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)

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: NSF 2021

TOP RESEARCH UNIVERSITIES (MSA)

SOURCE: NSF 2021
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

continued >
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>
</tr>
</thead>
<tbody>
<tr>
<td>• DIA</td>
<td>• CIA</td>
<td>• ARPA*E</td>
<td>• FHWA - TURNER FAIRBANK</td>
<td>• NASA</td>
</tr>
<tr>
<td>• DOD</td>
<td>• DNI</td>
<td>• DARPA</td>
<td>• DOT</td>
<td></td>
</tr>
<tr>
<td>• JAIC</td>
<td>• FBI</td>
<td>• FLC</td>
<td>• FAA</td>
<td></td>
</tr>
<tr>
<td>• NGIA</td>
<td>• TREASURY</td>
<td>• HOMELAND SECURITY - S&amp;T</td>
<td>• ITS</td>
<td></td>
</tr>
<tr>
<td>• NRO</td>
<td></td>
<td>• IARPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• NSA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 (AUVSI)
- 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

June 2023