

FAIRFAX COUNTY, VIRGINIA

Industry Profile: Emerging Technologies

Fairfax County has created an environment which supports technological innovation and creativity. Our companies are reinventing the worlds of IT, software, aerospace and defense, and finance through breakthroughs in fields such as AI, data analytics, autonomous vehicles, mobile communications, cybersecurity and health IT.

EMERGING TECHNOLOGIES BY THE NUMBERS



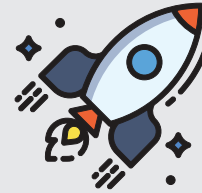
\$1.6B

**CAPITAL INVESTMENT
(YE 2023)**



\$3.98B

**FEDERAL CONTRACT
R&D AWARDS (FY 2023)
BY PLACE OF PERFORMANCE**



\$71M

**SBIR/STTR AWARDS
(YE 2023)**



137

**FEDERAL LABS
(DC/MD/VA)**

CAPITAL ATTRACTION BY PRIMARY INDUSTRY:



**INFORMATION
TECHNOLOGY**



**HEALTH
CARE**



**CONSUMER PRODUCTS
AND SERVICES (B2C)**



**BUSINESS PRODUCTS
AND SERVICES (B2B)**

SOURCES: PITCHBOOK, USASPENDING.GOV, SBIR.GOV, USPTO, NATIONAL SCIENCE FOUNDATION

INDUSTRY EXPERTISE

- ADDITIVE MANUFACTURING/3D PRINTING
- ARTIFICIAL INTELLIGENCE (AI)
- AUTONOMOUS SYSTEMS (UAVS)
- BLOCKCHAIN
- CLEAN ENERGY
- CYBERSECURITY
- INTERNET OF THINGS (IOT)
- MACHINE LEARNING
- NATURAL LANGUAGE PROCESSING
- QUANTUM COMPUTING
- ROBOTIC PROCESS AUTOMATION
- SATELLITE TECHNOLOGIES
- SIMULATION
- SMART CITIES
- VIRTUAL REALITY

TOP INDUSTRY VERTICALS (BY DEAL COUNT)



- ARTIFICIAL INTELLIGENCE
- CYBERSECURITY
- HEALTH TECHNOLOGIES
- SPACE TECHNOLOGIES

TOP RESEARCH UNIVERSITIES (MSA)



D.C. METRO AREA WORKFORCE

293K
TECH WORKERS



16K+
TECH DEGREES
AWARDED ANNUALLY



\$124K
MEDIAN
ANNUAL WAGES



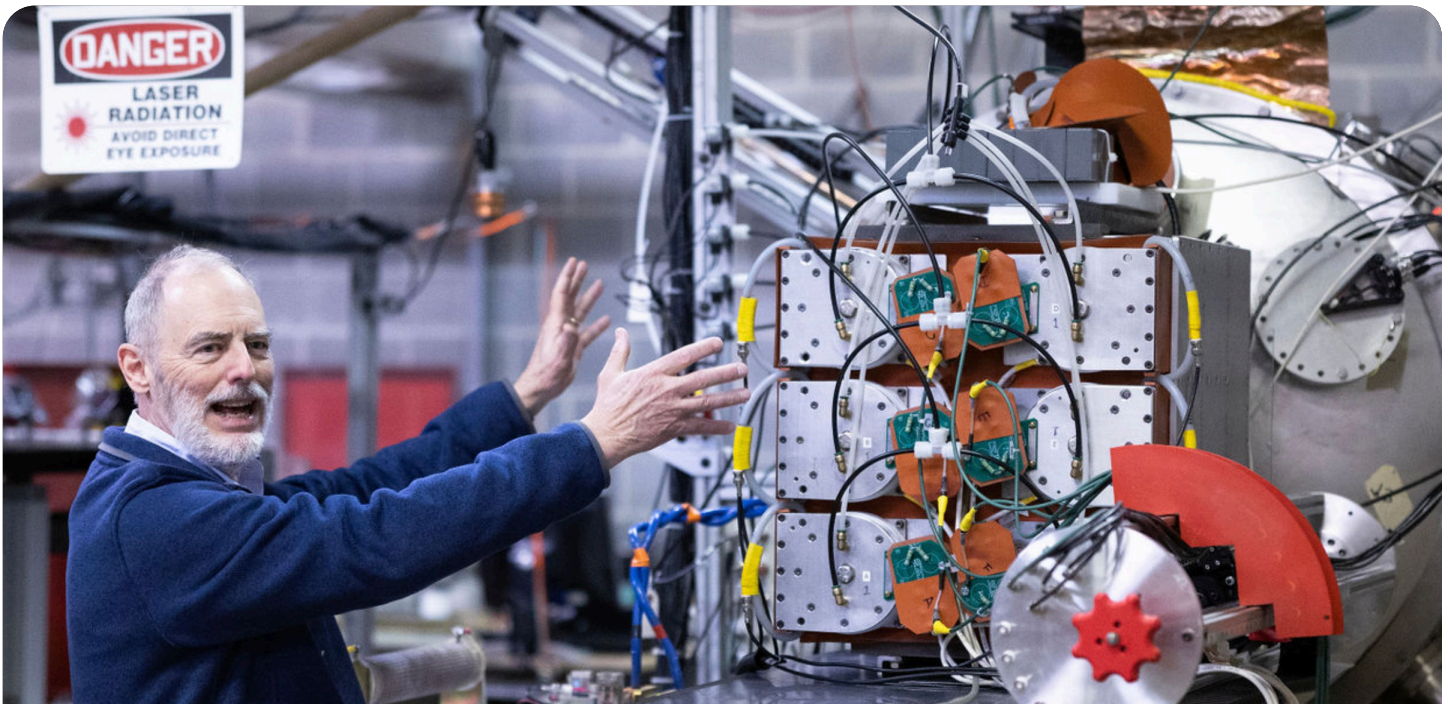
SOURCE: JOBSEQ

EMERGING TECHNOLOGIES SELECTED OCCUPATIONS

Occupation	Number of Workers
INFORMATION TECHNOLOGY	
Software Developers	72,010
Software Quality Assurance Analysts and Testers	8,100
Computer Systems Analysts	17,830
Computer and Information Research Scientists	2,240
ENGINEERING	
Mechanical Engineers	4,290
Electronics Engineers, Except Computer	3,030
Electrical and Electronics Engineering Technicians	1,950
Computer Hardware Engineers	2,970
Aerospace Engineers	2,680

SOURCES: U.S. BUREAU OF LABOR STATISTICS, OCCUPATIONAL EMPLOYMENT STATISTICS
MAY 2023, JOBSEQ, IPEDS

EMERGING TECHNOLOGY COMPANY HIGHLIGHT



NearStar Fusion • Chantilly, VA

Emerging Technology: Fusion (Energy)

NearStar Fusion is developing a fusion power plant technology called Hypervelocity Gradient Field Fusion (HGFF), with the goal of providing the planet with unlimited clean energy. HGFF also has the potential to be adapted for use in space-based, high-performance fusion rocket propulsion.

PHOTO COURTESY VIRGINIA INNOVATION PARTNERSHIP CORPORATION AND NEARSTAR FUSION

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EMERGING TECHNOLOGIES REGIONAL ASSETS

FEDERAL AGENCIES

DEFENSE

- DIA
- DOD
- JAIC
- NGIA
- NRO
- NSA

CIVILIAN INTELLIGENCE COMMUNITY

- CIA
- DNI
- FBI
- TREASURY

RESEARCH AND DEVELOPMENT

- ARPA*E
- DARPA
- FLC
- HOMELAND SECURITY - S&T
- IARPA

TRANSPORTATION

- FHWA - TURNER FAIRBANK
- DOT
- FAA
- ITS

SPACE

- NASA

HOMELAND SECURITY

- DHS

TECHNOLOGY PATENTING

- USPTO

NETWORKING GROUPS AND INDUSTRY ASSOCIATIONS

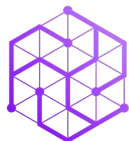
Networking groups in the Washington, D.C., region, include:

- American Council on Renewable Energy
- Association for Unmanned Vehicle Systems International (AUVSI)
- American Institute of Aeronautics and Astronautics
- Blockchain Association
- Consumer Technology Association
- CTIA
- Data Science DC
- DC Tech Meetup
- IEEE Computer Society
- International Test and Evaluation Association
- ITechLaw
- Mason Innovation Exchange (MIX) at George Mason University
- Mid-Atlantic Venture Association
- Northern Virginia Chamber of Commerce
- NOVALabs
- NVTC
- Product Liability Advisory Council
- Smart Electric Power Alliance
- Virginia Innovative Partnership Corporation
- Women in Technology
- Women's Society of Cyberjutsu

RESEARCH INSTITUTIONS

- Institute for Defense Analysis
 - Center for Communications and Computing
 - Systems and Analysis Center
- Noblis
- RAND Corporation
- The Aerospace Corporation
- The MITRE Corporation
 - AI Assurance & Discovery Lab
 - Artificial Intelligence and Autonomy Innovation Center
 - Center for Advanced Aviation System Development
 - Center for Enterprise Modernization
 - CMS Alliance to Modernize Healthcare
 - Homeland Security Systems Engineering and Development Institute
 - National Cybersecurity Center of Excellence
 - National Security Engineering Center

EDUCATIONAL INSTITUTIONS



FAIRFAX FOUNDERS FUND

The Fairfax County Founders Fund is a grant and technical assistance program for Fairfax County-based early-stage startups on a high-growth trajectory. Grant awards may be up to \$50K.

fairfaxcounty.gov/economic-initiatives/fairfax-founders-fund

ACCELERATE

The Accelerate Breakfast Series and Annual Conference offers opportunities for emerging startups to pitch and also network with area Venture Capitalists and Investors and technical support staff.

acceleratedeals.org

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**FAIRFAX COUNTY
ECONOMIC DEVELOPMENT AUTHORITY**