



SAN DIEGO'S UNMANNED SYSTEMS INDUSTRY

The unmanned systems industry presents a unique opportunity for growth for San Diego's aerospace companies. San Diego is home to two of the largest military unmanned aerial vehicle (UAV) manufacturers, Northrop Grumman and General Atomics, and is a hub for UAV technologies for both military and civilian users. Covering air, land and water, the unmanned systems platforms manufactured in the region serve a variety of sophisticated military and commercial missions.

With the rise in commercial and consumer uses, this industry is well positioned to carry aerospace forward and to continue to attract top aerospace and software engineering talent to the region. While the DoD has been driving these technologies, significant moves by companies like Qualcomm, Amazon and Google reflect the emerging opportunities for unmanned systems in commercial markets. San Diego's talent base has the right blend of technical skills from communications, software, cybersecurity, aviation, robotics and data analytics to capitalize on the maturation of these commercial markets.

HIGHLIGHTS

- » **Global leaders:** San Diego is home to the two global leaders in advanced UAV development for the DoD: Northrop Grumman and General Atomics.
- » **Funding:** San Diego County receives the highest concentration of DoD funding for unmanned systems technology of any location in the country.¹
- » **Air, land, sea:** San Diego has a rich ecosystem of air, land and sea unmanned systems manufacturers who have the benefit of direct access to testing ranges and Navy customers.

KEY COMPANIES

- | | | |
|-------------------|--------------------|-------------------------|
| » 5D Robotics | » Kratos | » Qualcomm |
| » Action Drone | » L3 Technologies | » Shield AI |
| » General Atomics | » Northrop Grumman | » Teledyne Technologies |
| » Inova Drone | » Ocean Aero | |



SPOTLIGHT

Northrop Grumman

Northrop Grumman has been on the leading edge of military UAV technology since the 1990s. Its work on programs like Global Hawk, Firescout and X-47B have pushed the limits of UAV technology across the world. San Diego has become Northrop's UAS Center of Excellence and is home to the company's R&D operations, focused on improving and creating the next generation of ground breaking UAV technology.



RESOURCES

Armed Forces Computer and Electronics Association

AFCEA is a member-based, nonprofit association for professionals that provides highly sought after thought leadership, engagement and networking opportunities. We focus on cyber, command, control, communications, computers and intelligence to address national and international security challenges.
afcea.org

Association for Unmanned Vehicle Systems International

AUVSI is the world's largest nonprofit organization devoted exclusively to advancing the unmanned systems and robotics community. Serving more than 7,500 members from government organizations, industry and academia, AUVSI is committed to fostering, developing and promoting unmanned systems and robotic technologies.
auvisandiego.com

Aerospace & Defense Forum

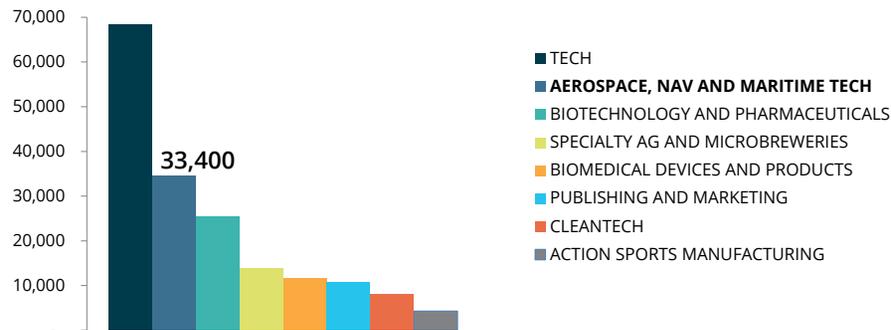
The Aerospace & Defense Forum is a community of more than 1,000 industry senior executives and professionals who collaborate and share news, information and analysis relevant to the business of the aerospace, commercial space and defense industries.
aerospacedefenseforum.org/san-diego-chapter

BY THE NUMBERS

Employment Numbers

Employment data for the unmanned systems industry is not readily available. Unmanned systems-related jobs are not exclusively located in San Diego's aerospace, navigation and maritime technologies cluster; however, a significant portion of unamnned systems-related jobs can be attributed to this cluster. The aerospace, navigation and maritime technologies cluster is a vital part portion of the region's innovation economy and in 2014, accounted for **33,400** jobs in the region. Employment breakdown within the region's innovation economy can be seen below.

**Employment Comparisons
within San Diego Region's Innovation Economy**

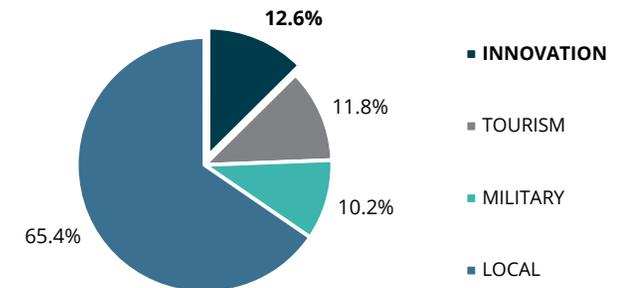


Our Economies

The vitality of San Diego's economy is reliant upon the strength of the region's four economic drivers – innovation, military, tourism and local.

The unmanned systems industry is an intrinsic part of San Diego's innovation economy. As of 2014, innovation was responsible for more than 12 percent of the region's total jobs.

**Employment Comparisons
Across the San Diego Region's Economies**



Employment by Key Defense Industries in Aerospace, Navigation and Maritime Technologies

Industry	Employment	Avg Annual Pay	LQ*
Ship Building and Repairing	5,750	\$66,400	5.93
Other Aircraft and Equipment	4,960	\$91,000	4.82
Search, Detection and Navigation Instrument	4,910	\$108,200	3.99
Res/Dev Phys, Eng, Life Sciences (ex Biotech)	3,990	\$179,500	4.80
Testing Laboratories	2,690	\$85,300	4.95
Guided Missiles and Space Vehicles	1,930	\$120,300	3.58
Aircraft Manufacturing	1,660	\$100,100	0.72
Freight Transportation Arrangement	1,400	\$52,200	0.77
Other Shared Industries within the Cluster	6,190		
TOTAL AEROSPACE, NAVIGATION AND MARITIME TECHNOLOGIES	33,400	\$93,300	2.19

For more information on San Diego's unmanned systems industry, please contact:

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*LQ=Location Quotient

Sources: Highlights: 1. Office of the Under Secretary of Defense, "Program Acquisition Cost by Weapon System: United States Department of Defense Fiscal Year 2016 Budget Request, 2016