	Article
Film, Music, and Culture	Austin Monthly	<i>This \$267 Million Movie and TV Studio Is Revitalizing the Texas Film Industry</i>	Article
Film, Music, and Culture	Texas Monthly	<i>The Future of Texas Film is \$200 Million Brighter</i>	Article

Film, Music, and Culture	Texas Music Office	About the TMO	Website
Film, Music, and Culture	Texas Film Commission	Production Incentives Overview	Website
Hospitality and Tourism	Texas Monthly	<i>The Future of Texas Film is \$200 Million Brighter</i>	Article
Hospitality and Tourism	Texas Comptroller	<i>Leisure and Hospitality Overview</i>	Report
Hospitality and Tourism	Texas Office of Economic Development and Tourism	Event Trust Funds Program	Website
Information Technology and Artificial Intelligence	University of Texas at Austin	<i>New Texas Center Will Create Generative AI Computing Cluster Among Largest of Its Kind</i>	Report
Information Technology and Artificial Intelligence	Texas Department of Information Resources	Emerging Technologies: Artificial Intelligence Center of Excellence	Website
Information Technology and Artificial Intelligence	Texas Economic Development Corporation	Information and Computer Technology in Texas	Website
Agricultural Science & Technology	KXAN	<i>'World's Largest Lettuce Greenhouse' Opens in Temple, Texas</i>	Article
Agricultural Science & Technology	Texas Farm Bureau	<i>John Deere Opens New Innovation Hub in Austin</i>	Article
Agricultural Science & Technology	Austin Technology Incubator	Food & Agtech	Website
Biotechnology, Pharmaceuticals, and Medical Devices	RSM	<i>Life Sciences Industry Outlook</i>	Article
Biotechnology, Pharmaceuticals, and Medical Devices	Texas Office of Economic Development and Tourism	<i>Biotechnology & Life Sciences</i>	Article
Biotechnology, Pharmaceuticals, and Medical Devices	Texas Office of Economic Development and Tourism	<i>Life Sciences in Texas</i>	Article
Biotechnology, Pharmaceuticals, and Medical Devices	Texas Office of Economic Development and Tourism	<i>Biotechnology & Life Sciences Industry Snapshot</i>	Article
Industrial Chemical Products	Noah Chemicals	<i>The Future of Chemical Manufacturing: Advancements in Technology and Innovation</i>	Article
Industrial Chemical Products	Chemtex	<i>Oilfield Chemicals Exploration & Production</i>	Article
Industrial Chemical Products	Chemical Engineering News	<i>New Avenues for Amplifying Chemistry Innovation in Texas</i>	Article
Industrial Chemical Products	Texas Comptroller	<i>Chemical Manufacturing Supply Chain</i>	Report
Petroleum Refining	U.S. Energy Information Administration	<i>Oil and Petroleum Products Explained</i>	Article

Petroleum Refining	Texas Office of Economic Development and Tourism	<i>Petroleum Refining & Chemical Products</i>	Article
Plastics	City of Houston	<i>Houston Recycling Collaboration</i>	Article
Plastics	ExxonMobil	<i>ExxonMobil Starts Operations at Large-Scale Advanced Recycling Facility</i>	Article
Plastics	TPC INC	<i>What is Urethane and How Is It Used Around the World Today?</i>	Article
Business Services & Corporate Headquarters	Austin American-Stateman	<i>Texas Leads Nation with 55 Companies on Annual Fortune 500 List</i>	Article
Business Services & Corporate Headquarters	Texas Office of Economic Development and Tourism	<i>Fortune 500 Companies in Texas</i>	Article
Business Services & Corporate Headquarters	Office of the Texas Governor	<i>Texas Leads the Nation As Home To The Most Fortune 500 Companies</i>	Article
Business Services & Corporate Headquarters	Dallas Chamber	<i>Major Companies and Headquarters</i>	Article
Financial Services	PR Newswire	<i>Comerica Bank Unveils Plans for Business & Innovation Hub in Frisco, Texas</i>	Article
Financial Services	The University of Texas at San Antonio	<i>UTSA establishes new hub to improve management of digital assets</i>	Article
Financial Services	Texas Office of Economic Development and Tourism	<i>Texas Financial Services Industry</i>	Article
Financial Services	Texas Office of Economic Development and Tourism	<i>Texas & Mexico Trade & FDI</i>	Article
Metal Mining	Center for Strategic and International Studies	<i>Elevating the Role of Critical Minerals for Development and Security</i>	Article
Metal Mining	Texas Comptroller	<i>Rare Earth Elements Supply Chain</i>	Article
Metal Mining	Texas State Historical Association	<i>Mineral Resources and Mining</i>	Article
Metal Mining	Texas Almanac	<i>Nonpetroleum Minerals</i>	Article
Metal Mining	Bureau of Economic Geology	<i>Metallic Ore Resources</i>	Article
Metal Mining	University of Texas at Austin	<i>New Mining Technology Uses CO2 as Tool to Access Critical Minerals</i>	Article
Nonmetal Mining	Texas State Historical Association	<i>Mineral Resources and Mining</i>	Article
Nonmetal Mining	Houston Chronicle	<i>West Texas Fracking Causes Such Demand for Sand that Mining Industry Has Gone Mobile to Produce it</i>	Article
Transportation & Logistics	Texas Office of Economic Development and Tourism	<i>Texas Trade and FDI</i>	Report

Distribution and E-Commerce	Texas A&M University	Global Supply Chain Laboratory	Website
Distribution and E-Commerce	Borderplex Alliance	<i>2025 Ascend Plan</i>	Strategy
Distribution and E-Commerce	ITS Distribution	<i>ITS Logistics Expands into Dallas-Fort Worth, Now Features 3 Million Square Feet of Total US Distribution Space</i>	Article
Distribution and E-Commerce	Port Houston	<i>E-Commerce Triggering Need For Distribution Centers Near Port Houston</i>	Article
Distribution and E-Commerce	Warehouse Automation	<i>Walmart to Scale Automated Facilities</i>	Article
Transportation and Aviation Services	Authentic Texas	<i>Aviation in Texas</i>	Article
Transportation and Aviation Services	Texas Department of Transportation	<i>The State of Highways in Texas</i>	Report
Transportation and Aviation Services	Texas Comptroller	<i>Texas' Ports of Entry: Economic Impact 2018</i>	Report