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)**

**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)**

SOURCE: NSF 2021

continued >
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

EMERGING TECHNOLOGIES
SELECTED OCCUPATIONS

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

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

D.C. METRO AREA WORKFORCE

293K TECH WORKERS

16K+ TECH DEGREES AWARDED ANNUALLY

$124K MEDIAN ANNUAL WAGES

PHOTO COURTESY VIRGINIA INNOVATION PARTNERSHIP CORPORATION AND NEARSTAR FUSION
EMERGING TECHNOLOGIES REGIONAL ASSETS

FEDERAL AGENCIES

<table>
<thead>
<tr>
<th>DEFENSE</th>
<th>CIVILIAN INTELLIGENCE COMMUNITY</th>
<th>RESEARCH AND DEVELOPMENT</th>
<th>TRANSPORTATION</th>
<th>SPACE</th>
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<tbody>
<tr>
<td>• DIA</td>
<td>• CIA</td>
<td>• ARPA*E</td>
<td>• FHWA - TURNER FAIRBANK</td>
<td>• NASA</td>
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<td>• DOD</td>
<td>• DNI</td>
<td>• DARPA</td>
<td>• DOT</td>
<td>HOMELAND SECURITY</td>
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<td>• FBI</td>
<td>• FLC</td>
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<td>• DHS</td>
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<tr>
<td>• NGIA</td>
<td>• TREASURY</td>
<td>• HOMELAND SECURITY – S&amp;T</td>
<td>• ITS</td>
<td>TECHNOLOGY PATENTING</td>
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<tr>
<td>• NRO</td>
<td></td>
<td>• IARPA</td>
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<td>• USPTO</td>
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<tr>
<td>• NSA</td>
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</tbody>
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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

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

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

FOR MORE INFO: JOHN BLAIR

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