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Advanced Manufacturing Cluster Report

TexAmericas Center – Texarkana MSA – Texas

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3 TexAmericas Center's Targeted Industries

3.1 Advanced Manufacturing Cluster of Companies

The Texarkana area is an excellent location for an Advanced Manufacturing business to operate due to several key factors:

- **Strategic Geographical Position:** Situated on the borders of Arkansas, Louisiana, Oklahoma and Texas, Texarkana offers proximity to major markets in these states as well as access to the broader Midwest and South-Central region of the United States. This strategic location, in a central time zone, facilitates efficient distribution of products to customers and suppliers throughout the United States, North America and Globally.
- **Transportation HUB Infrastructure:** Texarkana boasts a robust transportation network, including access to major highways such as Interstate 30, Interstate 49 and U.S. Route 59 (future Interstates 369 & 69), facilitating the movement of goods and materials. Additionally, the Texarkana Regional Airport provides air cargo services, while both the Union Pacific Railroad and Kansas City Southern serve the area, offering convenient rail freight transportation options. Transload services are available at TexAmericas Center.
- **Skilled Workforce:** Texarkana benefits from an available, skilled, and trainable workforce, with expertise in manufacturing, engineering, and technical fields in a Right-To-Work state. Local educational institutions, such as Texarkana College, Texas A&M University-Texarkana and University of Arkansas-Texarkana, offer specialized training programs tailored to the needs of the manufacturing industry, ensuring a steady supply of qualified workers.
- **Business-Friendly Environment:** Texas maintains a global reputation of having a business-friendly climate, with low taxes, incentives, tax breaks, and regulatory frameworks designed to support manufacturing enterprises. The Texarkana region is also recognized for its favorable business friendly eco-system including low taxes. TexAmericas Center's focus on low-cost delivery of Speed-To-Occupancy and its unique offering of business services enhances the state of Texas efforts by encouraging business growth, innovation, and investment in the region for the long-term.
- **Cost Competitiveness:** Texarkana offers competitive operating costs compared to larger metropolitan areas, including lower real estate prices, logistics, utilities, and labor costs. This cost advantage can contribute to improved profitability for manufacturing businesses.
- **Access to Resources:** The Texarkana area benefits from access to a wide range of resources, including raw materials, suppliers, research institutions, and support services. This facilitates efficient production processes and enables businesses to stay competitive in their respective markets.

- **Quality of Life:** Texarkana offers a high quality of life for residents, with affordable housing, recreational amenities, cultural attractions, and a strong sense of community. This can help attract and retain skilled workers, enhancing the long-term viability of manufacturing operations in the area.

Overall, the Texarkana area provides a conducive environment for Advanced Manufacturing businesses, offering a strategic location, robust infrastructure, skilled workforce, supportive business environment, cost competitiveness, access to resources, and quality of life advantages.

These factors make Texarkana an attractive destination for companies looking to establish or expand their manufacturing operations.

- A leader in advanced technologies, Texas is a popular destination for the world's most innovative manufacturing companies. In fact, the Lone Star State has been the top high-tech, manufacturing exporting state for over 10 consecutive years, solidifying ***"Made in Texas"*** as a powerful global brand.
- Over the last decade, Texas and the Texarkana region have targeted diversified development in advanced manufacturing and related sectors. Texas is home to multiple segments of that industry—everything from computer and electronic goods to motor vehicle and parts manufacturing to food and beverage production.
- Increasingly known as the manufacturing capital of the nation, Texas is no stranger to attracting large, high-tech manufacturing operations. Texarkana and TexAmericas Center have an abundance of available resources and affordable real estate that serves as a major draw for companies looking to relocate or expand. The region's robust network of transportation infrastructure allows companies direct access to domestic and international markets and the ability to easily ship products around the globe. Texas is a manufacturing mecca where today's products are made, and tomorrow's technologies are brought to life.
- Texarkana has a long history in metals. Our Metals & Machinery Cluster includes competitive industries in Upstream—or primary—Metals, as well as downstream industries like Advanced Manufacturing, Machinery Manufacturing, and areas of specialization like the Defense Industry.
- The Advanced Manufacturing industry in the Texarkana region is incredibly diverse and includes fabricated metal production like stamping, forging, hardware, machine shops, and metal plating. The region is well known for its precision manufacturing processes for a variety of industries, including automotive, aerospace, construction, defense, energy, medical device, railroad and mining, Oil & Gas.
- The Texarkana region's highly specialized manufacturing firms have experienced significant growth over the past decade, with industrial space expanding by more than 85% over the past decade. (Source: ChatGPT and Manufacturing.net)

- The Texarkana region is well known for its Architectural, Structural and Roofing Metal, Fabricated Pipe, Munitions and Ammunition Manufacturing, Aircraft Components, Defense Electronics, Military Equipment, Automotive Parts, Truck Components, Railcar Assemblies, Production Of Lightweight Materials, Carbon Fiber Composites, Specialty Polymers For Aerospace, Automotive, And Industrial Applications, Oilfield Equipment, Drilling Tools, Petrochemical Processing Equipment, Pumps, Compressors, Conveyors, Machine Tools, Plastic Components, Packaging Materials, and Specialty Polymers among other items.

3.1.1 Small Arms & Ammunition Manufacturing Sector

Specifically, for the small arms and ammunition niche sector the Texarkana region can offer a high concentration of key occupations, especially Mechanical Skills, Design, Metal Working, Assembly, Hand-Fitting, Quality Control, Inspection, Safety and Compliance. The region's workforce also excels in problem-solving, communication and Teamwork. Certain activities can be accessed as flex work including Welding, Cutting, Punching, and Press Machine Setters/Operators, and assembly. The concentration of employers and vendors as of 12/2023:

- Existing gun manufacturers and/or large suppliers
  - Two companies within 75-miles
  - 18 within 150-miles
- List of potential vendors that offer any of the following services:
  - Machine, Precision CNC machining, Small machine parts shops
    - 28 companies within 75-miles
    - 160 within 150-miles
- Powder coating. hydrostatic dipping, heat treating, Anodizing and plating services
  - Seven companies within 75-miles
  - 60 within 150-miles
- Machine tool repair
  - 20 companies within 75-miles
  - 100 within 150-miles
- Metal fabrication
  - Five companies within 75-miles
  - 66 within 150-miles
- Plastic injection molding
  - 16 companies within 75-miles
  - 90 within 150-miles
- An Industry Sanp shot of our 75-mile market showed these key findings:
  - We have a LQ of 0.91 small arms manufacturing industry composition – very close to the national average

- Our average wage per worker is $43,411 compared to a national average of $82,282
- The average annual % change in employment in our market over the last 10 Years has been 51.9% increase, as compared to 3.0% in the US
- LOCAL SUPPLY CHAIN - As of 2023Q2, the Small Arms, Ordnance, and Ordnance Accessories Manufactures in TexAmericas 75 Mile - Main Region were estimated to make about $9.1 million in annual purchases from suppliers in the United States with about 18% or $1.6 million of these purchases being made from businesses located in the TexAmericas 75 Mile - Main Region.

- There are many schools with the programs this client would be seeking:
  - High Schools
    - Nearly all High Schools in the Texarkana region have dual credit courses with Texarkana College (see original RFP and supplemental information on this subject)
    - So, many vocational classes taken in High School are actually taken in coordination with Texarkana College
    - Several area High Schools also have their own vocational programs e.g. Liberty Eylau has a welding program at the High School
    - Unfortunately, our service does not track high school programs. We can arrange for a conference call with program manager or superintendents to discuss if more information is needed.
  - Colleges with CNC and manufacturing programs
    - 20 Community College within 75-miles
    - 49 Community Colleges within 150-miles
  - Universities with engineering and business, logistics, accounting, and other management programs
    - 7 Universities within 75-miles
    - 12 Universities within 150-miles

3.1.2 Medical Equipment & Supplies Manufacturing Sector

The Texarkana region is also known for its Medical Equipment & Supplies Manufacturing, specifically Surgical Instrument Manufacturing. It also has a moderate concentration of Medical and Diagnostic Laboratories as well as specialized Hospitals and clinics.

The region offers a vendor base and workforce that has regulatory compliance knowledge; proficiency in implementing and maintaining quality management systems; knowledge of manufacturing processes specific to medical devices, such as injection molding, CNC machining, laser cutting, and assembly techniques; understanding of materials used in medical devices, their properties, and compatibility with biological

systems; ability to collaborate with product design teams to optimize medical device designs for manufacturability, scalability, cost-effectiveness, and compliance with regulatory requirements; proficiency in quality control techniques, such as statistical process control, inspection methods, and testing protocols; skills in risk assessment, analysis, and mitigation; ability to maintain accurate and comprehensive documentation throughout the manufacturing process; experience in working within cleanroom environments and adhering to cleanroom protocols; effective communication and collaboration skills; and, a commitment to continuous improvement and a mindset of operational excellence.

3.1.3 Fabricated Metal Product Manufacturing Sector

The Fabricated Metal Product Manufacturing sector employees about 1,741 individuals and employment grew by about 3% between 2104 and 2019. There are 51 companies operating in this sector with an LQ of about 1.8 this means there are about 80% more people employed in this sector than the US average. Fabricated metal will continue to grow its base in the region as Texarkana College launched a new industry specific training center called the Ledwell Advanced Manufacturing Training Center to address needs within the region a major focus is new CNC, PLC and related hands-on training programs. Graduation class sizes each year range from about 60 to 100 individuals graduating into the market with training in Precision Production. The region offers a vendor base and workforce that has metalworking skills, welding and joining expertise, measurement and inspection proficiency, and broad machining capabilities. They also have the ability to read and interpret engineering drawings, blueprints, and technical specifications; understanding of industry safety protocols and procedures; strong problem-solving abilities; depth of understanding of different types of metals, alloys, and their properties; good familiarity with quality control techniques; ability to work effectively as part of a team; and, willingness to adapt to new technologies, processes, and industry trends, as well as a commitment to continuous learning and skill development.

- The Red River Army Depot's vulcanization program could attract companies to the area that need this specific expertise, either outsourced to the Depot or hiring talent in the marketplace. Fabricated items like pipes, pumps, valves or even metal tanks could link this capability to the existing metal & machinery expertise in the area and add rubber linings to products like tanks and vessels, pipes and piping systems, chutes and hoppers, troughs, pumps and pump components, mixing and agitation equipment, conveyor systems, screens and sieves, vibration and noise damping equipment, heat exchangers and condensers. Rubber linings are used in a wide range of products and equipment across various industries to provide protection, durability, and performance in demanding operating conditions. This includes applications in agriculture, chemicals, oil / gas, mining, transloading and bulk material handling waste management, recycling, food processing, machinery manufacturing, electrical equipment, and other sectors.

- Companies in the Texarkana region have experience working with: Aluminum, Brass, Carbon Steel, Copper, Stainless Steel, Carbon Hot Rolled and Cold Finished Steel, Wear Plate, Sheet Metal, Pipe and Tubular Products, Exotic Metals and other non-Ferrous, specialty Metals and Alloys.
- Further the presence of Forge Resources Group which can handle Carbon and Alloy Steels (0.5-350 lbs.), Aluminum/Non-Ferrous Forgings (0.5-50 lbs./0.5-125 lbs.) and Stainless Steels and ISO 9001 and AS 9001 certified and ITAR compliant means that there is premier forging solution provider here in our market. Also, Henderson Manufacturing Company, has become a quality supplier of carbon and stainless-steel castings up to 3,500 lbs. and is ISO 9001:2015 certified.
- Texarkana's Advanced Manufacturing industry includes various cutting-edge companies dedicated to expanding the advanced materials, manufacturing, technology development, and design sectors. The sector offers a full line industrial machine services including: Large and Small CNC Cutting Mills & Lathes, Horizontal & Vertical Boring Mills, High Definition Plasma Cutting, Laser Cutting, Water Jet Cutting, Oxy Fuel Cutting, Large & small Key-Seater, Hydraulic Shear, Drill Presses, Large Surface & OD Grinding, CNC, Mechanical & Hydraulic Press Break, Plasma Cutting, Milling, Machining, Punching, Chambering, Leveling, Shearing, Castings, Heat Treat, Quenching, Slitting, Beveling, Blanking, Tumbling, Castings, Forgings, Rolling Stainless Steel and Aluminum coil to sheet and cut to length plate and more. As well as complimentary related services of: Designing, Erection, Fabrication, Installation, tool and die manufacturing, jig and fixture manufacturing, Sandblasting, Heat Treating, Welding (stick, TIG, MIG and ARC), Bending, Powder Coating, Painting, Rubber, Bituminous & Hot Melt Asphaltic Lining, zinc phosphate immersion, refractory linings and equipment, Pattern Shop; Gray Iron; Ductile Iron, and more.
    - Industry leaders in the Greater Texarkana region include: JCM Industries, Priefert Manufacturing, Metallum, Amerinox Texarkana, Smith-Blair / Xylem, Precision Roll Grinders Inc, Texas Machine Shop, Red River Instruments, M&M Milling, Texarkana Machine Inc., FCM Products, Inc., Baker Valve & Machine Shop, B&Z Manufacturing, Elliot Manufacturing, Ferguson Industrial, A&D Flexographic, Inc., Rever Control Systems, Industrial Mill and Maintenance Supply Inc., WW Metals Products, Texarkana Door & Window, Kelly Instrument Machine Inc., Parks Metal Fabricators, Metal Max, Commercial Manufacturing Company, Inc., Forge Resources Group, Mayhan Fabricators, Incorporated, CB&I EL Dorado, Inc., Henderson Manufacturing Co., Inc., Jackson Manufacturing Operations, LLC, Frymaster, LLC., R & V

Works, L.L.C., Liberty Manufacturing, StanCo Safety Products, and others.

- Connected by skilled workers, traditional and advanced materials, as well as innovation, companies in Texarkana's Metals & Machinery cluster are growing in the greater Texarkana region because of our lower cost, logistics strengths, and workforce competitiveness. With about 400,000 individuals currently employed (in the Texarkana MSA), $33.8 billion in exports, and 45% growth over the past ten years, Metals & Machinery is a major part of our local economy and growing in importance to our future. The metals & manufacturing sector represents at least 10% of jobs in the Texarkana region.
- With a labor participation rate of 18.6% Manufacturing is one of the Texarkana region's largest sectors, offering a range of competitive advantages for the advanced metals and material manufacturing sector. Manufactured goods were the Texarkana region's largest exports in 2023, with non-primary metal manufacturing exports of approximately $127 million and chemical manufacturing of approximately $65 million.

- The Texarkana Region boasts high LQ throughout the metal manufacturing and support sectors including but not limited to:
  - All Other Misc. Fabricated Metal Product Manufacturing (16.1),
  - Fabricated Pipe and Pipe Fitting Manufacturing (13.8),
  - Fabricated Structural Metal Manufacturing (7.0),
  - Metal Service Centers and Other Metal Merchant Wholesalers (3.8),
  - Plate Work Manufacturing (3.4),
  - Metal Coating, Engraving, and Allied Services to Manufacturers (3.1),
- The Texarkana region boasts a strong list of potential vendors that offer any of the following services:
  - Machine, Precision CNC machining, Small machine parts shops
    - 28 companies within 75-miles
    - 160 within 150-miles
  - Powder coating. hydrostatic dipping, heat treating, Anodizing and plating services
    - Seven companies within 75-miles
    - 60 within 150-miles
  - Machine tool repair

        - 20 companies within 75-miles
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- There are a large number of schools within the Texarkana region with the programs that this industry needs, and a client would be seeking:
    - High Schools
        - Nearly all High Schools in the Texarkana region have dual credit courses with Texarkana College (see original RFP and supplemental information on this subject)
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        - Several area High Schools also have their own vocational programs e.g. Liberty Eylau has a welding program at the High School
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    - Universities with engineering and business, logistics, accounting, and other management programs
        - 7 Universities within 75-miles
        - 12 Universities within 150-miles
- Our Metals & Machinery Cluster benefits from the deep transportation network in the Texarkana area, as well as the available skilled workforce and the affordable industrial power rates. This cluster supports the needs of the construction, transportation, defense, advanced metals/materials, precision, intelligent, electronics, critical minerals, and resource-based metal production industries in the area, as well as production technology that serves many other industries.
- The future of Texarkana's Advanced Manufacturing Businesses centers on:

- the use of technology to improve products and/or processes, having Texas A&M University-Texarkana, University of Arkansas-Texarkana and Texarkana College ensures access to innovation, technology and R&D partnerships.
- local employers having the industry specific qualifications your client or company will need. As well continuous improvement is part of the culture of our manufacturing businesses improving the performance of part or production method through the innovative application of technologies, processes, and methods is baked in.
- industries such as defense, electric vehicles, automotive, medical device, pharmaceutical, consumer products, rail, heavy equipment, farming, mining & extraction, alternative/renewable energy, aerospace, robotics, and those that require/use line engineering, electronics & high-tech, high-volume goods, rapid prototyping, 3D printing, high customization goods, are all excellent fits for the Texarkana market.

- Texarkana area advanced manufacturing encompasses the use of innovative technologies to create new products, refine existing products, and perform production activities that will improve the quality and process of manufacturing to give all area manufacturers a competitive edge.
- To ensure we remain relevant globally, TexAmericas Center and our Regional Economic Development Team are seeking advanced manufacturing companies that will incorporate various techniques into our market such as additive manufacturing, advanced materials, artificial intelligence, augmented reality, automation, big data processing, composite materials, computer modelling, cyber-manufacturing systems, internet of things, laser printing/machining/welding, machine learning, nanomanufacturing, network/IT integration, and robotics.

3.1.4 10 Examples of Advanced Manufacturing Technologies TexAmericas Center and the Texarkana Region want to Attract

Precision engineering, total quality management, and machining experts are leading the way in the field of advanced manufacturing. They specialize in wringing out expenses, customer collaboration, enabling rapid turnaround from concept-to-finished parts, and helping enterprises of all sizes scale up production, efficiency, and output to advance their business.

Advanced manufacturing can easily accommodate customization. This makes it far more suitable for short runs of highly customized production. This dynamic ability is made possible through various technologies, including the use of advanced materials, 3D printing, laser printing, computer modelling,

laser machining, robotics, online capability, nanotechnology and more. It also requires a more highly skilled labor force and an ever-changing landscape required by the dynamics of the industry… to a degree not seen since the inception of the Industrial Revolution. This new era of manufacturing is efficient, cost-effective, dynamic, intelligent, and flexible.

The following are some of the advanced technologies used to develop new markets, new technologies and new methods of manufacturing products. The Texarkana Region wants to be as relevant in tomorrow's manufacturing world as it has been historically; therefore, we are interested in bringing these technologies and projects to our market.

- **Big Data Processing**: Big data processing refers to the analysis of large data sets that are obtained through various business intelligence systems. Big data processing is an advanced manufacturing technology that helps businesses better understand what their customer demand is, track product quality, monitor workflows, and much more.
- **Artificial Intelligence (AI) & Machine Learning:** Artificial intelligence and machine learning are used by manufacturers to automate aspects of quality control, maintenance logistics and inventory control. For example, AI and machine learning can be used to predict when machine failures and breakdowns are expected to occur so that effective maintenance can be performed.
- **Augmented Reality (AR):** Augmented reality has multiple applications in the field of manufacturing such as employee training, product design and quality control and testing. For example, augmented reality helps manufacturers visualize what a product would look like in the real world, helping them correct any issues before creating a prototype.
- **Internet of Things (IoT):** The term Internet of Things refers to the devices, sensors, software, and networks that are used to transfer data throughout a smart manufacturing process. For example, aerospace manufacturers use such devices to test the durability of the components of an aircraft.
- **Additive Manufacturing:** This type of advanced manufacturing includes 3-D printing, powder-bed laser printing systems, fused deposition modeling and other processes that involve complex assemblies from continuous material. Benefits include reducing failure points in the system and reducing weight, complexity, and thermal dissipation problems. This is used in aerospace, medical, prototyping, automotive, consumer goods and other sectors.
- **Advanced/Composite Materials:** Here you create precise blends of metals, plastics, glass, ceramics, etc., for specific applications. They vary in

terms of physical and chemical properties, creating performance breakthroughs and reducing material tradeoff decisions. Some of these composite materials include high-strength alloys, recyclable plastics and more.

- **Robotics/Automation:** Uses automated systems for heavy lifting, precision movement and joining pieces on the factory line. It improves the consistency of the work and is ideal for tasks that are dangerous in that it limits human risk, overhead and waste while producing faster and cheaper. Robotics can be found in the automotive, aerospace, forging and consumer goods markets, and will likely grow with the advance of technology to include further industries.
- **Laser Machining/Welding:** Laser machining and welding allow for greater precision and safety when welding and machining, including rapid and accurate processing of parts using laser technology. It reduces the amount of heat on the material and reduces cracking and poor joining. These processes are used in pressure vessels, proximity sensor welding, battery welding, sensitive electronics and more.
- **Nanotechnology:** Being able to pack more into less space is one driver for nanotechnology. It's used in chemical and biological applications to enhance material properties, control light spectroscopy and chemical reactivity. Using nanotechnology allows for advanced manufacturing systems to reduce their overall footprint and maximize functionality across the production line.
- **Network/IT Integration:** The internet connects people and information. By using network communications on the factory floor, manufacturers can create closed-loop feedback and precision tuning electronically instead of manually. This reduces maintenance costs and improves the overall efficiency of production. The ability to have network access throughout the process allows manufacturers to instantly pinpoint issues and potential repairs to save time and time.

Whether you are looking to expand your business, your current lease is expiring, you are planning a move to Texas, or you have considered leaving the mid-south region, talk to us first!

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