



Aerospace & Defense

Maryland is a thriving location for space exploration, satellite technology and research, design and manufacturing of UAVs and robotics. The industry includes Department of Defense related activities such as biodefense, cybersecurity, avionics, informatics and ordnance and weapons testing. Under the Base Realignment and Closure (BRAC) process, Maryland added thousands of jobs, primarily at Aberdeen Proving Ground, Fort Meade, and the Naval National Medical Center at Bethesda. Maryland's 9,020 aerospace and defense businesses annually generate \$33.28 billion in economic activity and secure \$8.97 billion in federal contracts.

Major Aerospace & Defense Employers in Maryland

Employer	Employment	Product / Service
Fort George G. Meade	54,000	Military installation; intelligence
Aberdeen Proving Ground	21,000	Military installation
Joint Base Andrews Naval Air Facility Washington	17,500	Military installation
Naval Air Station Patuxent River	11,725	Military installation
Northrop Grumman	10,365	Electronic systems
Fort Detrick	6,400	Military installation
Johns Hopkins Applied Physics Laboratory	5,545	R&D systems engineering
Lockheed Martin	3,255	Aerospace and electronics
NASA – Goddard Space Flight Center	3,000	Space research
Leidos	2,595	National security, health and engineering services
Booz Allen Hamilton	2,100	IT services and systems engineering

Notes: Numbers are rounded. Employee counts for federal and military facilities exclude contractors to the extent possible; embedded contractors may be included.

Source: Maryland Department of Commerce, June 2017.

Selected Rankings

- Maryland ranks first among the states in the percentage of professional and technical workers (28.3%) in the workforce.
- Maryland ranks first in total federal obligations for research and development (\$16.8 billion), and first also among the states on a per capita basis.
- Maryland has the second highest concentration of computer information and research scientist in the nation, and is third in the total number of these scientists. Further, the state ranks third in the nation in the concentration of aerospace engineers in the workforce, with more than twice the average for the U.S.
- According to *U.S. News and World Report's* Best Colleges survey, the University of Maryland College Park ranks 9th in undergraduate and 13th in graduate aerospace engineering.

Industry Snapshot – Aerospace & Defense in Maryland

- Employment (2016) – 91,140 private sector jobs (132,660 including public sector)
Leading subsectors:
 - Computer systems design and related services – 66,000 jobs
 - National security – 35,300 jobs
 - R&D in physical, engineering and life sciences – 12,400 jobs
- Business establishments (2016) – 9,020

- Total wages (2016) – \$14.65 billion
- Average salary (2016) – \$110,410
- Gross state product (2015) – \$33.28 billion
- Federal procurement (FY2016) – \$8.97 billion

Sources: Maryland Department of Labor, Licensing and Regulation; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

Employment by Occupation

Maryland Employment – May 2016

Selected Occupations	Employment	Location Quotient*	
		Index	Rank
Aerospace engineering and operations technicians	450	1.99	8
Aerospace engineers	3,180	2.47	3
Aircraft mechanics and service technicians	2,150	0.89	20
Atmospheric and space scientists	590	3.22	5
Cartographers and photogrammetrists	470	2.07	9
Computer network support specialists	8,120	2.29	1
Computer programmers	5,300	1.04	18
Computer systems analysts	15,760	1.47	3
Electrical and electronic engineering technicians	3,940	1.55	8
Electrical engineers	4,730	1.37	8
Electronics engineers, except computer	4,750	1.91	4
Materials engineers	700	1.40	11
Mechanical engineers	4,990	0.93	17
Software developers, systems software	15,640	2.03	3

* Location Quotient indicates concentration of the occupation in Maryland, with national average equal to 1.0.

Rank indicates Maryland's rank among the 50 states.

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics.

Assets & Resources

- **Aberdeen Proving Ground** – Army Research, Development and Testing Command; Army C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance).
- **Army Research Laboratory** – The Army's basic and applied research laboratory.
- **Fort George G. Meade** – National Security Agency; Defense Information Systems Agency; U.S. Cyber Command.
- **Naval Air Station Patuxent River** – Naval Air Systems Command; Naval Air Warfare Center, Aircraft Division.
- **NASA Goddard Space Flight Center** – The largest earth and space science research organization in the world.
- **Johns Hopkins University Applied Physics Laboratory** – Research center with expertise in air and missile defense, national security, space and satellites, and undersea warfare.
- **University of Maryland College Park** – Top 10 ranking in aerospace engineering; Glenn L. Martin Wind Tunnel.
- **Chesapeake Innovation Center** – The nation's first business incubator/accelerator focused on homeland and national security.

New & Expanding Businesses

- **Manufacturing Support Industries** (Wicomico County) – Manufacturer of precision components for the defense industry is expanding its operations in Salisbury to increase production and plans to add 42 jobs.
- **Nammo Energetics Indian Head** (Charles County) – Norwegian missile manufacturer announced plans to open a production facility for rocket motors and warheads at the Naval Surface Warfare Center Indian Head, creating 130 jobs over five years and investing \$30 million.
- **ELTA North America** (Howard County) – Israeli defense giant ELTA announced plans to triple its footprint in Maryland by adding up to 50 new jobs over the next three years, and has signed a lease for 21,500 square feet.
- **Piedmont Airlines** (Wicomico County) – Adding staff and expanding office space at its headquarters at the Salisbury-Ocean City: Wicomico Regional Airport. Also expanding its fleet with 20 additional jets.
- **Hardwire Armor Systems** (Worcester County) – High-tech manufacturer of defense equipment leasing 42,000 square feet with an option to buy. Hardwire currently employs 34 people in Pocomoke City and anticipates hiring new employees immediately and as operations expand over the next few years.
- **Malloy Aeronautics** (Harford County) – Announced that they have established a U.S. office adjacent to Aberdeen Proving Ground to complete work on the “Hoverbike,” a Tactical Reconnaissance Vehicle, for the DOD with partner firm SURVICE Engineering.
- **Naval Air Station Patuxent River** (St. Mary’s County) – Second phase of Navy aircraft prototype facility expected to be completed within 18 months at a cost of \$44 million.
- **Hughes Network Systems** (Montgomery County) – Leased additional space in Gaithersburg to help accommodate 60 more engineers. The Germantown-based satellite communications company will add to its current staff of 1,300.
- **Northrop Grumman Electronic Systems** (Anne Arundel County) – Broke ground on a new \$20 million, 25,000-square-foot space assembly and test facility in Linthicum. When construction is completed, the defense contractor will hire 80 engineers and technicians, of which 30 to 40 will be new jobs.

Programs & Incentives

- **Maryland Venture Fund** – State funded seed and early-stage equity fund.
- **Maryland Technology Development Corporation** – Facilitates technology transfer from academic and federal labs into the private sector with seed funding, technical assistance and entrepreneurial support programs.
- **Research & Development Tax Credit** – Credit for R&D expenses for certified businesses.
- **Cybersecurity Investment Incentive Tax Credit** – Refundable tax credit for investment in a qualified cybersecurity company.

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