



Aerospace and Defense

Supplier Development



Table of Contents

EXECUTIVE SUMMARY	3
EL PASO'S ADVANCED MANUFACTURING OPPORTUNITY	4
OUR TEAM	6
OUR PLAN	7
Our Approach	7
Our Progress	8
Our Future Actions	9
HOW WE MEASURE SUCCESS	9
FINAL THOUGHTS	10



EXECUTIVE SUMMARY

The El Paso Chamber is focused on how we rebuild and reimagine our economy. COVID-19 created an unprecedented economic crisis. Our community and businesses are in the process of rebuilding and reimagining what is next. One clear opportunity is merging the business acumen of the El Paso Chamber, with the research capabilities of the University of Texas at El Paso to grow manufacturing, especially in the areas of additive, aerospace and defense manufacturing. Putting EPC, the W.M. Keck Center for 3D Innovation, and the Aerospace Center at UTEP, the City of El Paso, and Workforce Solutions Borderplex, has created powerful synergies for our region and beyond. This partnership operates under the banner of El Paso Makes.

Our benchmarking efforts show that any successful community business development efforts are simply more successful when there is alignment between business and a local higher education. The Aerospace Center is a NASA funded center of excellence in aerospace, defense, and planetary exploration technologies with a testing and research facility developed in partnership with the City of El Paso. Their research is aligned with national defense and aerospace priorities. It provides strategic capabilities in propulsion and robotic lander, lunar surface exploration, and small spacecraft technologies to support America's space exploration goals. The Aerospace Center supports the research and development of unmanned aerial systems, missile systems, and hypersonic technologies. It also provides sub-pilot capabilities for clean and renewable energy technology development, prototype to commercial product demonstration, and test and evaluation. The Keck Center is leading the nation in multidisciplinary research and innovation on the use and development of additive manufacturing (AM) technologies. AM is transforming manufacturing as we know it and is a critical technology in America's effort to strengthen its global manufacturing competitiveness.

Fort Bliss is recognized for its significance to our national defense as a power projection platform and critical command units including the Joint Modernization Command, the 32nd Army Air and Missile Defense Command, and the White Sands Missile Range. These are an important foundation for economic growth in aerospace and defense in our region.

Finally, EPC assists businesses with training, certifications; insight; public policy; the ability to convene our community; back-office support; regional strategy alignment; and communications.

Taken together and properly coordinated and executed, the region's unique prospects for business growth and job creation in the areas of aerospace and defense supplier development are especially strong.



EL PASO'S ADVANCED MANUFACTURING OPPORTUNITY

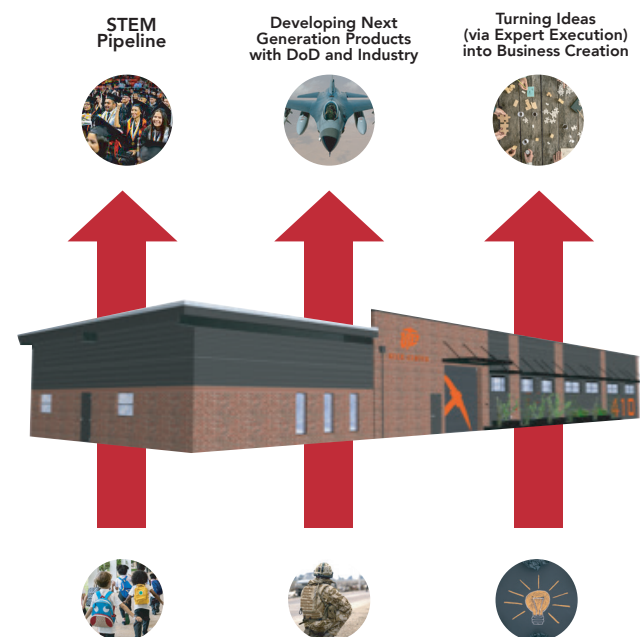
EPC is committed to helping business grow and thrive in our community. We realize that the communities that we compete against for jobs and investment have unique and well-funded research and development capacities that attract private investment, and a significant portion of their residents are employed in STEM occupations. EPC also realizes that our region includes assets unique to us—entrepreneurial small business, well-educated, bination-al and hardworking employees, the Keck Center, the Aerospace Center, Fort Bliss, White Sands Missile Range and our regional manufacturing base—that when aligned can make the El Paso market as competitive as any community in the world.

In the last 20 years, the El Paso region has experienced extraordinary growth and investment because of coordinated public and private efforts to make our community more competitive. El Paso and Ciudad Juárez have been big winners in international trade as the amount of investment in our region has incrementally increased regularly since the North American Free Trade Agreement (NAFTA) went into effect in 1994. Currently, El Paso's ports accommodate approximately \$90-100 billion annually in international trade. This makes El Paso's ports the second busiest along the US-Mexico border. The passage of the United States-Mexico-Canada Agreement (USMCA) coupled with some near-shoring of supply chains to be closer to their end market strongly indicates that international trade in our region will continue to grow. Our bicoastal trade dwarfs our international trade. And national and international trade and commerce is supported by world leading trans-shipment infrastructure.

Another sector where El Paso has seen tremendous success is the higher education sector, which represents research, engineering education, and our burgeoning healthcare sector. Coordinated public and private investment over the past fifteen years has resulted in

healthcare being the fastest growing employment sector in El Paso over the last decade and is responsible for significant wage growth in our community. UTEP has also transformed and is now recognized as an "R1" university by the Carnegie Classification of Institutions of Higher Education. This designation connotes a top tier doctoral university with significant research funding and very high research activity levels. El Paso's average household income has also been on the rise since the turn of the century mostly as a result of rapid and sustained investment in our higher education sector, especially in the area of healthcare.

THE FUTURE KECK CENTER IN THE COMMUNITY



Fort Bliss, recognized by military leadership as a significant power projection platform, has also seen unprecedented growth over the past 15 years. It was a winner in the 2005 Base Realignment and Closure growing from approximately 9,000 soldiers to more than 30,000 active-duty troops since 2011. El Paso has also invested significantly in quality of life and critical infrastructure that have increased our competitiveness. El Paso's transportation systems, downtown, and regional amenities have all been substantially upgraded over the past ten years.





“ Fort Bliss was a winner in the 2005 Base Realignment and Closure growing from approximately 9,000 soldiers to **more than 30,000 active-duty troops since 2011. ”**

The Chamber believes El Paso’s confluence of unique assets creates significant economic opportunity if properly packaged and deployed, and that one key area of opportunity is advanced manufacturing in aerospace and defense supplier development. Currently, according to UTEP’s Dr. Ahsan Choudhuri, founder and director of the Aerospace Center, and Dr. Ryan Wicker, director of the Keck Center, approximately 27,000 positions are available domestically in the fields of aerospace and defense, signaling significant demand in this sector—and this demand is not currently being met.

The Chamber knows business and, as a principal connector and convener of regional human capital, institutional officials, and business leaders, is uniquely positioned to optimize the economic and job creating potential of the aerospace and defense supplier development sector in the El Paso region. The Chamber has long-established successes with Ft. Bliss, the County and City of El Paso, UTEP, and business leaders and investors in the El Paso community. Additionally, the Chamber is committed to working closely with El Paso’s elected officials to include a key ally and champion of this effort, Congresswoman Veronica Escobar, to ensure that federal resources and advocacy are deployed as appropriate to further the region’s aerospace and defense supplier development efforts.





OUR TEAM

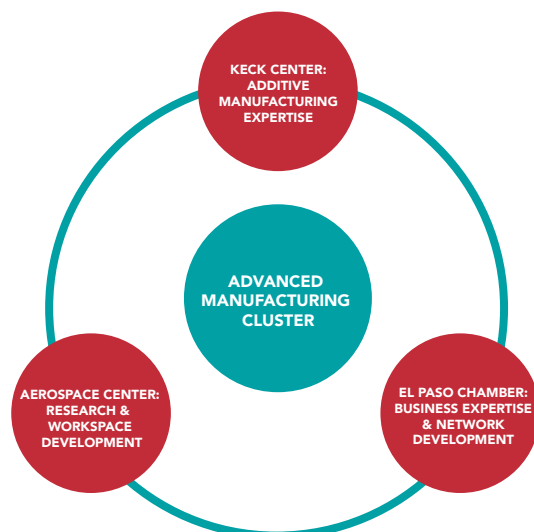
The University of Texas at El Paso, through its College of Engineering, Aerospace Center and W.M. Keck Center for 3D Innovation, is a significant contributor to building a diverse and industry-ready workforce for aerospace, defense and advanced manufacturing. Each year, UTEP graduates more than 800 engineers. Graduates from the Aerospace Center and Keck Center are highly sought after by industry because of significant hands-on research experience in cutting edge technologies that are transforming aerospace, defense and advanced manufacturing.

The Aerospace Center and the Keck Center have partnered with Western Technical Institute in creating an Associate's Degree in Aerospace and Defense Technology. The Keck Center has developed DRIVE AM (Driving Research, Innovation and Value through Education in Additive Manufacturing) to train DoD personnel, including active duty and transitioning soldiers, in additive manufacturing to support maintenance and sustainment activities and to maintain superiority within DoD operations and the defense industry supply chain.

Since 1899, the El Paso Chamber has been transforming business and improving lives. With over 1,400 members, the Chamber is the larg-

est business organization in the El Paso metropolitan region and its membership represents all groups, business sizes and sectors. Held in the public trust, the EPC fosters, strengthens, and elevates business through connecting, coaching, advocating, and innovating.

The Chamber seeks to create synergies between the research at the Aerospace Center, the additive manufacturing work at the Keck Center, and the capacity work that the Chamber brings to make the region more competitive. Specifically, the Chamber assists businesses with training, certifications; insight; public policy; the ability to convene our community; back-office support; regional strategy alignment; and communications.



OUR PLAN

The Chamber's Manufacturing Innovation Network seeks to support and enhance local businesses in the areas of advanced manufacturing, aerospace supply, and defense supplier development. The Chamber, as the region's largest business transformation diver, firmly believes in the region's potential as an advanced manufacturing aerospace and defense supplier hub. We are committed to growing this crucial El Paso sector in collaboration with the Aerospace Center and the Keck Center as well as our other important economic development partners.

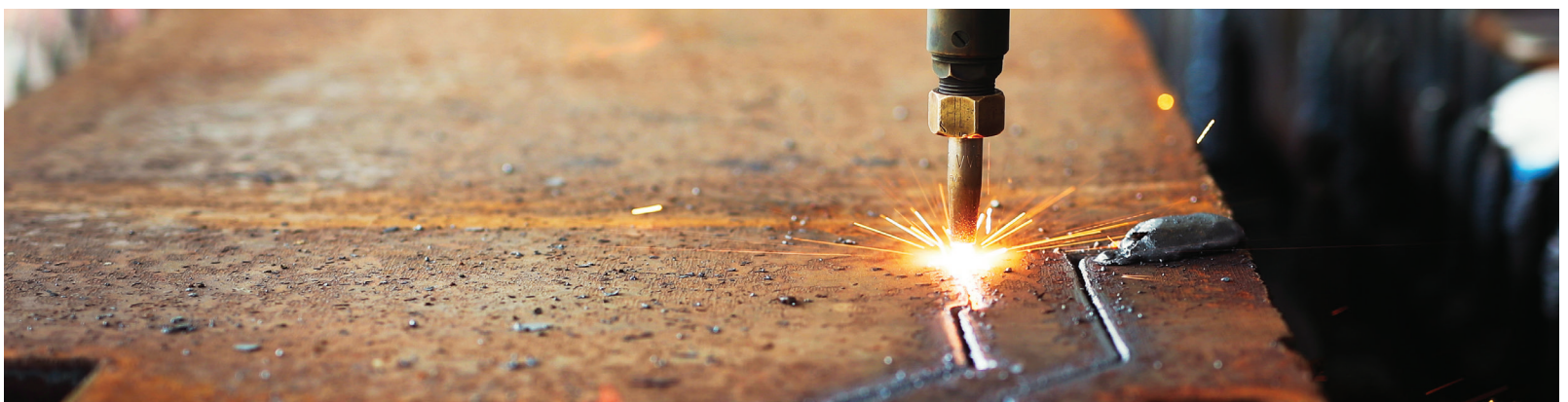
STRATEGIC REGION-WIDE MANUFACTURING INNOVATION NETWORK INITIATIVE

KEY AREAS



OUR APPROACH

- Creation of the region Manufacturing Innovation Network to manage an integrated work plan across business, academia, and government.
- Creation of an integrated regional business plan for emerging and existing regional aerospace and defense suppliers.
 - Assessment of the capacities of local aerospace and defense contractors and manufacturers.
 - Business coaching support for new, emerging, and existing aerospace and defense supplier businesses in the region.
 - Identification of business pairing opportunities both regionally and nationally.
 - Seek out like minded communities across the country to learn from and benchmark against.
- Further expansion of grant and partnership opportunities with NASA, the Department of Defense, the Department of Commerce, and associated academic institutions.
- Formation of an integrated aerospace and manufacturing engineering curriculum in partnership with regional school districts, NASA, UTEP, and other academic institutions to create a seamless work-ready pipeline for industry in the region.





OUR PROGRESS

ESTABLISHED EL PASO MAKES

Some critical building blocks for this effort have already been put in place to accelerate growth and development in this sector. UTEP and the County of El Paso collaborated to build the MIRO cSETR Technology Research and Innovation Acceleration Park (tRIAc) adjacent to the existing Fabens Airport where industry leaders working on tomorrow's innovations are assisted by UTEP students. The Aerospace Center also manages an Aerospace and Defense Small Busi-

ness accelerator program in Horizon City in partnership with the Horizon City Economic Development Corporation. The Keck Center has built a research facility in Segundo Barrio that will also serve as a business incubator. In recognition of the need to also develop strong mid-skill expertise in this industry, UTEP has entered a partnership with Western Technical College to create a curriculum for Aerospace and Defense Technology.



OUR FUTURE ACTIONS

To further the aerospace and defense supplier development in the region, the Chamber and its partners commit to the following actions over the next two years (2021-2022):

1. Conduct a survey of the existing defense supplier and manufacturing base to **better understand our capacities, markets, strengths and shortcomings**.
2. **Develop the Manufacturing Innovation Network** for potential Original Equipment Manufacturers (OEMs), prime contractors, NASA, and the Department of Defense.
3. **Provide coaching support for identified high-potential business** in any areas of growth need (e.g., quality, bank readiness, marketing).
4. Work with existing suppliers to **improve local capacity in this sector**, especially by; introducing customers at NASA and the department of defense, supporting efforts to implement recovery plans across markets and the region, leverage knowledge of business lines to develop segment specific offerings, advance supply and demand matching by examining product availability, pricing and profit.
5. **Create an annual small business summit** to educate local suppliers about the opportunities in this sector and to introduce them to key decision makers at prime contractors, OEMs, NASA, and the Department of Defense.
6. Host officials from NASA, Lockheed Martin, Blue Origin, other aerospace and defense contractors, and affiliated organizations to **share valuable information regarding the region's findings, assets, and opportunities**.
7. Assist in efforts to **enroll more students in Western Tech's Aerospace and Defense Technology program**.
8. **Assist in the creation of a comprehensive high school to university/trade school curriculum** that would allow students to seamlessly transition from an institution of higher education to the workforce.
9. Conduct a survey of 100 UTEP engineering graduates who have graduated to the defense/aerospace workforce to **identify investment opportunities in El Paso**.
10. Enter into partnerships with the region's federal military installations to **establish partnerships between local contractors, educational institutions, and funding organizations** for the purpose of furthering training, curriculums, and research in the region.
11. Work with the City of El Paso to **promote El Paso's regional technology advantages** at the El Paso International Airport.
12. Convene quarterly meetings between the Chamber, UTEP, Congresswoman Escobar's office, and business leaders to **track progress in the Manufacturing Innovation Network**.
13. Partner with the National Center for Defense Manufacturing and Machining (NCDMM), Youngstown Business Incubator (YBI) to expand relationship between El Paso and Youngstown, Ohio to **leverage strengths in each community in the areas of advanced manufacturing, additive manufacturing, and hypersonic-related manufacturing for mutual advantage**.

HOW WE MEASURE SUCCESS

In furtherance of EPC's commitment to growing businesses and employment in our region in the areas of aerospace and defense supplier development, the EPC believes that success should be stated, targeted, and ultimately measured. This effort should, if well executed, create 3,500 new engineering and technologist jobs and 12,000 technical jobs by 2030.

We will report out on the number of new engineering and technical positions created each year as a result of this effort. We expect growth to be modest initially but to accelerate as local businesses become better known, improve, and expand.

- Grow one supplier from 20 employees to 400
- Relocate 10 suppliers to the City of El Paso Airport Campus
- Procure a contract between one large local supplier and the Department of Defense (DOD)



FINAL THOUGHTS

El Paso's cutting-edge research, talent, and military installations have created an emerging market in the area of aerospace and defense supplier development. The Chamber strongly believes that the strides made in this market can be amplified through local appraisal, coordination, and planning. To that end, the Chamber will work to coordinate local organizations and officials to grow the Manufacturing Innovation Network in the El Paso Region. Some regional successes have already been realized, but we have reached a tipping point where region's economy can truly benefit from real focus on advanced manufacturing in the areas of aerospace and defense supplier development. If properly coordinated and curated, the region's prospects for business growth and development in the areas of aerospace and defense supplier development are robust.

The El Paso Chamber wants to acknowledge the groundwork that has been laid by two of UTEP's finest, Dr. Choudhuri and Dr. Wicker. First, UTEP. Dr. Heather Wilson and her team have made UTEP one of the region's most important business partners. To that point, over the past several years, Dr. Choudhuri and Dr. Wicker have cultivated invaluable relationships with organizations such as NASA, the Department of Defense, Lockheed Martin, and Blue Origin that have resulted in over 400 high paying job placements for UTEP graduates in other communities. Their hard work and talent point the way forward on an El Paso for the future, one where, at a minimum, individuals can grow their advance manufacturing aerospace and defense businesses.







EL PASO
CHAMBER

Visit elpaso.org
EPC © 2021 All rights reserved.