



**FARGO  
MOORHEAD**  
ECONOMIC DEVELOPMENT

# Autonomous Systems & UAS

## Targeted Growth Sector

### FOREFRONT SINCE 2005

North Dakota has been at the forefront of the Autonomous Systems and Unmanned (Uncrewed) Aircraft Systems (UAS) industries since 2005 when the Grand Forks Air Force Base was realigned from a KC-135 tanker mission to a UAS mission. Since that time, the state has invested heavily in infrastructure, education, and capabilities to position the state as the premier global destination for UAS research, testing, and technology development.



### PREMIER UAS DESTINATION

The progress that has been made in building a premier UAS ecosystem has caused state leaders and economic developers to start expanding their attention to also include broader opportunities in autonomous systems that are adjacent or complementary to the UAS industry.

North Dakota is one of only three states in the nation that has three important designations to fly and test a variety of unmanned aircraft missions and functions in partnership with the FAA and NASA. This makes the region a very attractive destination for national and international firms looking to cement their market footing or to commercialize their products in an environment that requires access to valuable airspace.





# DIVERSE AUTONOMOUS SYSTEMS AND UAS ECOSYSTEM

APPAREO

BOSON



Botlink



ISIGHT DRONE SERVICES



A BETTER PERSPECTIVE



THALES



North Dakota has invested over \$79 million to advance research and development in the UAS/Autonomous Systems industry. Today 50 companies employ nearly 1,000 in the ND UAS industry.



## CRITICAL SUPPLIER BASE

In addition to the companies above there are a variety of input industries for this targeted sector that make up a critical supplier base from which to build on. This demonstrates the impacts of building a robust autonomous systems industry do not occur in a vacuum but have a ripple effect on new market opportunities for existing suppliers and manufacturers with upstream capabilities. All of the following upstream supplier clusters maintain a strong presence within the FM market:

- Industrial Machinery Manufacturing
- Fluid Power Valve and Hose Fitting Manufacturing
- Software Publishing
- Electronic Computer Manufacturing
- Audio & Video Equipment Manufacturing
- Plastics Pipe and Pipe Fitting Manufacturing
- Motor Vehicle Electrical and Electronic Equipment Manufacturing
- Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
- Motor Vehicle Transmission and Power Train Parts Manufacturing

*"We are incredibly proud to lead the way in North Dakota with our partners from Vantis and Thales, being able to demonstrate much of our ecosystem in approved BVLOS flight is a major milestone for our company, our partners, and the broader aviation ecosystem."*

*Christian Ramsey, President of uAvionix*



Created by North Dakota with an initial investment in 2019, Vantis provides turnkey support to commercial and public UAS operators through infrastructure and regulatory approvals allowing applications and usability over a variety of industries. Visit [VantisUAS.com](http://VantisUAS.com) for more information.



## ECOSYSTEM PARTNERS

### VANTIS

North Dakota's statewide unmanned aircraft systems (UAS) beyond visual line of sight (BVLOS) network is the first of its kind in the nation.

### THE NORTHERN PLAINS UAS TEST SITE

The Northern Plains UAS Test Site (NPUASTS) is one of seven Federal Aviation Administration (FAA) UAS test sites in the nation. The mission of the NPUASTS is to collaborate with FAA and industry partners to develop systems, rules, and procedures to safely integrate unmanned aircraft into the National Airspace System without negatively impacting existing general or commercial aviation. NPUASTS administers Vantis.

### NORTH DAKOTA STATE COLLEGE OF SCIENCE (NDSCS)

#### ROBOTICS, ANIMATION AND MECHATRONICS TECHNOLOGY (RAMT) PROGRAM

RAMT is designed to provide students with the knowledge, skills, and abilities necessary to succeed in industries utilizing robotics and automated systems. This program combines disciplines such as electronics, networking, computers, mechanics, and fluid power utilized in manufacturing and production facilities.

### RESEARCH INSTITUTE FOR AUTONOMOUS SYSTEMS (RIAS)

The institute integrates the resources of the North Dakota University System to advance efforts in unmanned and autonomous systems. RIAS encompasses all research activities in unmanned and autonomous systems at UND and engages researchers across a broad spectrum of disciplines to catalyze and support research and technology development across the unmanned and autonomous systems enterprise.



## BUSINESS CLIMATE & DEMOGRAPHICS

North Dakota, a low regulation state, benefits from a friendly business environment. U.S. News and World Report ranks North Dakota as one of the 10 states with the least regulation.

Fargo Moorhead combines urban excitement with a small-town friendly atmosphere, reliability and safety. The metro encompasses Cass County in North Dakota and Clay County in Minnesota.

### YOUNG & EDUCATED

- Median Age = 32.9 years old
- 21,000 college students
- 5 universities/technical colleges

Population is growing - 262,619 in 2023 with 7.0% growth predicted between 2022 and 2027, adding 18,008.

**55%** of residents have college degrees

28% of Fargo/Moorhead residents possess a Bachelors Degree (7.1% higher than the national average). 14.2% hold an Associates Degree (5.4% higher than national average).

### COST OF LIVING







# CAPITAL, FINANCING, INCENTIVES, AND GRANTS



The following programs represent a small snapshot of a larger collection of powerful financial tools and incentives available new and expanding businesses looking to grow in the Greater Fargo Moorhead region. For a full assessment of which programs may be eligible to support your business growth, reach out to Ryan Aasheim, Chief Business Development Officer - [raasheim@fmedc.com](mailto:raasheim@fmedc.com)

## LIFT PROGRAM

### INNOVATION TECHNOLOGY LOAN FUND

0% loan up to a million dollars for the first three years and 2% for the next two years for financing the commercialization of intellectual property.

## APUC

### AGRICULTURAL PRODUCTS UTILIZATION COMMISSION

\$250,000 grant program to support the development of new and expanded uses of North Dakota's agricultural products.

\*\*Grantee must provide a 25% match

## LAUNCH MN

Targeted at innovative scalable technology businesses in Minnesota, the grants provide up to \$35,000 for business operations and potential matching grants up to \$50,000 for first time Phase I and Phase II SBIR/STTR awardees.

## GROWTH LOAN FUND (MN)

Supports entrepreneurial growth throughout Minnesota by offering low-interest loans to early-stage businesses. The business must be planning to raise equity in order to qualify. Loans range from \$100,000 to \$400,000.

## ANGEL MATCH PROGRAM (ND)

Private investor investments in eligible business can be matched up to a maximum \$250,000 per business. Businesses may only apply for funds if the total financing round is \$2 million or less. Investors may be individuals, LLCs, businesses, trusts, or an investment fund.

## NORTH DAKOTA GROWTH FUND

\$100 million multi-stage investment fund that will seek to invest in North Dakota businesses and entrepreneurs.

## NORTH DAKOTA DEVELOPMENT FUND

Provides "flexible gap financing" through loans and equity investments not available from most conventional lenders. Up to \$3,000,000 through innovative financing mechanisms including direct loans, subordinated debt and equity investments.

## INNOVATE ND

Participants have access to up to \$22,500 of expense reimbursements and grants through the four phases of the program.

## MN DIRECT INVESTMENT & MULTI-FUND

Two VC programs investing in Minnesota-based seed and early-stage businesses in the advanced manufacturing, agtech/foodtech, climate tech, life sciences, software, and technology sectors.

## BANK OF NORTH DAKOTA

This state-owned bank partners with commercial lenders to assist in financing, such as PACE/Flex PACE low-interest loans and the Accelerated Growth Loan targeted to ND-based tech companies experiencing accelerated revenue growth.

## WONDER FUND (ND)

\$45 million direct investment program providing early-stage investment opportunities for financial and operational growth. Funds from the program will be used to invest in early-stage businesses headquartered in North Dakota with less than 500 employees and will consider companies based outside the state if their product and service have a material impact on North Dakota.