

MINNESOTA'S AEROSPACE AND DEFENSE INDUSTRIES

WHY MINNESOTA?

Minnesota's aerospace and defense industries take advantage of the state's culture of innovation, deep industry roots, strong workforce and convenient location to pioneer new products and serve niche markets.



INNOVATION AND RESEARCH INCUBATOR

- **3rd in 5-year business survival**, providing a nurturing environment for startups
- **4th in overall patents per capita** (NSF)
- **7th in technology and innovation** (CNBC)
- **Collaborative ecosystem** fostering innovation through:
 - public-private partnerships
 - deep-bench academic and business expertise
 - growing number of business accelerators
- **Since 1982, Minnesota entities have won 2,450 grants and research contracts worth \$717.9 million** from the Small Business Administration (SBIR and STTR programs), and of those, 912 (worth \$255 million) were U.S. Department of Defense projects

SKILLED WORKFORCE

- **7th in technology and science workforce** (Milken Institute)
- **1st highest (tied) in % of people with a high school degree** (93.1%)
- **10th highest in % of people with a bachelor's degree or above** (36.1%)



CONVENIENT LOCATION

- **Easy access to markets** across the continent and abroad with north-central location, eight commercial ports on the Great Lakes and Mississippi River, and excellent rail and road networks
- **Best airport of its size in North America:** Minneapolis-St. Paul International ranked No. 1 (2016, 2017, 2018); non-stop flights to 167 domestic and international destinations
- **6th in infrastructure** (U.S. News and World Report)

SECTOR STRENGTH

Aerospace and defense manufacturing

- 70 business establishments, 46% located in Greater Minnesota
- Industry GDP of \$1.3 billion
- \$4.1 billion in federal contracts from the U.S. Department of Defense in 2017

Aerospace and defense exports

- \$336.4 million in products exported from Minnesota in 2018
- Top five export markets: Canada, the United Kingdom, South Korea, Japan and Turkey
- Major exports: navigational instruments; ammunition, cartridges and parts; electrical machines and apparatus; aircraft and spacecraft parts



DEEP ROOTS, PAST AND PRESENT

- A legacy of technology innovation was propelled by early Minnesota powerhouses like Honeywell, Control Data and Engineering Research Associates
- Today, major defense contractors with operations in Minnesota include **Northrop Grumman, Honeywell, BAE Systems, General Dynamics, Cummins, Polaris, 3M, International Automated Systems, and United Technologies**

NICHE INDUSTRIES

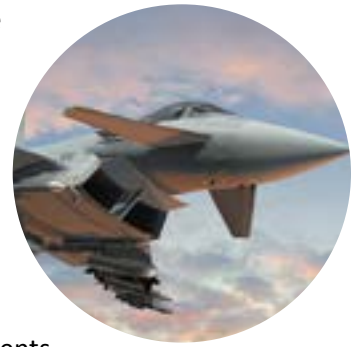
- **6,400 employees, with high job concentrations (location quotient, or LQ) in niche manufacturing industries:**
 - **Small arms ammunition:** The Minneapolis-St. Paul metro area's job concentration is almost 10 times the national average (LQ: 9.99) and Minnesota ranks 6th in the U.S. (LQ: 6.56)
 - **Aircraft manufacturing:** The Duluth metro area's growing aviation cluster of airplane manufacturers and maintenance companies has a high location quotient (3.55) and five-year job growth (112% from 382 jobs in 2013 to 809 in 2018)
 - **Small arms ordnance and ordnance accessories:** The Minneapolis-St. Paul metro area's job concentration is almost twice the national average (LQ: 1.88)
 - **Search, detection, and navigation instruments:** The Minneapolis-St. Paul metro area's job concentration is almost twice the national average (LQ: 1.92) and Minnesota ranks 11th in the U.S. (LQ: 1.31)

PLENTIFUL BUSINESS RESOURCES

- **Defense Alliance** (www.defensealliance.com) is an industry association for defense contractors in the Upper Midwest providing consulting services, industry analysis, and networking opportunities
- **Minnesota High Tech Association** (www.mhta.org) is a science and technology association that also hosts MNSBIR (www.mhta.org/mnsbir) to help companies secure federal grants and contracts from the Small Business Innovation Research and Small Business Technology Transfer programs
- **Enterprise Minnesota** (www.enterpriseminnesota.org) provides assistance and consulting, and advocates on behalf of manufacturing
- **Minnesota Department of Employment and Economic Development** (www.mn.gov/deed) is the state's principal economic development agency and provides a broad range of resources for companies of all sizes

BROAD RANGE OF PRODUCTS

- Minnesota companies provide products and services for a range of aerospace and defense manufacturing sectors including:
 - ammunitions, small arms and advanced weaponry
 - sensors for navigation and detection
 - aircraft and aircraft components
 - land vehicles



Companies that are headquartered or have major operations in Minnesota include:

- **American Precision Avionics** (Duluth)
- **BAE Systems** (Fridley)
- **Cirrus** (Duluth)
- **Cummins** (Minneapolis, White Bear Lake)
- **General Dynamics** (Bloomington)
- **Greystar Electronics** (Duluth)
- **Honeywell** (Minneapolis, Coon Rapids)
- **Minnesota Wire** (St. Paul)
- **Northrop Grumman Innovation Systems** (Plymouth, Minnetonka)
- **PaR Systems** (Shoreview)
- **Polaris** (Plymouth, Roseau, Wyoming)
- **SteinAir** (Faribault)
- **Superior Aerospace** (Fridley)
- **Tanis Aircraft** (Glenwood)
- **United Technologies/Collins Aerospace** (Burnsville, Minneapolis)
- **Vista Outdoor** (Anoka)

A TOP SPOT FOR BUSINESS

- **50+ national top 10 rankings;** see CompareMN.com
- **Per capita, the Twin Cities rank 1st in Fortune 500s** among 30 largest metro areas; **Minnesota ranks 4th**
- **2nd lowest effective tax rate location** for mature manufacturing companies (4%) and 9th lowest for new manufacturing companies (4.6%)
- **3rd Best Quality of Life** (Forbes and CNBC)
- **A top 10 State for Business 11 times** (CNBC, 2007-2019), including first and third (2015, 2017)

Sources: All data and rankings are most recent available as of July 2019. U.S. Bureau of Labor Statistics; Emsi; ReferenceUSA; company websites; Tax Foundation.