Aerospace

Industry Profile
Make Macomb Your Home

Whether you operate a small business, direct a Fortune 500 company, or are accountable for the success of an enterprise that lies somewhere in between, Macomb County is a great place to build a business.

Located in greater Detroit, our industrial base is built on more than 100 years of experience of creating the evolution of the U.S. automotive industry.

Today, those manufacturing capabilities have expanded to serve many industries. Here you will find an unparalleled supply chain, exceptional workforce and modern infrastructure. Incoming businesses are often pleasantly surprised at how cost-effective and easy it is to get started here.

Add safe communities, excellent schools, outstanding health care and four glorious seasons to the enjoy and you will discover that Macomb County offers an amazing quality of life that only Pure Michigan can provide.

Our economic development staff stands ready to assist in exploring your options. Please get in touch to learn more about how our unique manufacturing ecosystem meets your current business objectives.

Mark A. Hackel
Macomb County Executive

Growing Demand in Macomb County

Aging fleets combined with increasing volumes of global travel have created an urgency to replace and expand existing commercial aircraft with more fuel-efficient and technologically superior aircraft over the next two decades. Reports released by Boeing and Airbus predict that aircraft deliveries will increase by more than 25 percent between now and 2032.

Aircraft Delivery Forecast (2014-2032)

Locational Advantage

Proud to be a part of greater Detroit, Macomb County offers palpable competitive advantage for manufacturers and the companies that support them:

Unique Manufacturing Ecosystem

- 2,600 businesses with ties to manufacturing
- 66,000 manufacturing jobs
- 285 tool and die shops
- Macomb’s manufacturers produce an average of $8.6 billion in goods annually
- Michigan’s aerospace producers exported goods valued at more than $952 million last year
- Home to the first satellite office of USPTO
- More than 3,000 patents are filed annually throughout greater Detroit
- Home to the U.S. Army’s TACOM Life Cycle Command Center, Michigan’s “Arsenal of Innovation” thrives here
- Last year, nearly 1,500 DoD contracts valued at $1.9 billion were awarded to Macomb companies

Exceptional workforce

- 400,000+ resident workers contribute to a regional workforce of more than two million
- Michigan is home to the fourth-largest high-tech workforce with 65,000 engineers, 70,000 R&D professionals and 181,000 skilled trades people
- Jobs in Michigan related to aerospace have grown 35 percent since 2009
- Macomb Community College serves 48,000 students annually offering certification, associate’s, bachelor’s, master’s or doctoral degrees in more than 70 disciplines
- Macomb Community College is a national leader in offering customizable workforce training programs
- Universities in the region grant master’s and Ph.D.’s at a rate almost twice that of the national average

Business friendly

- Appropriately zoned with solid infrastructure, there are many development-ready ready sites in Macomb County
- 1,250 foreign firms from 34 countries operate in the Detroit region
- At just six percent, Michigan’s corporate income tax is one of the most competitive in the nation
- Michigan offers up to $150 million for investment incentives and as much as $100 million in loans for small and midsize companies

Academic Support and Research

Michigan’s 16 public colleges and universities spend more than $2 billion annually on research and development activities. Collectively, they offer more than 10,000 degreed graduates annually.

Highlighted academic programs

Lawrence Technological University (LTU)

LTU offers bachelor’s and graduate degrees in the aeronautical/aerospace industry. The course work covers the aeronautical engineering fundamentals for aircraft design, analysis, and testing. Students learn about fluid dynamics, propulsion sources, aerodynamics, structural mechanics, control systems, noise and vibration, and engineering materials.

Stressing an integrative approach that combines theory and practice, recent graduates have found employment with many major aeronautical and aerospace organizations including NASA, Cessna, Boeing, and Goodrich Aerostructures. LTU has finished in the top 10 of the SAE Aero Design East competition for the past four years.

University of Michigan (UM)

In 1914, UM was the first in the nation to offer a collegiate aeronautics program. It has produced more than 6,000 aeronautical and aerospace engineers ever since. U.S. News and Report ranked the UM graduate engineering program first among public institutions and its undergraduate program was ranked third.

Featuring excellent facilities, university research expenditures in this discipline topped $12 million during 2013. Focus areas include gas dynamics, structures and materials, dynamics and controls and space systems. Each year an average of 120 engineering students graduate, 60 students receive a master’s in engineering and some 20 PhD students.

Macomb Community College (MCC)

This champion of workforce development offers a variety of programs to prepare individuals to meet today’s workforce needs. Current programs include electronics, mechatronics, robotics, advanced manufacturing/machining, fluid power, welding, quality, product development, homeland security, project management, business, and information technology.

Custom programs currently cover metallurgy; blueprint reading; geometric dimensions and tolerating; coordinate measuring machines, calibration and measurement; and the AS 9100 standard for quality systems. Other programs prepare workers to master computer numerically controlled (CNC) machining and various welding certifications are also available. MCC also offers courses for experienced designers to help increase proficiency in CATIA, NX and Pro/E and other software applications.
Other Michigan Academic Programs and Research:

**Eastern Michigan University**
- NSF Coatings Research Institute

**Kettering University**
- Fuel Cell Laboratory for Defense Applications
- ANNAF (Joint Army, Navy, NASA, Air Force) Standard Methodologies

**Lawrence Technological University**
- Center for Innovative Materials Research
- Aeronautical Engineering Minor & Certificate Programs

**Macomb Community College**
- Haas Technical Education Center (CNC Machining)
- Advanced Manufacturing for Aerospace & Defense Programs

**Michigan State University**
- Fraunhofer Center for Coatings & Lasers – Aerospace
- Composite Materials & Structures Center
- Center for Remote Sensing & Geographic Information Systems

**Michigan Technological University**
- Aerospace Enterprise
- Remote Sensing & Environmental Monitoring Institute
- Carbon Technology Center

**Oakland University**
- Product Development & Manufacturing Center
- International Fastening & Joining Research Institute

**University of Michigan**
- Aeronautical Engineering Program
- Institute for Advanced Vehicle Systems
- MURI Center for Intelligent Electronics

**Wayne State University**
- Institute for Manufacturing Research – Aerospace
- Smart Sensors & Integrated Micro Systems Lab

**Additional Industry Support**

**Macomb-Oakland University INCubator**
Macomb-OU INC is a regional hub for accelerating economic growth in the targeted industries of advanced manufacturing, aerospace and defense/homeland security. Its purpose is to provide a supportive environment for start-up and emerging companies.

A newly launched international landing zone is equipped to assist companies headquartered outside of the U.S. to gain a foothold in the North American market.

Client companies have access to a wide range of business support services, rental space with flexible leases, assistance in the commercializing of new technologies, and assistance in securing traditional and non-traditional forms of financing.

**Automation Alley**
Automation Alley is a regional business accelerator that supports technology-based businesses throughout the region. Its Diminishing Manufacturing Sources and Material Shortages program exists to reduce loss created by obsolete parts and shrinking suppliers of critical materials. The program offers top-notch reverse engineering services as well as a broad database of manufacturers and industrial suppliers from across the United States that can address shortage issues.

Automation Alley also provides consultation on the Small Business Innovation Research Program (SBIR), a highly-competitive grant program that provides funding for small businesses working to commercialize new technologically advanced products.

**Michigan Defense Center**
Established in 2006, the Michigan Defense Center works to connect businesses to the defense industry by providing development resources, guidance and connections. Working together with a statewide system of Procurement Technical Assistance Centers (PTAC), Michigan is the only state in the nation to offer an integrated approach for supporting the defense – including aerospace – and homeland security industries.

**Other industry support**
- Macomb Procurement Technical Assistance Center (PTAC)
- Michigan Aerospace Manufacturers Association (MAMA)
- Michigan Manufacturers Association (MMA)
- Michigan Manufacturing Technology Center (MMTC)
- National Center for Manufacturing Sciences (NCMS)
- National Automotive Center (NAC)
- National Defense Industrial Association (NDIA)
- National Institute of Industrial Technology (NIIT)
- Robotics Industry Association World Headquarters (RIA)
- Selfridge Air National Guard Base
- Society of Manufacturing Engineers (SME)
- U.S. Army Garrison – Detroit Arsenal
  - TACOM Life Cycle Management Command
  - Tank Automotive Research Development and Engineering Center (TARDEC)
More Than 100 Area Companies Specialize in Aerospace Including:

Advanced Integrated Tooling Solutions

Advanced Integration Tooling Solutions (AITS) is a leading industrial automation and tooling company that delivers fully integrated plant floor systems to the aerospace industry. To better serve their aerospace clients, AITS recently expanded their manufacturing capabilities in Chesterfield Township, Michigan with a 312,000 square foot facility.

The facility provides design services, as well as high-precision fabrication, machining and assembly to serve emerging high-technology tooling needs in aerospace and other industries. Recent contract wins for AITS tooling and equipment include such programs as Airbus A350, Spirit AeroSystems A350, Bombardier Learjet 85, Bombardier CSeries, Embraer 170/190, Bell 525, Boeing 787, 737, 777, Gulfstream G650, G280, P42, Honda Jet, ATK A350, A320 and Lockheed Martin F-35 Joint Strike Fighter.

“We are excited to be able to deliver increased capabilities to meet our customers’ demands at the Chesterfield facility. The local machine tool workforce is very talented. From bond molds to assembly jigs and more, AITS will be able to provide the highest quality equipment and tooling to support our substantial new business.”

Edward Chalupa, President, Advanced Integration Technology
KUKA Aerospace

KUKA’s Aerospace Group started in 2006 and has been part of major launches for Northrop Grumman, Bell Helicopter and Boeing. Bell named KUKA as its supplier partner for developing the manufacturing line for the new 525 Relentless super medium-class commercial helicopter. The production line assembled the entire airframe.

KUKA also had an integral part in the F35-II joint strike fighter program. The project earned the company “Supplier of the Year” honors from Northrop Grumman. The F35-II Integrated Assembly Line (IAL) was also named “Assembly Plant of the Year” by Assembly Magazine in recognition for the facility’s world-class processes to reduce costs, increase productivity and improve quality. Northrop Grumman was the first aerospace company to receive this award.

These major projects have helped the company’s annual aerospace sales grow to over $150 million and increased employment to more than 200 employees.

“Beginning in the mid-1970’s, five Detroit area companies started to expand their core competencies in the automotive industry to service the aerospace industry. That business has grown from zero to over $1.5 billion in the last 40 years. Local aerospace supply companies now work with Boeing, Lockheed Martin, Northrup Grumman and Bell Helicopter and the supplier base has grown to nearly 150 companies. Michigan is now the largest hub for aircraft tooling and equipment supply in the world.”

Robert Reno, Group Vice President, KUKA Systems Aerospace Group
MB Aerospace

MB Aerospace is a key player in the Macomb County aerospace community. MB Aerospace’s operations in Warren and Sterling Heights employ nearly 350 highly skilled professionals. The company has developed world-class engineering and technology to manufacture complex performance-critical components across the full range of gas turbine engines.

MB Aerospace specializes in the production of aero-engine components up to 80” in diameter with two core competences: high value fabricated components with complex welding or special coatings requirements; and high value machined components with thin-walls or high levels of machining complexity.

The company has a strong history of investing in Macomb County. Their operations include some of the most advanced technologies in the aerospace supply chain and they run a number of apprenticeships and training programs including partnerships with Macomb Community College as well as a number of entry routes for Veterans.

“In the last two years, MB Aerospace has made significant investments in our engineering infrastructure for our Michigan businesses and both operations are now positioned for a period of extended growth with our blue-chip customers.”

Craig Gallagher, Chief Executive Officer, MB Aerospace
Schwab Industries

Schwab Industries in Shelby Township, Michigan is a premier supplier to the transportation industry. Schwab provides design and tooling for the Automotive, Mass Transit, Train, Aerospace and Aircraft markets. Schwab works directly or in-directly with most of the small to medium-sized commercial, military and private passenger aircraft companies from around the world.

Schwab has taken advantage of Macomb County’s highly-skilled workforce to offer a broad mix of aerospace and aircraft services. The company’s manufacturing operations provide milling, laser cutting, pressroom operations for prototype, short run production and aerospace tooling and parts. The company also provides tooling build, welding capabilities, vehicle build capabilities, along with a CMM room that houses four very large machines. Schwab has onsite design capabilities and is currently utilizing multiple seats of Catia and Uni-Graphics NX.

The Michigan Economic Development Corporation awarded Schwab a $25,000 Economic Development Grant to help the company further train their employees on the new AS9100 Quality Management System. Schwab has more than 70 employees concentrating on business tied directly to the aerospace and aircraft industry.

“We continue to see an increase in our business related to the aerospace and aircraft industries. Those industries now represent nearly 50 percent of Schwab’s overall business on a yearly basis and have helped us grow our workforce to 150 employees.”

Phil Serra, Vice President, Schwab Industries
Other Macomb County Companies That Serve the Aerospace Industry

A.G. Davis/AA Gage
A-1 Roll Company
Absolute Laser Welding Solutions, LLC
Accurate Boring and Machine Company
Accurate Welding, Inc.
Accu-Tech Manufacturing, Inc.
Acra Grinding Company
Acument Global Technologies
Advanced Integrated Tooling Solutions, LLC
American Aircraft Parts Mfg.
Apex Broaching Systems, Inc.
ARO Welding Technologies
BAE Systems
Baker Aerospace Tooling & Machining, Inc.
Bernal Products, Inc.
BMT Aerospace
Brico Welding & Fab., Inc.
Broaching Industries, Inc.
C & N Manufacturing
Cammand Machining, LLC
Centerline Die & Engineering, LLC
Century Plastics, Inc.
Chardam Gear Company
Christy Industries, Inc.
Coordinated Defense Supply Systems, Inc.
Cut-Rite EDM
D & M Fabrications, Inc.
DeLand Manufacturing, Inc.
Detroit Custom Paint & Collision
Diamond Die & Mold Company
Dominion Technologies
DRS Technologies
Duggan Manufacturing, LLC
E & E Special Products
E & R Industrial Sales, Inc.
Eagle Manufacturing Corp.
Eagle Thread Verifier
Eaton Aeroquip
Eifel, Inc.
Elesco Industries, LLC
Emhart Teknologies
Experi-Metal, Incorporated
Express Gage, Inc.
Fairlane Tool Company, Inc.
Fitzpatrick Manufacturing Co.
Formax Precision Gear, Inc.
Formsprag Clutch
Futuramic
General Seal Corp.
GFM Corporation
Global Tooling Systems
Heating Induction Services
HGS Aerospace, Inc.
Hi-Tech Furnace Systems, Inc.
Hubert Global Systems
Hydra-Lock Corporation
Ideal Technology Corporation
INTEC Automated Controls, Inc.
International Star Corporation
Invo Spline, Inc.
J.F. Hubert
J & J Burning and Fabricating
J & J Spring Enterprises, LLC
Jomat Industries, Ltd.
K & F Electronics, Inc.
K & K Stamping
KEO Cutters, LLC dba Arch Global Precision
KUKA Systems Corporation North America
Laser Cutting Co.
Leonard Machine Tool Systems
Liberty Tool
Lunar Industries, Inc.
M & M Turning & Manufacturing Co.
MacLean Maynard Co.
Mag Industrial Automation Systems
Majestic Metal Fabricating Co., Inc.
Matrix Metalcraft
MB Aerospace
Metal Improvement Company
Microphoto, Incorporated
Midwest Mold Services, Inc.
Minowitz Manufacturing Company
MNP Corp.
Models & Tools, Inc.
Motion Systems Incorporated
MP Tool & Engineering Co.
MRD Aerospace, LLC
Norbert Industries, Incorporated
Nylok Corporation
Parton & Preble, Inc.
PCMI Manufacturing Integration
Peninsular Cylinder Co.
Plasco Corporation
PPI Aerospace
Premier Prototype, Inc.
Prima Technologies, Inc.
Proper Group International
Protojet, LLC
Prototype Cast Manufacturing, Inc.
Quality Control Design, Inc.
Rave Computer Association
RCO Engineering, Inc.
Reska Spline Products, Inc.
Schaller Corporation
Schwab Industries
Schwartz Industries, Inc.
Sensor Data Technologies, Inc.
Shared Vision
Sharp Tooling Solutions
Smith Brothers Tool
Specialty Steel Treating
Standard Components, Inc.
Star Corporation
Sterling ProMeasure Systems, Inc.
Supreme Gear Co./Dorris Technology Ventures Incorporated
Testing Solutions, TUV SUD America
Textron Fastening Systems
Thread Craft, Inc.
Thunderbird Aviation
Titanium Processing Center, Inc.
Tower Tool & MFG., Co.
Triangle Grinding Co., Inc.
Triumph Gear Systems
Troy Industries, Inc.
Tru Tech Systems, Inc.
Ultimate Hydroforming, Inc.
Utica Enterprises, Inc.
Visioneering
Wyle Aerospace
ZI Custom
Airport Facilities in Southeast Michigan

Detroit Metropolitan Wayne County Airport (DTW) offers more than 600 daily flights to a total of 150 global destinations. This world-class airport serves more than 34 million passengers annually. It also offers two Fixed Base Operators for private and corporate aircraft.

Coleman A. Young International Airport is a general aviation facility providing services for private and corporate aircraft. It has two runways at 5,090 and 4,025 feet.

Detroit Willow Run Airport is Michigan’s third busiest airport with over 100,000 flight operations per year. The 2,600 acre facility serves cargo, corporate and general aviation clients and offers five runways and a 24-hour FAA Tower.

Flint Bishop International Airport features three main runways at 7,848, 7,199 and 4,291 feet, in addition to services for private and corporate aircraft.

Oakland County International Airport is the second busiest airport in Michigan and features a 6,500 foot main runway.

Romeo Airport is a general aviation facility with multiple runways, including the longest at 4,795 feet.

Selfridge Air National Guard Base is a joint base serving all branches of the U.S. military and the Department of Homeland Security. Selfridge provides employment to 4,000 military and civilian workers. It features a 9,000 foot runway, 3,000 square acres of land and 500+ buildings. Selfridge also offers a Commercial Land Use Program with space available for tenants.

Windsor International Airport (YQG) is located in Canada’s 16th largest metropolitan area and is just a short drive from greater Detroit. It serves 250,000 passengers annual and offers two runways at 9,984 and 5,445 feet.
Make Macomb Your Home

Offering safe neighborhoods, strong schools, top-notch healthcare facilities and a wide assortment of leisure-time options, Macomb County is a great place to call home or build a business. Macomb is one of Michigan’s fastest growing counties and its third most populated. Proud to be a part of greater Detroit, Macomb County offers quick access to world-class attractions and professional sports teams.

Featuring the most affordable housing in the region, housing options include starter bungalows in mature neighborhoods to opulent estates on park-like parcels and everything in between.

Residents in Macomb County expect and demand quality education. Shaping students to be global leaders in the 21st century is a key goal in the curriculums of the county’s public schools and colleges. Two tuition-free high schools in Macomb confer the coveted International Baccalaureate® diploma.

Macomb Community College was the first in the nation to establish a “University Center” where access to degrees from 12 Michigan colleges and universities can be found on one campus.

Macomb enjoys all of Pure Michigan’s four glorious seasons. From neighborhood playgrounds to expansive parkland, there are more than 17,000 acres of recreational land. Resting on 32 miles of Lake St. Clair freshwater coast, boating is a favored pastime. There are more than 52,000 registered boats, 50 marinas and 10,000 slips for fast access to the Midwest’s most popular fishing destination.

More than 1,000 restaurants offer a delicious array of gourmet delights that complement a rich ethnic diversity. There are more than 2,500 places to shop in Macomb, including four regional malls, six old-fashioned downtowns, a variety of farmers markets and antique shops. Health care options are also abundant with over 50 regional hospitals and medical centers.

Just minutes from Canada, there are several border crossings in the area. Nearby Detroit Metropolitan Airport offers non-stop flights to more than 160 global destinations.

Learn more about living in Macomb County at www.MakeMacombYourHome.com
We Are Here To Help: Macomb Business Advantage

The Macomb County Department of Planning and Economic Development serves as the county’s agency for advancing business growth. A professional and seasoned staff of business development specialists stand ready to meet the ever-changing needs of industry.

Directed to keep abreast in a multitude of programs and incentives to foster business investment, staff can offer tailored programs to meet your company’s expansion goals.

We achieve this by:

• Providing direct, personalized services to our existing companies – both small and large – for the purpose of increasing their competitiveness and profitability
• Assistance in finding suitable properties for purchase or lease based on client specifications
• Consultation regarding a variety of development and tax incentives that make Macomb the most cost effective choice
• Connections to relevant (and often cost-free) workforce screening and training programs
• Guidance for moving quickly through state and local permitting and approval processes
• Fostering partnerships that lead to cutting-edge programs for addressing the changing needs of the industry
• Attracting new and diverse businesses that offer mutual benefit to a vast “cradle to grave” supplier network
• Market intelligence and research, including workforce capacity and infrastructure support
• Up to date information about financing and incentive programs including venture capital, low-interest redevelopment loans as well as state and local investment incentives

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