

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



\$1.04B

**CAPITAL INVESTMENT
(YE 2022)**



\$3.6B

**FEDERAL CONTRACT
R&D AWARDS (FY 2022)
BY PLACE OF PERFORMANCE**



\$59M+

**SBIR/STTR AWARDS
(YE 2021)**



85+

FEDERAL LABS

CAPITAL ATTRACTION BY PRIMARY INDUSTRY:



**INFORMATION
TECHNOLOGY**



**BUSINESS PRODUCTS
AND SERVICES (B2B)**



**HEALTH
CARE**



**CONSUMER PRODUCTS
AND SERVICES (B2C)**

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

INDUSTRY EXPERTISE

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

FAIRFAX COUNTY HQ COMPANIES WITH 2022 PATENT GRANTS

- ALARM.COM
- CAPITAL ONE
- MARS
- MICROSTRATEGY
- NORTHROP GRUMMAN
- OFINNO
- VERISIGN

SOURCE: USPTO

TOP RESEARCH UNIVERSITIES (MSA)



SOURCE: NSF 2021

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D.C. METRO AREA WORKFORCE

300K
TECH WORKERS



15K+
TECH DEGREES
AWARDED ANNUALLY



\$117K
MEDIAN
ANNUAL WAGES



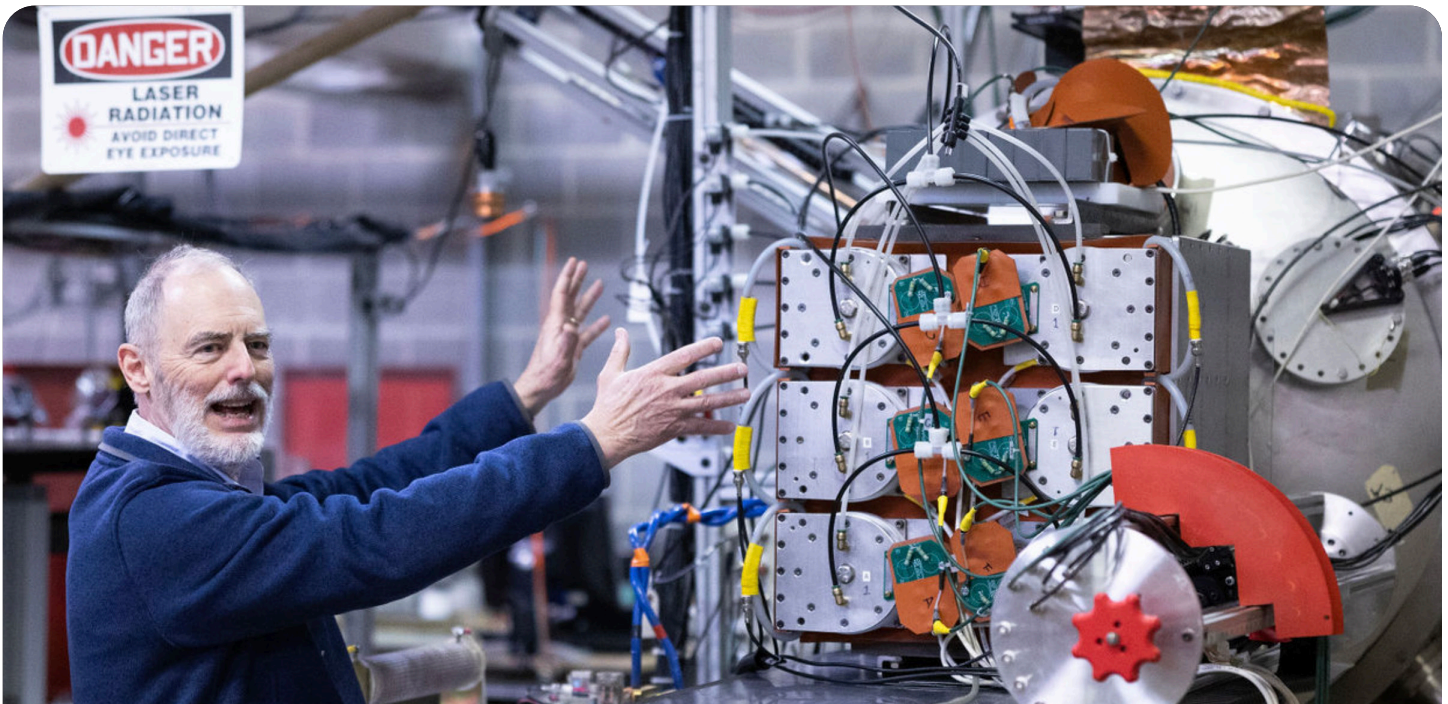
SOURCE: JOBSEQ

EMERGING TECHNOLOGIES SELECTED OCCUPATIONS

Occupation	Number of Workers
INFORMATION TECHNOLOGY	
Software Developers (Applications/System Software)	69,360
Quality Assurance Analysts and Testers	8,780
Computer Systems Analysts	19,360
Computer and Information Research Scientists	2,460
ENGINEERING	
Mechanical Engineers	4,430
Electronics Engineers, Except Computer	3,330
Electrical and Electronics Engineering Technicians	2,560
Computer Hardware Engineers	2,980
Aerospace Engineers	2,560

SOURCES: U.S. BUREAU OF LABOR STATISTICS, OCCUPATIONAL EMPLOYMENT STATISTICS,
MAY 2022, 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/meetup groups in the Washington, D.C., region, include:

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

RESEARCH INSTITUTIONS

85+ Federal Labs

Institute for Defense Analysis

- Center for Communications and Computing
- Systems and Analysis Center

Noblis

RAND Corporation

The Aerospace Corporation

The MITRE Corporation

- 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



- Center for Air Transportation Systems Research
- Center for Government Contracting
- Creativity and Graphics Lab (CraGL)
- DataLab
- Design Computing and Extended Reality (DCXR)
- The Shehu Laboratory
- Motion and Shape Computing Lab



Georgetown University



HOWARD UNIVERSITY



MARYMOUNT UNIVERSITY

NOVA Northern Virginia Community College



UNIVERSITY OF VIRGINIA

VT VIRGINIA TECH

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FAIRFAX COUNTY
ECONOMIC DEVELOPMENT AUTHORITY

8300 Boone Boulevard, Suite 450, Tysons, Virginia 22182 • 703-790-0600 • info@fceda.org • fairfaxcountyeda.org • @FairfaxEDA