Virginia Space Grant Consortium

Aerospace Workforce Survey

Winter 2026: Data Summary

Prepared by

Magnolia Consulting

March 16th, 2026

magnolia consulting

Overview

This data export presents descriptive results from the 2026 Virginia Aerospace Workforce Survey. The Virginia Space Grant Consortium (VSGC), in partnership with the Virginia Aviation Business Association (VABA), collaborated with Magnolia Consulting, LLC to develop the survey. VSGC administered the survey in January and February 2026 to companies and organizations whose work overlaps with the aerospace sector. The purpose of this survey was to gather industry feedback on existing workforce needs and opportunities. Fifty-six respondents fully completed and 86 respondents partially completed the survey. Partial responses are included in this data summary.

The following data summary presents visual displays of results from Magnolia's online survey platform, Alchemer. For open-ended survey questions, evaluators followed a thematic analysis approach, incorporating a mix of deductive and inductive coding processes (Clarke et al., 2015).

The following key findings from the survey are provided to VSGC and VABA for consideration as they collaborate to support Virginia's aerospace industry.

2026 Aerospace Workforce Survey Key Findings

In the Aerospace Workforce Survey, respondents provided descriptive information about their organizations' aerospace sector and positions. They also described their organizations' aerospace workforce needs and challenges, required skills and credentials for entry-level employees, and on-the-job training opportunities. Finally, they suggested how education institutions might improve their aerospace-related programming, so that entry-level workers are fully prepared for the aerospace workforce.

Company/Organization, Position/Title, and Salary Information

- Respondents were primarily located in Virginia.
- Less than half (48%) were private/for-profit organizations. Nineteen percent were educational institutions. The remaining organizations were federal (6%), state (8%), or municipal government organizations (3%), as well as not-for-profits (13%).
- Organization size varied. Approximately one-third (34%) had more than 500 employees, 29% had 1–10 employees, 17% had 100–500 employees, 9% had 11–25 employees, 8% had 26–50 employees, and 4% had 51–100 employees.

Company/Organization Sector and Employed Job Titles

- A majority of respondents (88%) had a management or leadership role in their organization.
- Organizations could select all aerospace sectors that best describe their organization. Aerospace sectors ranged. The most commonly represented sectors included Uncrewed Aircraft Systems/Advanced Air Mobility (41%), educational institutions (27%), consulting/engineering services (25%), advanced/additive manufacturing (24%), analytics and data systems (23%), and research organizations (22%).
- Organizations could select all job titles for aerospace positions that their organization employs. Almost half of organizations (49%) selected project assistant/administration support, 40% selected aerospace engineer, and 39% selected electrical engineer. Other common responses included mechanical engineer (37%), analyst (35%), engineering technician/technologist (32%), software developer (31%), and data scientist/engineer (31%).

Annual Salaries for Aerospace Workforce Positions

- Respondents estimated annual average salaries for positions in the top two categories of workers most commonly employed by their organization. Evaluators then calculated averages of the estimated salaries for each position. The highest and lowest average salaries per category are below. Please note that, due to small sample sizes for each category and position, results should be interpreted cautiously.
    - *Engineering & Scientific Roles:* $91,550 (Analyst) – $131,000 (Systems Engineer)
    - *Technicians & Technologists:* $62,750 (Mechanical Technician/Technologist) – $92,500 (Cybersecurity Technician/Analyst)

- *Manufacturing, Fabrication, & Maintenance:* $56,678 (Machinist) – $80,000 (Aircraft Maintenance and Service Technician)
- *Flight Operations & Aircrew:* $63,393 (Flight Attendant) – $147,279 (Aircraft Pilot)
- *Airfield & Logistics Operations:* $110,000 (Airfield Operations Specialist)[1]
- *Project, Administrative, & Customer Support:* $50,667 (Health and Safety Coordinator) – $75,250 (Project Assistant/Administration Support)
- *Drone & Emerging Technology:* $67,500 (Uncrewed Aircraft Systems Technician)[2]

Company/Organization's Aerospace Workforce Needs

- Respondents were asked about how many positions at their organization directly related to aerospace. Estimates ranged from 0–3,000. Respondents most commonly estimated that their annual workforce employed 100 (n = 8), 3 (n = 7), 0 (n = 7), 10 (n = 6), or 2 (n = 5) positions directly related to aerospace.
- About two-thirds of respondents (68%) expected that their organization's demand for aerospace positions will increase over the next 1–3 years.
- Respondents were asked about how many aerospace positions they anticipate their organization would need over the next 1–3 years. Estimated numbers of needed aerospace positions ranged from 0–500. The most commonly estimated numbers of needed aerospace positions over the next 1–3 years were 2 (n = 16), 5 (n = 9), 0 (n = 8), 10 (n = 7), and 100 (n = 7).

Company/Organization's Aerospace Workforce Challenges

- Respondents were asked to identify aerospace positions that were most challenging for their organization to fill. Responses varied, but the most commonly identified positions were software+ engineer (21%), aerospace engineer (20%), engineering technician/technologist (17%), and UAS Technician (17%).
- Respondents shared why those positions are challenging to hire at the entry-level. Responses included:
  - Competition with private industry, especially regarding salary (n = 8)
  - Niche or specialized skills required, even at entry-level (n = 8)
  - Lack of required skills or experience (n = 6)
  - Workforce scarcity, including not enough workforce entrants (n = 5)
  - Location/relocation challenges (n = 5)
  - Public sector salary limits (n = 3)
  - Certification requirements (n = 3)
  - Timing/hiring cycle (n = 2)
  - Funding/resources (n = 2)
  - Education pipeline issues (n = 2)
  - Workforce motivation/culture (n = 2)

[1] This category only had estimated salary data for one position.
[2] This category only had estimated salary data for one position.

    - No true entry-level roles (*n* = 1)
- Respondents estimated the percentage of employees at their organization in entry-level positions. Estimated responses ranged from 0%–100%. The most commonly estimated responses were 0%, (*n* = 14), 20% (*n* = 13), and 10% (*n* = 11).

Critical Aerospace Skills, Competencies, and Credentials

- Respondents were asked about entry-level technical skills and competencies there are critical for aerospace positions at their organization. Respondents most frequently identified software and programming-related skills (*n* = 15) as critical technical competencies for entry-level aerospace workers, including artificial intelligence (AI), modeling, and software development practices. Other commonly cited skill areas included systems engineering and multidisciplinary engineering knowledge (*n* = 9), hands-on technical and maintenance skills (*n* = 8), and aerospace-specific expertise such as flight dynamics, RF engineering, and UAS operations (*n* = 7). Several respondents also highlighted the importance of industry certifications such as the FAA Airframe and Powerplant (A&P) license (*n* = 5), as well as skills related to data analytics and technical tools (*n* = 4) and advanced manufacturing technologies (*n* = 2–3).
- Respondents were also asked about necessary entry-level soft skills. Respondents most frequently identified communication skills (*n* =16) as essential soft skills for entry-level aerospace employees, including verbal communication, technical writing, and the ability to explain technical work clearly. Other commonly cited competencies included teamwork and collaboration (*n* = 7), work ethic and professional responsibility (*n* = 6), and problem-solving and critical thinking (*n* = 5). Respondents also highlighted the importance of adaptability and willingness to learn (*n* = 4) and organizational skills and attention to detail (*n* = 4), reflecting the need for employees who can operate effectively in complex and rapidly evolving aerospace environments.
- Respondents selected all degrees, credentials, or certifications required for entry-level positions at their organization. The most commonly selected degrees, credentials, or certifications included a bachelor's degree (63%), associate's degree (39%), a high school diploma or equivalent (29%), a master's degree (23%), a FAA Part 107 Remote Pilot Certificate (23%), and a doctoral degree (20%).
- When asked about entry-level workers' overall level of preparedness for employment in the aerospace field, about half (54%) indicated entry-level workers are *somewhat prepared.* A quarter of respondents indicated that they are *prepared*.
- When to select all skill shortages they perceive in entry-level aerospace workers, respondents most commonly identified a lack regarding engineering talent (58%), maintenance technicians (39%), cybersecurity (21%), and manufacturing/production (19%).

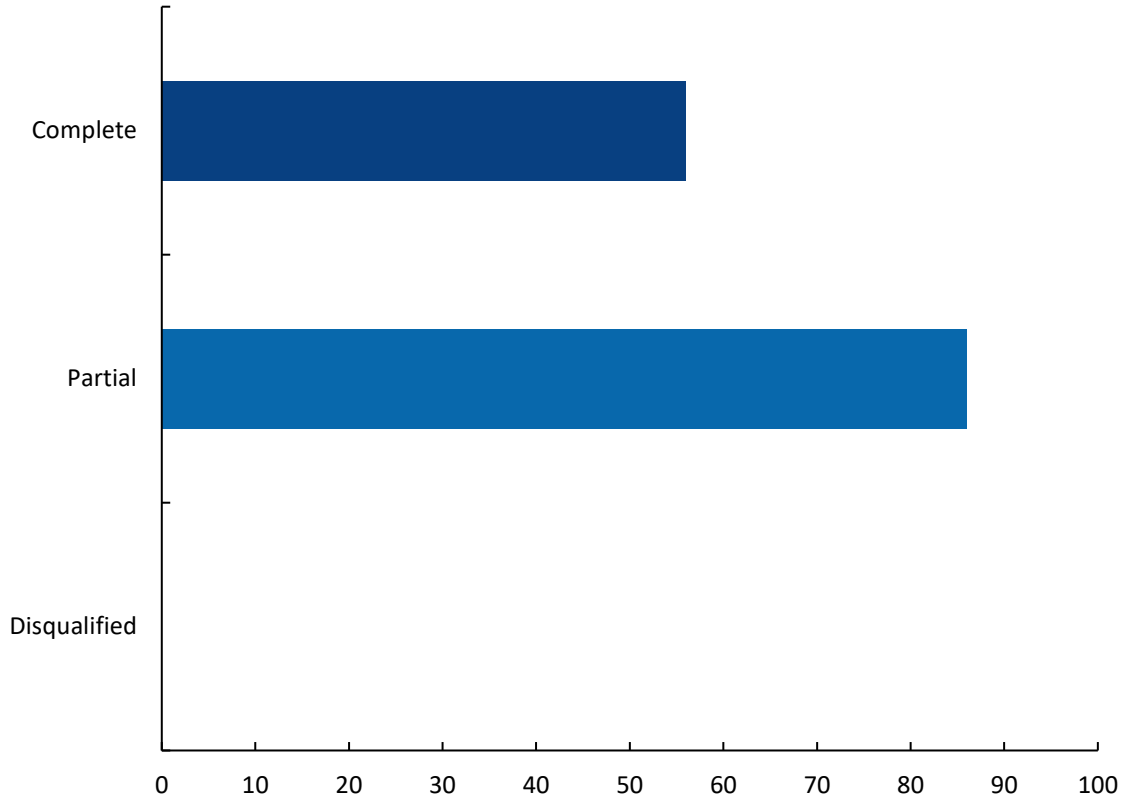
Aerospace Worker Development

- When asked if their organization offers at least one internal training program for job related skills or certifications, around half of respondents (49%) indicated they did. Thirty-nine percent said they did not, and 12% were unsure.
- Respondents who replied "yes" were asked to describe the internal training programs. Types of programs included:
    - On the job/technical training (*n* = 6)
    - Certificate/certification programs (*n* = 4)
    - Internal training and professional development (*n* = 4)
    - Internships (*n* = 3)
    - AI/advanced tech training (*n* = 3)
    - UAS/aviation-specific training (*n* = 3)
    - Tuition reimbursement/education funding (*n* = 2)
    - Full degree programs (*n* = 2)
    - University/external courses (*n* = 1)
- When asked to select all the ways their organization might be willing to develop the aerospace workforce or recruit qualified entry-level workers, respondents most commonly indicated paid internships for high school or college students (63%), visiting classrooms (48%), partnering with education institutions on service-learning projects (44%), workplace tours (41%), and serving on an advisory or curriculum development committee (39%).

Future Aerospace Workforce Needs

- Survey respondents were asked to identify how education and workforce development institutions can improve their programs to better prepare entry-level workers for success in the aerospace workforce. Responses included the following themes:
    - More hands-on or applied learning opportunities (*n* = 9)
    - Meaningful industry engagement with education (*n* = 9)
    - Curriculum alignment with workforce needs (*n* = 6)
    - Internships and apprenticeships (*n* = 5)
    - Increased focus on fundamental technical knowledge (*n* = 4)
    - Early exposure in the K-12 pipeline (*n* = 4)
    - Stackable certifications or credentials (*n* = 4)
    - Increased focus on soft skills development (*n* = 4)
    - Research, competitions, and other types of experiential learning (*n* = 3)
    - Increased focus on workforce awareness, including of career pathways (*n* = 3)
    - Increased focus on emerging technologies (*n* = 3)
    - Tours and site visits (*n* = 2)
    - Scaling and learning from existing programs (*n* = 2)
    - More or sustained funding and resource (*n* = 2)

Response Statistics



	Count	Percent
Complete	56	39.4
Partial	86	60.6
Disqualified	0	0
Totals	142	

1.What is the location of your company/organization?

State

ResponseID	Response
72	Virginia
73	VA
74	PA
75	Virginia
77	VA
78	Virginia
79	Virginia
80	VA
81	va
82	Virginia
83	1
84	Virginia
85	VA
87	VA
88	MD

91	Lanham
92	VA
94	Virginia
95	Virginia
96	VA
97	VA
98	VA
99	VA
100	Salisbury
101	Virginia
102	Virginia
103	Alaska
104	MD
105	Virginia
106	Virginia
107	VA
108	VA
109	VA

110	Virginia
111	VA
113	Virginia
114	Virginia
115	VA
116	VA
117	VA
118	Ohio
119	VA
121	VA
122	Texas
123	Virginia
124	Virginia
125	Virginia
126	VA
127	VA
128	VA
130	Virginia

131	VA
132	Virginia
134	VA
135	VA
138	Virginia
139	Virginia
140	Virginia
141	fl
142	California
143	VA
144	Virginia
145	District of Columbia
147	VA
148	Virginia
149	Virginia
150	Virginia
151	VA
152	VA

155	Virginia
156	va
157	Virginia
158	VIRGINIA
159	VA
160	VA
161	Virginia
162	VA
163	VA
164	VA
166	VA
167	Virginia
168	VA
170	Virginia
171	VA
174	VA
175	Virginia
176	VA

178	VA
179	VA
180	VA
181	va
182	Virginia
183	Virginia
184	VA
185	VA
186	DC
187	Virginia
188	VA
189	VA
190	Virginia
192	Virginia
193	Va
194	VA
196	VA
198	Virginia

199	Virginia
200	v
201	Alabama
202	Virginia
204	Virginia
205	Virginia
206	x
207	VA
208	VA
209	MI
211	Virginia
212	Virginia
213	Virginia

2.What is the location of your company/organization?

City/County

ResponseID	Response
72	Newport News
73	Hampton
74	Johnstown
75	Hampton
77	Hampton
78	Bridgewater
79	Reston
80	Hampton
81	Richmond
82	Blacksburg
83	1
84	Richmond/Henrico
85	Hampton
87	Loudoun
88	Lanham

91	MD
92	Hampton
94	Prince George
95	Hampton
96	Chester
97	Danville
98	Accomac
99	Danville
100	Maryland
101	Richmond
102	Wallops Island
103	Anchorage
104	Lanham
105	Blacksburg
106	Springfield
107	Wallops Island
108	Norfolk
109	Fairfax

110	Richmond
111	Norfolk
113	DUMFRIES
114	Richmond
115	Lynchburg
116	Chesapeake
117	Charlottesville
118	Freemont
119	Newport News
121	Stafford
122	Cedar Park
123	Midlothian
124	Hampton
125	Fairfax County
126	Hampton
127	Hampton
128	McLean
130	Richmond

131	Great Falls
132	Chesterfield
134	Falls Church
135	Hampton
138	Lynchburg
139	Hampton
140	Yorktown
141	Palm Coast
142	Long Beach
143	Petersburg
144	Richmond
145	Washington
147	Hampton
148	Melfa
149	Norfolk
150	Virginia Beach
151	Montgomery
152	Norfolk

155	Blacksburg
156	virginia beach
157	Hampton
158	Blacksburg
159	Blacksburg
160	MIDLOTHIAN
161	Norfolk
162	Arlington
163	Blacksburg
164	Alexandria
166	Williamsburg
167	Weyers Cave
168	Hampton
170	Blacksburg
171	Stafford
174	Blacksburg
175	Newport News
176	Chesapeake

178	Loudoun
179	North Chesterfield
180	Norfolk
181	suffolk
182	Norfolk
183	Norfolk
184	Danville
185	WILLIAMSBURG
186	Washington
187	Manassas
188	McLean
189	Manassas
190	Fredricksburg
192	Fairfax
193	Hanover County
194	Charlottesville
196	Hampton
198	Hampton

199	Richmond
200	Danville
201	Montgomery
202	Manassas
204	Hampton
205	Henry Co
206	x
207	Arlington
208	Richmond
209	Ypsilanti
211	Wallops Island
212	Hampton
213	Orange

3.What is the location of your company/organization?

Zip Code

ResponseID	Response
72	23606
73	23666
74	15904
75	23666
77	23669
78	22812
79	20194
80	23666
81	23227
82	24061
83	1
84	23250
85	23666
87	20175
88	20706

91	20706
92	23669
94	23842
95	23666
96	23831
97	24541
98	23301
99	24541
100	21804
101	23211
102	23337
103	99503
104	20706
105	24060
106	22153
107	23337
108	23529
109	20166

110	23284
111	23518
113	22025-1823
114	23219
115	24515
116	23321
117	22902
118	43420
119	23606
121	22554
122	78613
123	23113
124	23661
125	22031
126	23681
127	23681
128	22102
130	23230

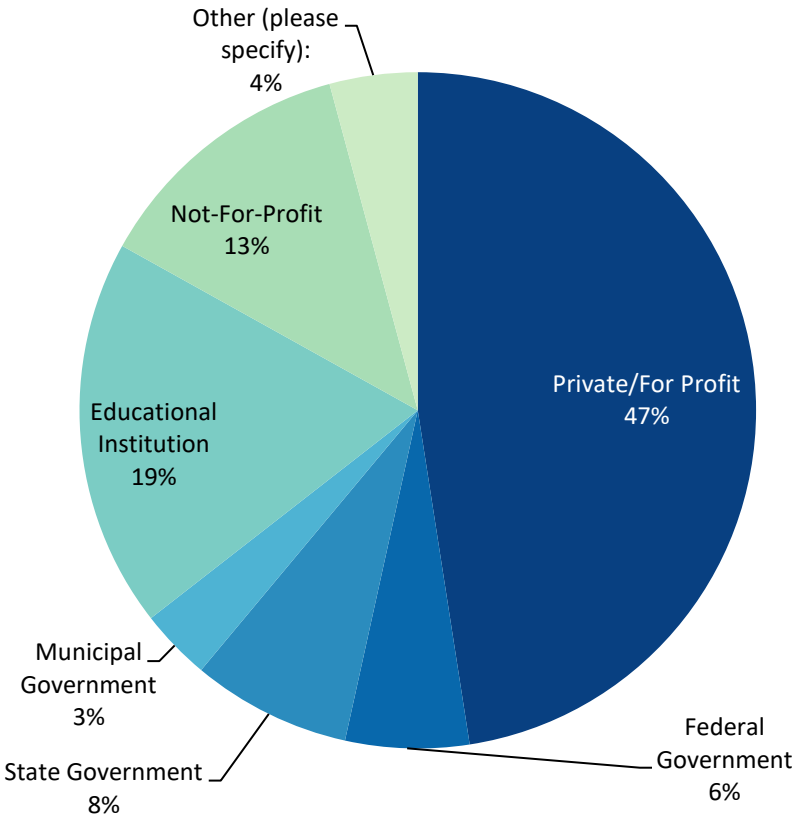
131	22066
132	23832
134	22042
135	23666
138	24515
139	23666
140	23692
141	32164
142	90808
143	23805
144	23237
145	20006
147	23666
148	23410
149	23529
150	23454
151	24061
152	23510

155	24061
156	23454
157	23666
158	24060
159	24061
160	23112
161	23510
162	22209
163	24060
164	22314
166	23185
167	24486
168	23668
170	24061
171	22554
174	24060
175	23602
176	23321

178	20178
179	23237
180	23510
181	23434
182	23510
183	23510
184	24541
185	23188
186	20503
187	20110
188	22102
189	20110
190	22406
192	22030
193	23069
194	22901
196	23606
198	23666

199	23250
200	24540
201	36112
202	20110
204	23681
205	24112
206	x
207	22209
208	23250
211	23337
212	23666
213	22960

4.Which of the following options best describes your company/organization?

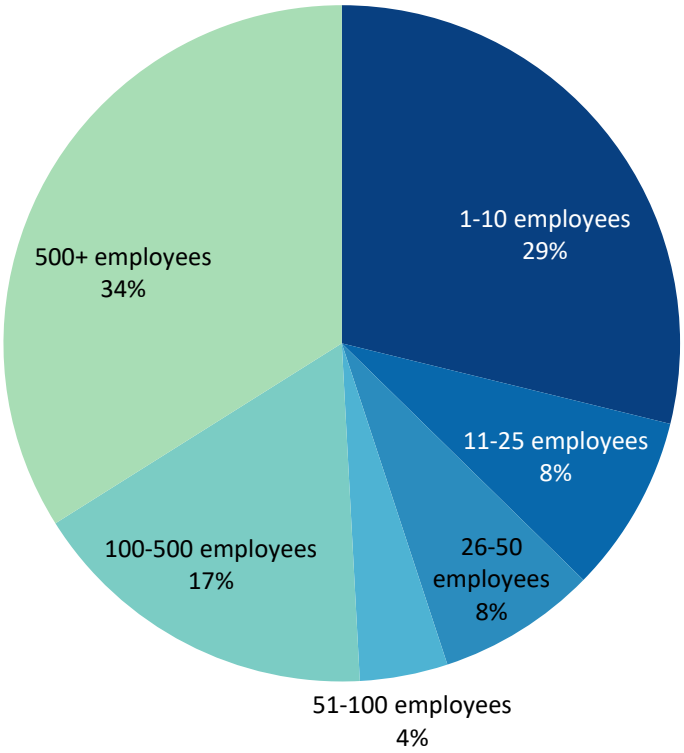


Value	Percent	Count
Private/For Profit	47.5%	56
Federal Government	5.9%	7
State Government	7.6%	9
Municipal Government	3.4%	4
Educational Institution	18.6%	22
Not-For-Profit	12.7%	15
Other (please specify):	4.2%	5

	Totals	118

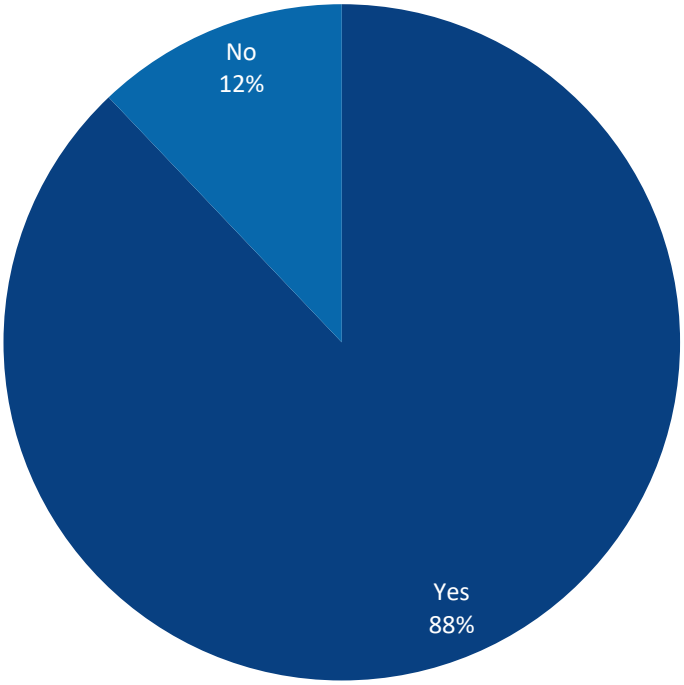
Other (please specify):	Count
Aerospace Consulting	1
Airline/Aviation	1
Authority	1
Independent Subsidiary of a public corporation	1
political subdivision of VA	1
Totals	5

5.How would you classify the size of your company/organization?



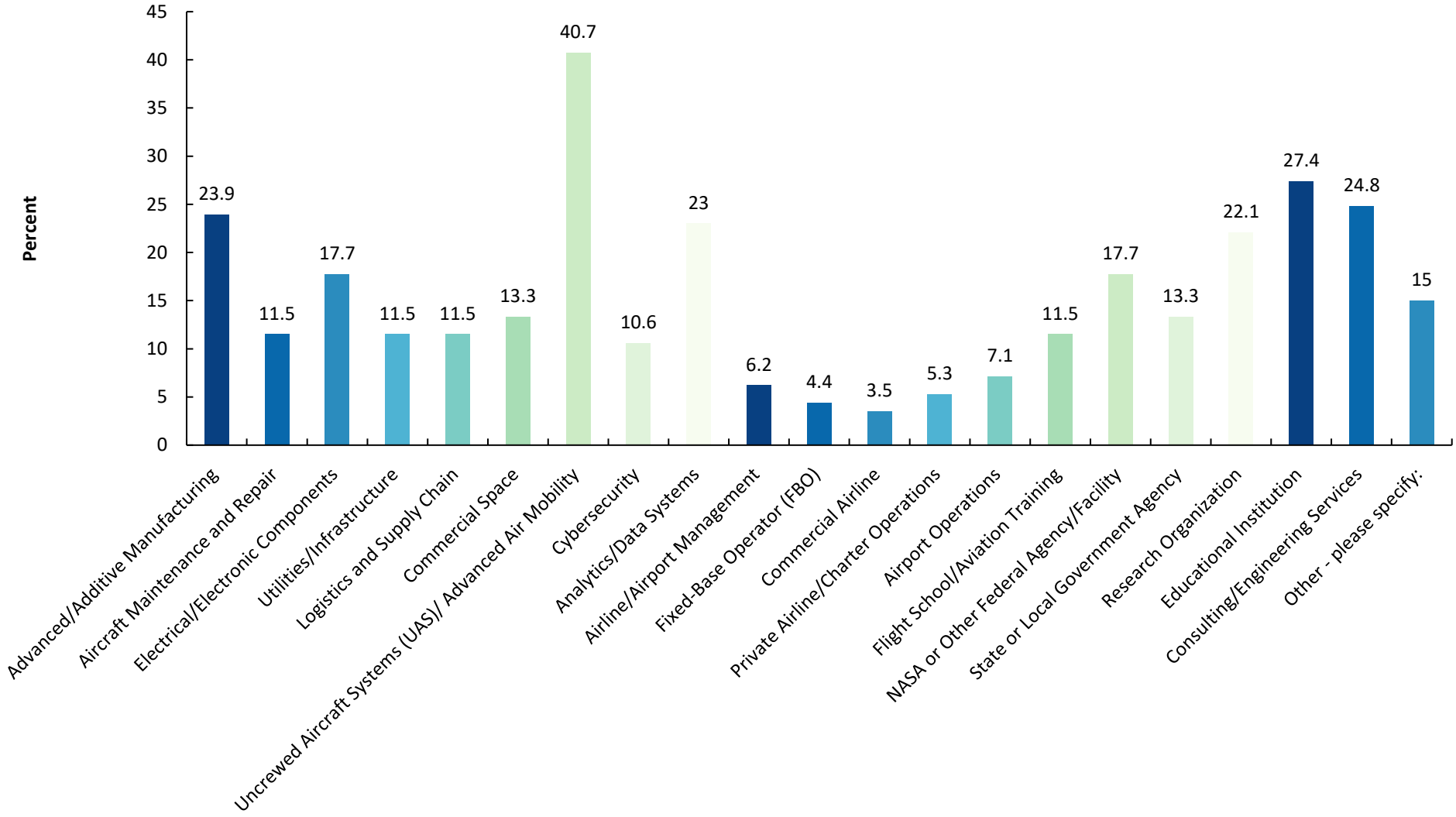
Value	Percent	Count
1-10 employees	28.8%	34
11-25 employees	8.5%	10
26-50 employees	7.6%	9
51-100 employees	4.2%	5
100-500 employees	16.9%	20
500+ employees	33.9%	40
	Totals	118

6.Do you have a management or leadership role within your company or organization (e.g., supervisor, manager, director, or executive)?



Value	Percent	Count
Yes	87.9%	102
No	12.1%	14
	Totals	116

7.Please select the sector(s) that best describes your company/organization (check all that apply).



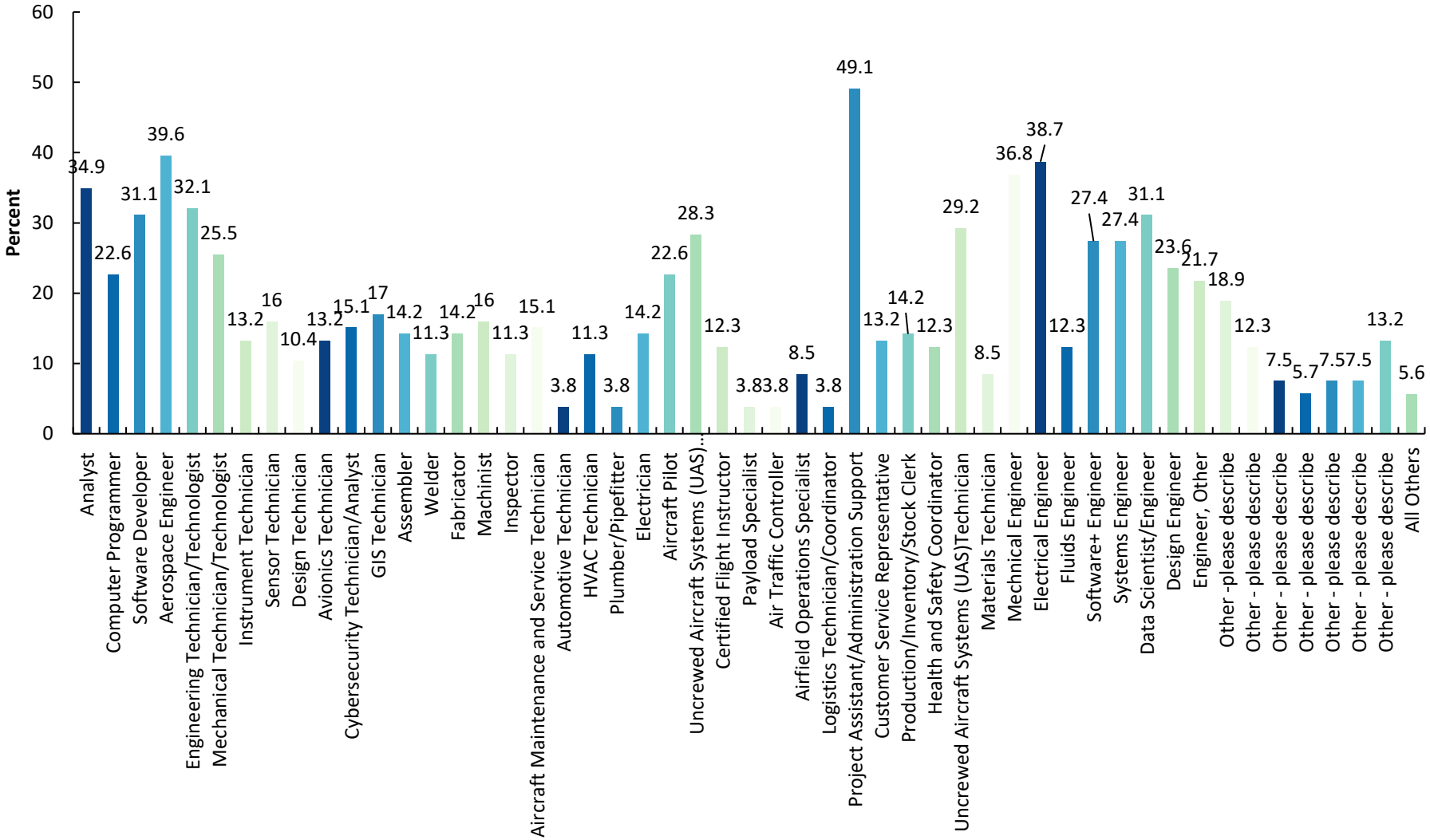
Value	Percent	Count
Advanced/Additive Manufacturing	23.9%	27
Aircraft Maintenance and Repair	11.5%	13
Electrical/Electronic Components	17.7%	20
Utilities/Infrastructure	11.5%	13
Logistics and Supply Chain	11.5%	13
Commercial Space	13.3%	15
Uncrewed Aircraft Systems (UAS)/ Advanced Air Mobility	40.7%	46
Cybersecurity	10.6%	12
Analytics/Data Systems	23.0%	26
Airline/Airport Management	6.2%	7
Fixed-Base Operator (FBO)	4.4%	5
Commercial Airline	3.5%	4
Private Airline/Charter Operations	5.3%	6

Airport Operations	7.1%	8
Flight School/Aviation Training	11.5%	13
NASA or Other Federal Agency/Facility	17.7%	20
State or Local Government Agency	13.3%	15
Research Organization	22.1%	25
Educational Institution	27.4%	31
Consulting/Engineering Services	24.8%	28
Other - please specify:	15.0%	17

Other - please specify:	Count
Aerospace Test Facility Ops & Managemetn	1
Aircraft OEM	1
Airline Fuel Operations	1
Aviation Workforce Development and Innovation Nonprofit	1
FANS1A, Safety Services, Aviation Communications Network Operator	1

Fire and EMS	1
Investment	1
Launch Service Provider	1
Navigation Sensors Ground, Air and Space	1
OE Manufacturer of Aircraft Parts	1
Private flight department	1
Program Management	1
Public Education	1
Spaceport	1
University Consortium	1
Workforce	1
non-profit advocacy	1
Totals	17

8.What are the job titles for the aerospace positions that your company/organization employs?



Value	Percent	Count
Analyst	34.9%	37
Computer Programmer	22.6%	24
Software Developer	31.1%	33
Aerospace Engineer	39.6%	42
Engineering Technician/Technologist	32.1%	34
Mechanical Technician/Technologist	25.5%	27
Instrument Technician	13.2%	14
Sensor Technician	16.0%	17
Design Technician	10.4%	11
Avionics Technician	13.2%	14
Cybersecurity Technician/Analyst	15.1%	16
GIS Technician	17.0%	18
Assembler	14.2%	15
Welder	11.3%	12
Fabricator	14.2%	15

Machinist	16.0%	17
Inspector	11.3%	12
Aircraft Maintenance and Service Technician	15.1%	16
Automotive Technician	3.8%	4
HVAC Technician	11.3%	12
Plumber/Pipefitter	3.8%	4
Diesel Mechanic	1.9%	2
Electrician	14.2%	15
Aircraft Pilot	22.6%	24
Uncrewed Aircraft Systems (UAS) Pilot/Operator	28.3%	30
Certified Flight Instructor	12.3%	13
Flight Attendant	1.9%	2
Payload Specialist	3.8%	4
Air Traffic Controller	3.8%	4
Airfield Operations Specialist	8.5%	9
Cargo and Freight Agent	0.9%	1
Baggage Porter	0.9%	1

Logistics Technician/Coordinator	3.8%	4
Project Assistant/Administration Support	49.1%	52
Customer Service Representative	13.2%	14
Production/Inventory/Stock Clerk	14.2%	15
Health and Safety Coordinator	12.3%	13
Uncrewed Aircraft Systems (UAS)Technician	29.2%	31
Materials Technician	8.5%	9
Mechnical Engineer	36.8%	39
Electrical Engineer	38.7%	41
Fluids Engineer	12.3%	13
Software+ Engineer	27.4%	29
Systems Engineer	27.4%	29
Data Scientist/Engineer	31.1%	33
Design Engineer	23.6%	25
Engineer, Other	21.7%	23

Other -please describe	18.9%	20
Other - please describe	12.3%	13
Other - please describe	7.5%	8
Other - please describe	5.7%	6
Other - please describe	7.5%	8
Other - please describe	7.5%	8
Other - please describe	13.2%	14

Other -please describe	Count
N/A	2
Atmospheric Scientist	1
Education	1
Engineering Faculty and Researchers	1
Faculty/Instructors	1
Instructor	1
Manufacturing Technology Research Engineer	1
Materials Engineer, Chemical Engineer	1
Professor, Research Associate, Post-Doc	1

Public Safety	1
Reliability, Certification	1
Research Assistant	1
Researcher; Instructor	1
Teacher of Engineering and Aerospace engineering	1
UAS degrees and experience	1
chemist	1
consultant	1
funding finder for aerospace development on the Eastern Shore	1
none	1
Totals	20

Other - please describe	Count
Instructors	2
N/A	2
Aviation Maintenance Technitian	1
Cybersecurity and GIS teachers	1

Management	1
Members AI-ML-Quantum	1
UAS Tech	1
chemical technician	1
n/a	1
none	1
technical assistance to incorporated localities	1
Totals	13

Other - please describe	Count
N/A	2
n/a	2
Avionics	1
Electrical technician	1
HVAC and Electricty teachers	1
none	1
Totals	8

Other - please describe	Count
N/A	2
Dispatcher	1
Drone Enterprise Consulting	1
n/a	1
none	1
Totals	6

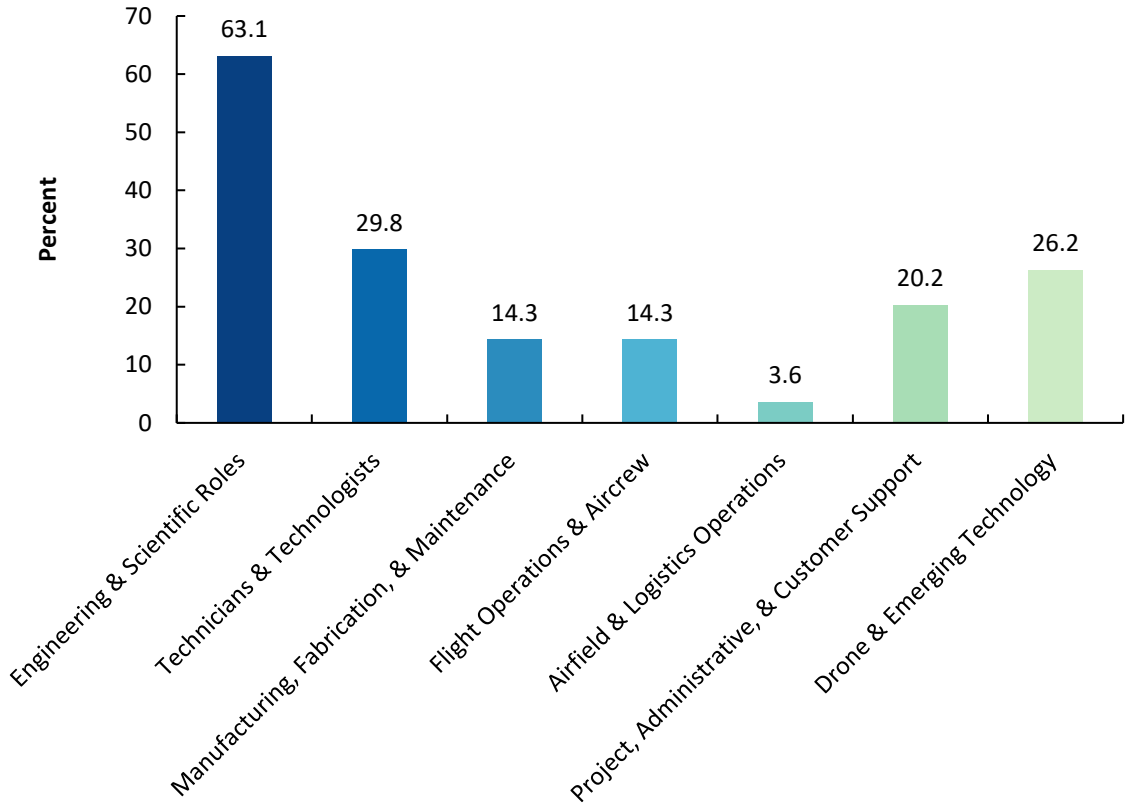
Other - please describe	Count
N/A	2
n/a	2
Aviation Management Faculty	1
Logistics teacher	1
Multimodal Logistics Ops-Security	1
none	1
Totals	8

Other - please describe	Count
N/A	2
Line Service Professionals	1
Program Manager	1
Project Controller	1
Project Manager	1
n/a	1
program managers and BD	1
Totals	8

Other - please describe	Count
N/A	2
AAM Coordinator	1
Aviaiton curriculum development specialists	1
BCI-AI-MUM-T, Autonomy	1
Hydrogen tech	1
UAS Education	1
UAS Instructors	1

UAS airfield manager	1
UAS experience	1
UAS from vessels at sea - submarines and surface ships	1
UAS teacher	1
faculty who teach and conduct research in autonomous and electronic systems	1
n/a	1
Totals	14

9.Please indicate the top two categories of workers that your company/organization most commonly employs. You do not need to list more than two.



Value	Percent	Count
Engineering & Scientific Roles	63.1%	53
Technicians & Technologists	29.8%	25
Manufacturing, Fabrication, & Maintenance	14.3%	12
Flight Operations & Aircrew	14.3%	12
Airfield & Logistics Operations	3.6%	3

Project, Administrative, & Customer Support	20.2%	17
Drone & Emerging Technology	26.2%	22

10.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Analyst	91550	22
Computer Programmer	103375	16
Software Developer	115750	20
Aerospace Engineer	127391	23
Mechanical Engineer	113690	21
Electrical Engineer	123625	20
Fluids Engineer	116354	11
Software+ Engineer	127500	16
Systems Engineer	131000	15
Design Engineer	118275	20
Engineer, Other	111796	22

11.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Engineering Technician/Technologist	74375	8
Mechanical Technician/Technologist	62750	4
Instrument Technician	75000	2
Sensor Technician	90000	3
Design Technician	75000	2
Avionics Technician	74500	4
Cybersecurity Technician/Analyst	92500	2
GIS Technician	67000	5
Materials Technician	75000	3

12.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Assembler	58125	8
Welder	57866	7
Fabricator	61428	7
Machinist	56678	6
Inspector	65000	7
Aircraft Maintenance and Service Technician	80000	4
Automotive Technician	68750	4
HVAC Technician	62094	6
Plumber/Pipefitter	71250	4
Diesel Mechanic	73750	4
Electrician	66261	6

13.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Aircraft Pilot	147279	5
Uncrewed Aircraft Systems (UAS) Pilot/Operator	70000	2
Certified Flight Instructor	130000	1
Flight Attendant	63393	1

14.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Airfield Operations Specialist	110000	2

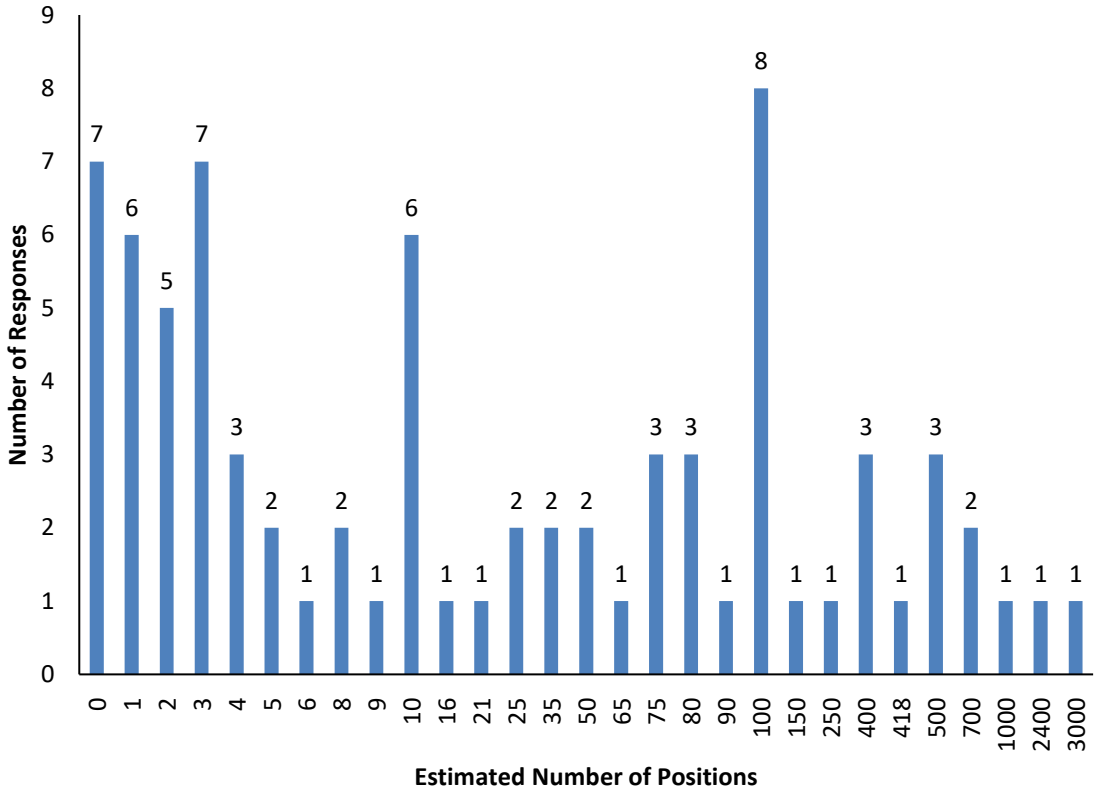
15.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Average Salary ($)	Number of Responses
Project Assistant/Administration Support	75250	12
Customer Service Representative	55025	8
Production/Inventory/Stock Clerk	53500	2
Health and Safety Coordinator	50667	3

16.What is the typical annual salary (in U.S. dollars) for someone in this position at your company or organization? If exact data aren't available, share your best understanding of the usual annual salary for this role. As a reminder, your individual responses to all survey questions will remain anonymous and confidential. Please leave salary estimates blank for roles or positions your company/organization does not employ. Please enter the enter salary with a dollar sign and then the annual salary amount, e.g., $60,000.

	Typical Annual Salary	Responses
	Average Salary ($)	
Uncrewed Aircraft Systems (UAS) Technician	67500	10

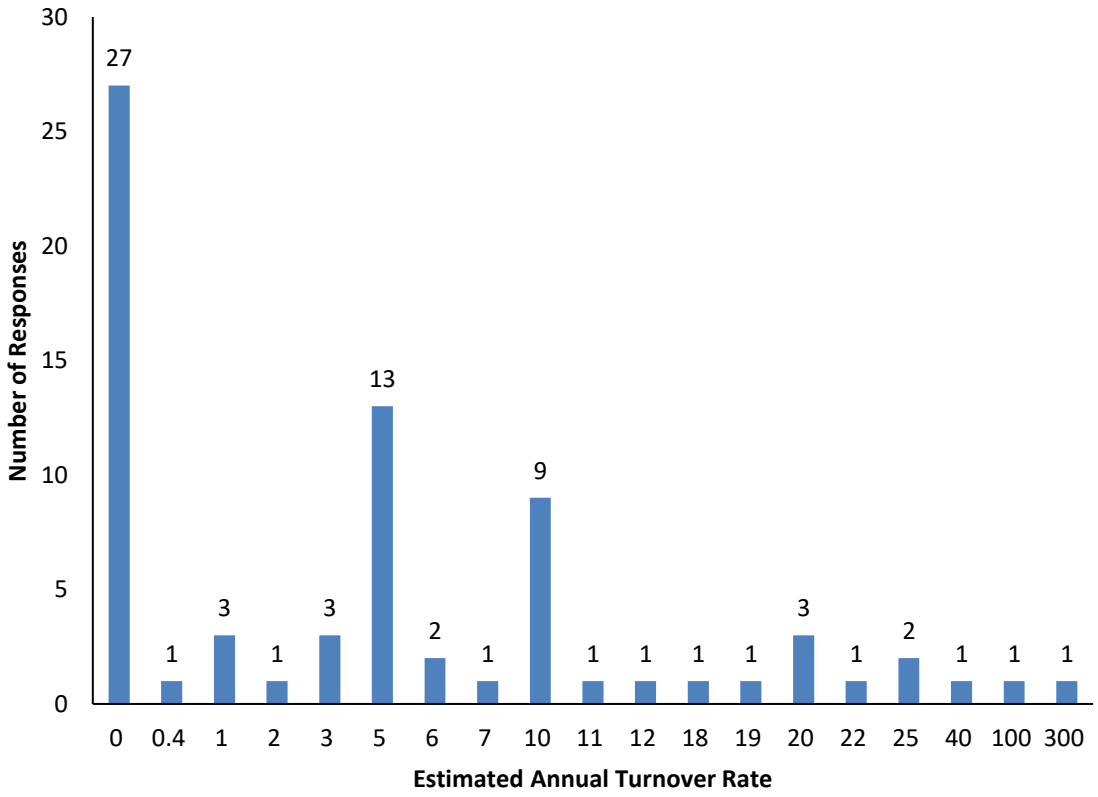
17.Of your annual workforce, how many positions are directly related to aerospace?



Count	Response
7	0
6	1
5	2
7	3
3	4
2	5
1	6
2	8
1	9
6	10
1	16
1	21
2	25
2	35
2	50
1	65

3	75
3	80
1	90
8	100
1	150
1	250
3	400
1	418
3	500
2	700
1	1000
1	2400
1	3000

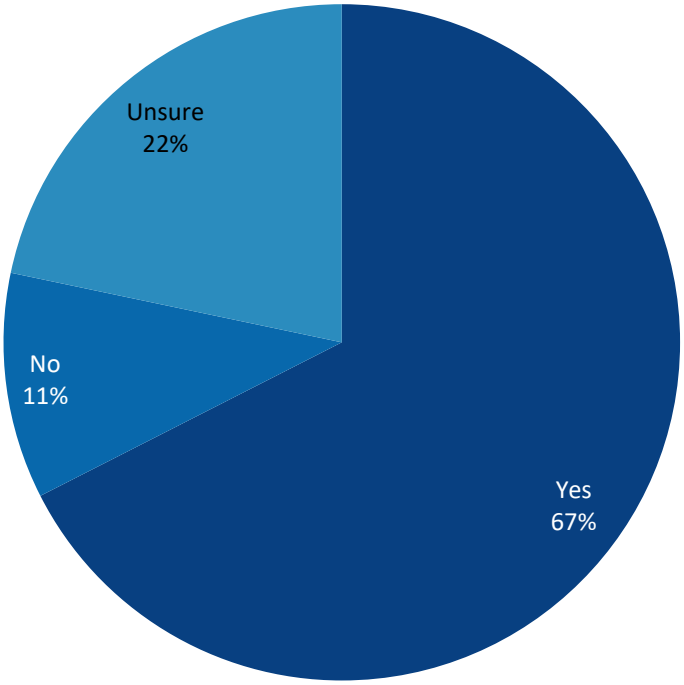
18.What is your average annual turnover rate for aerospace positions (percentage of total workforce)?



Count	Response
27	0
1	0.4
3	1
1	2
3	3
13	5
2	6
1	7
9	10
1	11
1	12
1	18
1	19
3	20
1	22
2	25

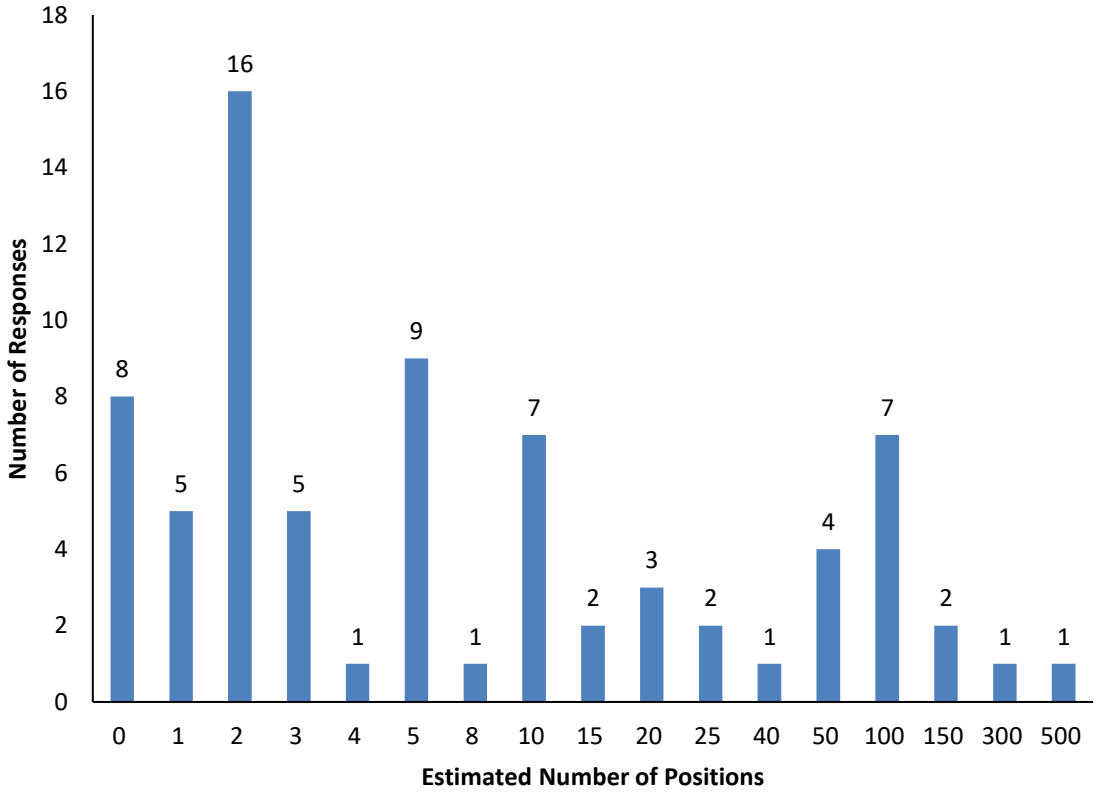
1	40
1	100
1	300

19.Do you anticipate that your company/organization's demand for aerospace positions will increase over the next 1 to 3 years?



Value	Percent	Count
Yes	67.5%	56
No	10.8%	9
Unsure	21.7%	18
	Totals	83

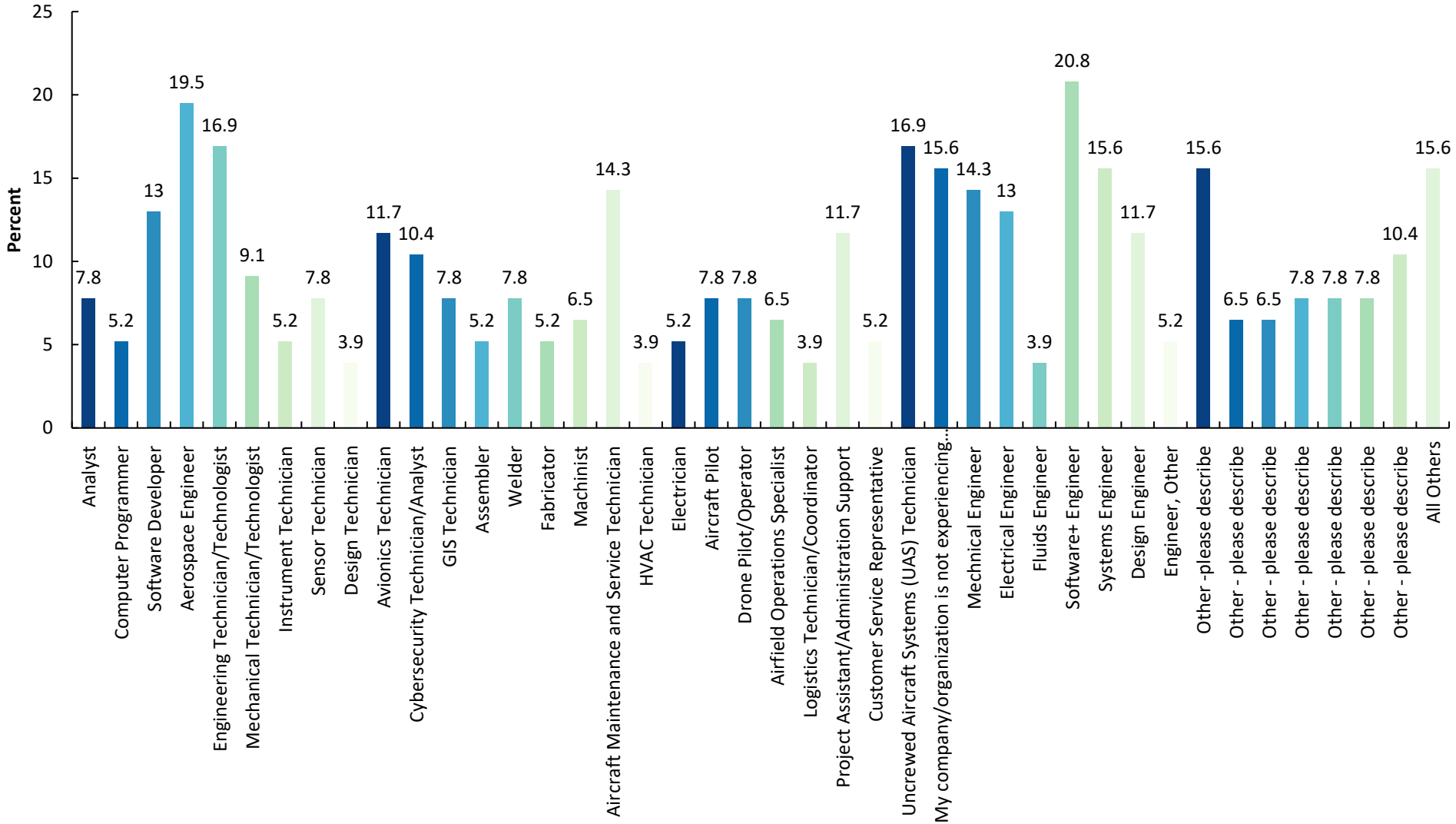
20.Approximately how many aerospace positions do you anticipate your company/organization will need over the next 1 to 3 years?



Count	Response
8	0
5	1
16	2
5	3
1	4
9	5
1	8
7	10
2	15
3	20
2	25
1	40
4	50
7	100
2	150
1	300

1	500

21.Which aerospace positions are the most challenging for your company/organization to fill?



Value	Percent	Count
Analyst	7.8%	6
Computer Programmer	5.2%	4
Software Developer	13.0%	10
Aerospace Engineer	19.5%	15
Engineering Technician/Technologist	16.9%	13
Mechanical Technician/Technologist	9.1%	7
Instrument Technician	5.2%	4
Sensor Technician	7.8%	6
Design Technician	3.9%	3
Avionics Technician	11.7%	9
Cybersecurity Technician/Analyst	10.4%	8
GIS Technician	7.8%	6
Assembler	5.2%	4
Welder	7.8%	6
Fabricator	5.2%	4

Machinist	6.5%	5
Inspector	1.3%	1
Aircraft Maintenance and Service Technician	14.3%	11
Automotive Technician	1.3%	1
HVAC Technician	3.9%	3
Plumber/Pipefitter	2.6%	2
Diesel Mechanic	1.3%	1
Electrician	5.2%	4
Aircraft Pilot	7.8%	6
Drone Pilot/Operator	7.8%	6
Certified Flight Instructor	2.6%	2
Payload Specialist	1.3%	1
Air Traffic Controller	2.6%	2
Airfield Operations Specialist	6.5%	5
Logistics Technician/Coordinator	3.9%	3
Project Assistant/Administration Support	11.7%	9

Customer Service Representative	5.2%	4
Production/Inventory/Stock Clerk	1.3%	1
Health and Safety Coordinator	1.3%	1
Uncrewed Aircraft Systems (UAS) Technician	16.9%	13
My company/organization is not experiencing challenges filling aerospace positions.	15.6%	12
Mechnical Engineer	14.3%	11
Electrical Engineer	13.0%	10
Fluids Engineer	3.9%	3
Software+ Engineer	20.8%	16
Systems Engineer	15.6%	12
Design Engineer	11.7%	9
Engineer, Other	5.2%	4
Other -please describe	15.6%	12
Other - please describe	6.5%	5
Other - please describe	6.5%	5

Other - please describe	7.8%	6
Other - please describe	7.8%	6
Other - please describe	7.8%	6
Other - please describe	10.4%	8

Other -please describe	Count
n/a	3
N/A	2
AI developer	1
Engineering Faculty	1
Faculty	1
Materials Engineer	1
certification, reliability	1
civil engineer	1
faculty	1
Totals	12

Other - please describe	Count
n/a	3
N/A	2
Totals	5

Other - please describe	Count
N/A	2
n/a	2
UAS Data Analyst	1
Totals	5

Other - please describe	Count
n/a	3
N/A	2
Airport Planners	1
Totals	6

Other - please describe	Count
N/A	2
Educators to enhance learning outcomes and inspire a deeper understanding of aerospace and it's importance in the overall nation	1
Program Management	1
Program Managers	1
n/a	1
Totals	6

Other - please describe	Count
Educator	1
FAA / Airspace Coordinator	1
N/A	1
UAS Faculty	1
UAS SME	1
n/a	1
Totals	6

Other - please describe	Count
n/a	3
Instructor	2
N/A	2
Aviation Maintenance Technitians	1
Totals	8

22.Please elaborate on why you believe the entry-level positions you selected above are challenging to fill.

ResponseID	Response
72	Even at entry level we want to see people with related experience and not many have that.
80	Competition with Department of Defense and Commercial Space, both of which offer higher salaries
82	competition
84	Scarcity of trained workforce, and competition with private sector
87	Scaling quickly will require resources.
91	Not enough people pursuing these careers
97	1- Lack of candidates with experience 2- Experienced professionals can make a better salary in other activities than as instructors.
99	Entry-level aviation maintenance instructor positions are challenging to fill because they require a rare combination of FAA-certified technical expertise and pedagogical skill. The industry is currently facing a critical shortage of technicians, which has driven field salaries (up to $120k) far above typical academic pay. Additionally, the strict FAA experience requirements mean that anyone qualified to teach is already highly recruited by airlines,

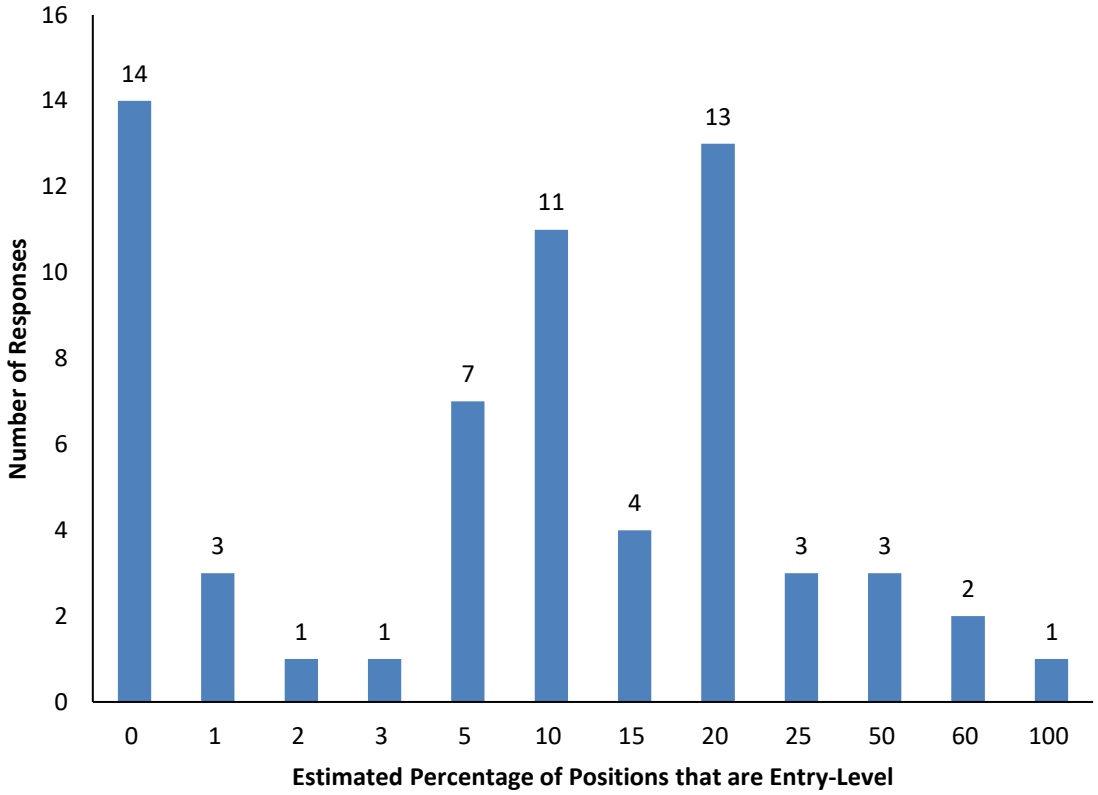
	leaving a narrow pool of candidates who are both legally eligible and willing to accept an instructor's salary.
100	I recruit specifically for Aircraft Maintenance Technician positions so i would say that would be my challenge depending on different factors. Some could be timing, and relocation bonuses and base locations/ Schedules, and other benefits aligning for that prospective candidate.
103	The machinist positions we hire are not entry level. Our requirements are that the candidate have at least 3- 5 years of experience with machining and a knowledge of the aerospace industry. Those skillsets are difficult to find.
109	Finding the right person to perform structural analysis on aircraft takes a very special type of engineer
122	Skilled labor with specific niche related to our programmatic needs
123	Difficult to find pilots that have passed the 107 exam and own a UAS that can handle the missions.
139	Requires experience and expertise in software dev and engineering for space systems. Reated is Firmware Developers (FPGA) -- tough to find experienced staff.

145	I'm not in a position to respond to most of these questions.
149	Skills matching the job
151	We are not experiencing challenges now, but if your current workforce were to quit, I suspect that we would have significant challenges refilling the positions.
156	hard to find dedicated, eager, self-motivating programmers or developers
157	Timing is a problem. We don't know well in advance when we will need someone. If the timing is off for graduation dates with enough advance to get the better employees, we have a hard time finding people.
158	The engineers are highly concentrated with Va Tech grads. Other than that, it is difficult to get folks to move to Blacksburg
159	Very competitive field with embedded electronics systems.
160	Funding
163	As an entity of the Commonwealth of VA; we cannot pay salaries that are as high as private sector. This makes it hard to hire and retail talented staff.
168	Hard to compete with industry.

171	We will need teachers in these areas which we anticipate will be difficult to fill as teacher pay can be less than industry pay.
175	Post covid societal norms and increasing entitlement mindset. General loss of willingness to transition/learn the business.
180	Talent availability in a rural location,
184	We cannot pay teachers what industry can
185	Relocation challenges
186	Catch-22 of hiring: Want people with experience, but can't get experience without getting initially hired. Organizations/companies need to risk investment into future top-performers.
190	They are still considered niche sets of knowledge skills and abilities, and limited exposure to talent to understand it is an accessible industry. Moreover, I believe the untersection of GIS, systems engineering and software/network understanding (which could include embedded software systems and development), plus modeling and simulation - these are pieces of the UAS pie that make it whole. Often those pieces are collected over time currently through experiences rather than dedicated educational avenues. A well-rounded program could contribute to growing this workforce.

192	They demand knowledge and perspective that is perhaps best / most easily gained from on the job training with experienced professionals
199	Skill based with required certifications
204	Workforce readiness. Too many misguided high school guidance counselors are repeating the go to college and get a good job mantra. Turns out that as a country we have lost the ability to build anything that way.
209	Our work is so broad that we need people with a variety of skillsets.
211	Local economics

23.Approximately what percentage of employees at your company are entry-level positions?



Count	Response
14	0
3	1
1	2
1	3
7	5
11	10
4	15
13	20
3	25
3	50
2	60
1	100

24.What entry-level technical skills and competencies are most critical for aerospace positions at your company/organization?

ResponseID	Response
72	Ability to problem solve. Know when to try to do it yourself and when to ask for help. Ability to do research yourself… aka ask google first.
75	Atmospheric Science Machine Learning/AI
77	N/A
78	Aircraft technicians
79	Software engineering
80	Artificial Intelligence, multi-disciplinary engineering
82	Programming and Mathematical skills
83	1
84	Engineering, analytical
85	n/a
92	Able to address and solve minor technology glitches and make repairs as needed.
94	advanced materials, additive manufacturing, Industry 4.0 / 5.0
95	Critical thinking, logical decision making (technical and non technical), willingness to

	learn, initiative, self starter, strong technical foundation, seeing the big picture.
96	Again, I do not have aerospace potions at my organization, I prepare students with the skills to be successful in the aerospace industry.
97	A&P license, minimum of an AAS degree in the field, teaching/instruction experience
98	knowledge of state and federal government procurement
99	Technical experience (A&P license), General Aviation background, and Airline experience.
100	A/P LICENSE- Cannot work on our aircrafts if you dont have it. Responsible, Attention to detail Hard Working Trouble shooting Comprehension Team Oriented
101	Add
103	We do not have entry level positions.
104	AI, use of electronic equipment, analytical
105	Design/analysis software
108	GIS and software literacy
109	Statics background. Understanding of structures and composites

110	research and teaching experience in autonomous systems.
111	None of our aerospace positions are entry level.
122	Familiarity with processes, regulatory constraints, and industry standards related to launch vehicles and aerospace applications
123	Ability to operate drone safely and efficiently according to flight parameters.
125	BS or MS
126	Operations and Maintenance Cyber Security
127	BS or MS in Applied Math
131	All modern software development practices
139	-- Software and Firmware Engineers/Developers -- Handling and splicing fiber optic cables -- Soldering electronic components to J-STD standards
140	20) Entry-level employees must understand the full development lifecycle, from requirements to integration and final testing. They should be able to read and interpret requirements, support design work, assist with coding or configuration where applicable, and execute structured testing. Competency includes basic systems thinking, version control discipline, writing or following test procedures, collecting

	and analyzing data, and troubleshooting using evidence. They must understand how their work affects the larger system, not just their assigned task.
141	None
145	N/A
147	Systems Engineering skills
149	related to software (Modeling, AI and Security), Sensors and basic engineering techs
151	We need people who can juggle mutiple tasks (soldering, understanding electronics, UAS repair and maintenance, data analytics, pretty much all of the skills that are outlined in the Virginia sUAS DACUM.
156	learning our system
157	Good understanding of flight dynamics and controls and software development for flight simulation models and data analysis. I look for natural curiosity when interviewing potential hires.
158	Good hands on lab competency combined with good technical design skills
160	Understanding of UAS industry for use of their specific disciplines i.e.; AI engineer, software engineer, electrical engineer (for work with NVIDIA or other SFF computers)s

163	UAs and engineering
164	none
166	n/a
167	The ability to teach the same skills employed in industry.
168	cutting-edge research
171	We need instructors with real world experience of at least 2 years and relevant certifications.
174	Adaptability across software engineering, UI design and Statistical analysis (Mechanical/Aerospace).
175	A&P, Engineering
178	Leveraging AI tools for design, engineering and administrative.
180	x
183	Basic understanding of the systems the employee will be working on with one year of practical experience preferred.
184	Tool handling
186	Compliance with regulations
187	System engineering skills; Math, Physics

188	RF engineering, orbital mechanics, and computer networking
190	We don't currently have any, but industry as a whole I'd say systems, network and electrical competencies will be critical for Part 108 enablement because it requires dedicated maintenance programs.
192	Hands-on mechanical skills
194	Professionalism and good attitude
196	Test equipment operator, instrumentation tech, programming, data analysis, other
204	Hands on experience and the ability to have the mind wrapped around what is going on, that gut feel sanity check type thing that can throw up the red flag of this feels right or this feels wrong.
209	Microsoft products, understanding airfield, terminal, and roadway space.
211	UAS training
212	engineering and research

25.What entry-level workplace/professional skills and competencies are most critical for aerospace positions at your company/organization?

ResponseID	Response
72	Understanding professional behavior. Communication, communication, communication.
75	Writing
77	N/A
78	NA
79	software engineering
80	Collaboration skills, multi-tasking, conflict resolution. People skills to complement their technical skills
82	Verbal and written communications and math skills
83	1
84	interpersonal, customer service
85	n/a
92	Strong work ethic, detail-oriented, and communicate effectively.
94	Critical thinking, communication, time management

95	See previous
96	We do not employ aerospace employees; our advance manufacturing professors prepare students for positions within the aerospace industry.
97	some pedagogical skills, good computer skills, people skills
98	Knowledge of CFR 200
99	Some pedagogical skills, people skills
100	Responsible, Attention to detail Hard Working Trouble shooting Comprehension Team Oriented
103	None
104	communication, teamwork, computer related skills
105	professional communication
108	Diverse combination of UAS platforms, sensors, software, and applications
109	knowledge of structures software is essential. FEMAP/NASTRAN, and a cad package like Catia, NX, Solidworks is very helpful
110	see above

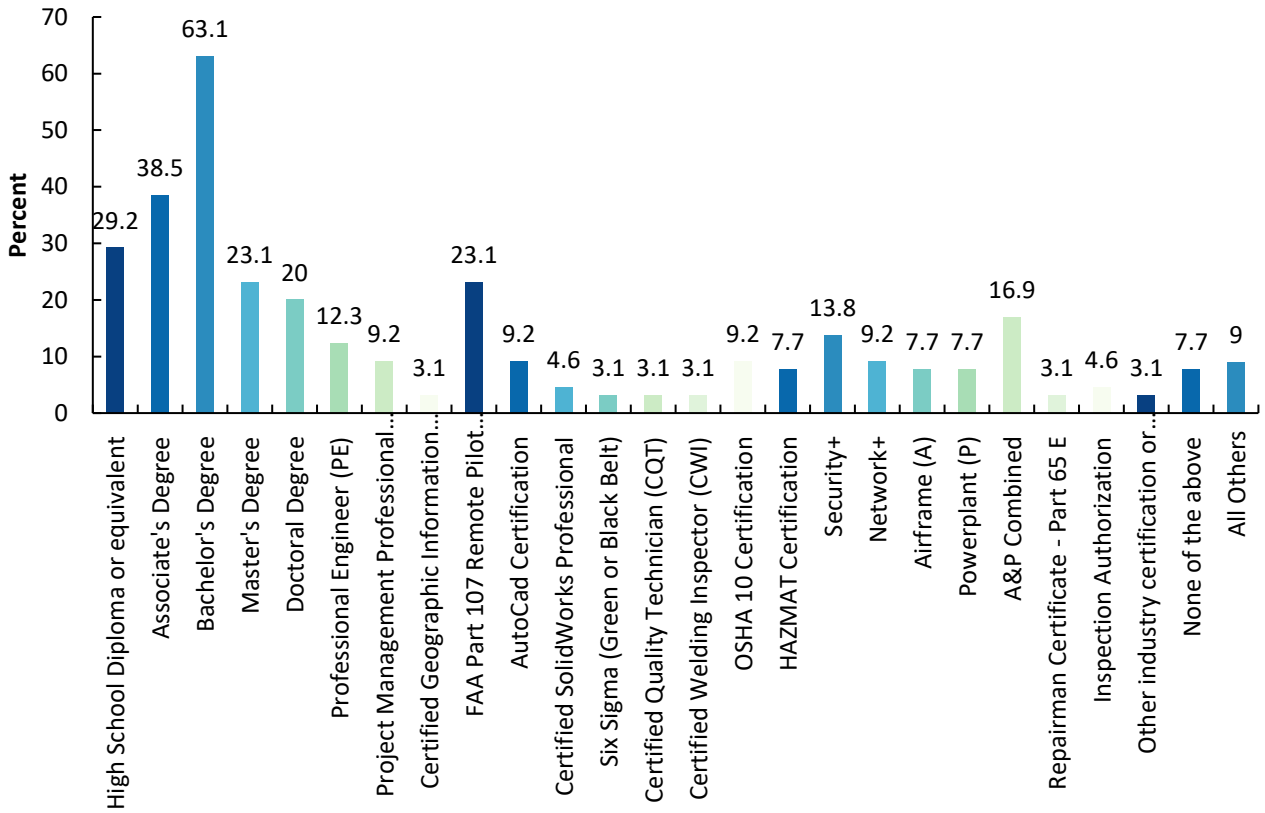
111	None of our aerospace positions are entry level.
122	Direct project work related to launch vehicles and aerospace applications
123	Ability to communicate with project managers in professional manner.
125	BS or MS
126	Software, Cyber security, systems analysis
127	Emotional Intelligence
131	All modern software development practices
139	Work ethic and teamwork
140	Entry-level employees must demonstrate strong interpersonal communication skills across engineering, quality, manufacturing, and test functions. They must clearly explain technical work, ask clarifying questions, document findings accurately, and escalate risks early without ambiguity. Competencies include active listening, professional collaboration, and the ability to translate technical details for different audiences. They must operate with total ownership and reliability; identify issues, implement corrective actions, verify performance, and confirm effectiveness, closing the loop rather than stopping at task completion.

141	None as we are a one-person consulting firm.
145	N/A
147	Knowledge of how to leverage AI for aerospace applications
149	related to software (Modeling, AI and Security), Sensors and basic engineering
151	Intangible competencies are critical: Providing educational forums, organizational skills, instructional/communication skills, learning new skills (self-motivated, self-learner) as technologies and regulations evolve.
156	coding experience
157	Good communication and interpersonal skills are critical for a small company like ours. Also, a willingness to do whatever is needed vs. thinking something is not their job.
158	Willingness to learn
160	Experience with UAS
163	technical writing and program managment
164	none
166	n/a
167	The ability to teach the same skills employed by industry.

168	classroom teaching skills, grant writing
171	We need people who can teach with patience and strong communication skills
174	Communication, Critical feedback, Asking questions, and Home Work prior to meetings.
175	A&P, Degree
178	business development and sales
180	x
183	Basic computer and time-management skills.
184	Communication
186	Attention to detail and precision execution of duties
187	Project management; Ability to balance multiple priorities; communication skills
188	Attention to Detail: High precision is essential to avoid errors in critical mission operations. Problem-Solving: Ability to resolve complex technical issues under tight deadlines. Collaboration: Working within multidisciplinary teams (software, hardware, operations). Technical Communication: Effectively documenting and explaining technical data. Adaptability: Willingness to learn rapidly in a fast-evolving

190	Data analytics
192	Communications (written) and work ethic
194	Pilots
196	Communication, collaboration, report writing
204	Not unlike the previous answer, hands on experience is the key. Applying theory without an understanding of how it is applied is a recipe for disaster.
209	Effective communication, problem solving
211	General computer and communications skills.
212	team work

26.What degrees, credentials, or certifications are required for entry-level positions at your company/organization? (Check all that apply)



Value	Percent	Count
High School Diploma or equivalent	29.2%	19
Associate's Degree	38.5%	25
Bachelor's Degree	63.1%	41
Master's Degree	23.1%	15
Doctoral Degree	20.0%	13
Professional Engineer (PE)	12.3%	8

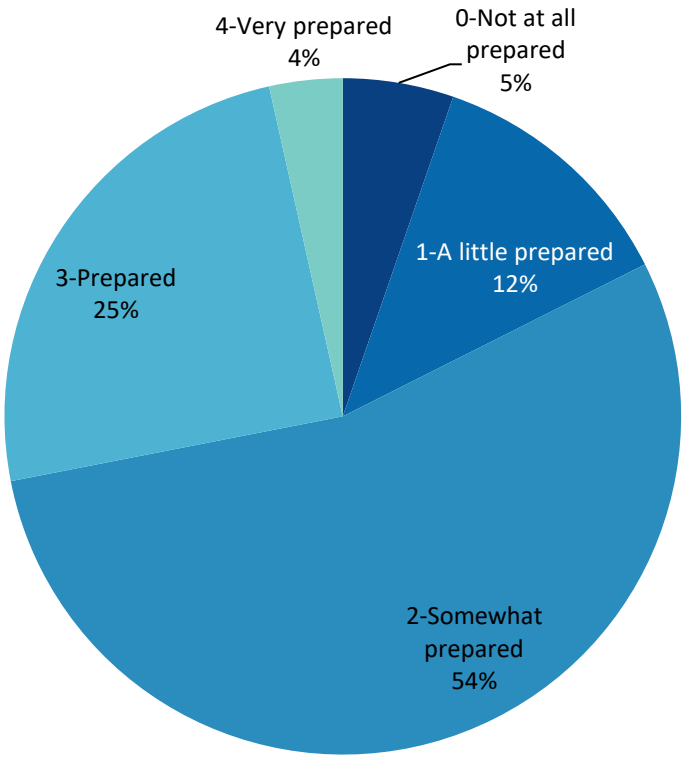
Project Management Professional (PMP)	9.2%	6
Certified Geographic Information Systems Professional (GISP)	3.1%	2
FAA Part 107 Remote Pilot Certificate	23.1%	15
AutoCad Certification	9.2%	6
Certified SolidWorks Professional	4.6%	3
Automotive Service Excellence (ASE)	1.5%	1
Six Sigma (Green or Black Belt)	3.1%	2
Certified Quality Technician (CQT)	3.1%	2
Certified Welding Inspector (CWI)	3.1%	2
NOCTI-Machining	1.5%	1
OSHA 10 Certification	9.2%	6
HAZMAT Certification	7.7%	5
Security+	13.8%	9

Network+	9.2%	6
CompTIA (Other)	1.5%	1
AUVSI Trusted Operator Level 1	1.5%	1
Airframe (A)	7.7%	5
Powerplant (P)	7.7%	5
A&P Combined	16.9%	11
Repairman Certificate - Part 65 E	3.1%	2
Inspection Authorization	4.6%	3
NCATT AET (Aircraft Electronics Technician)	1.5%	1
FCC General Radiotelephone Operator License	1.5%	1
Other industry certification or credential: please specify	3.1%	2
None of the above	7.7%	5

Other industry certification or credential: please specify	Count
Commercial Pilot	1

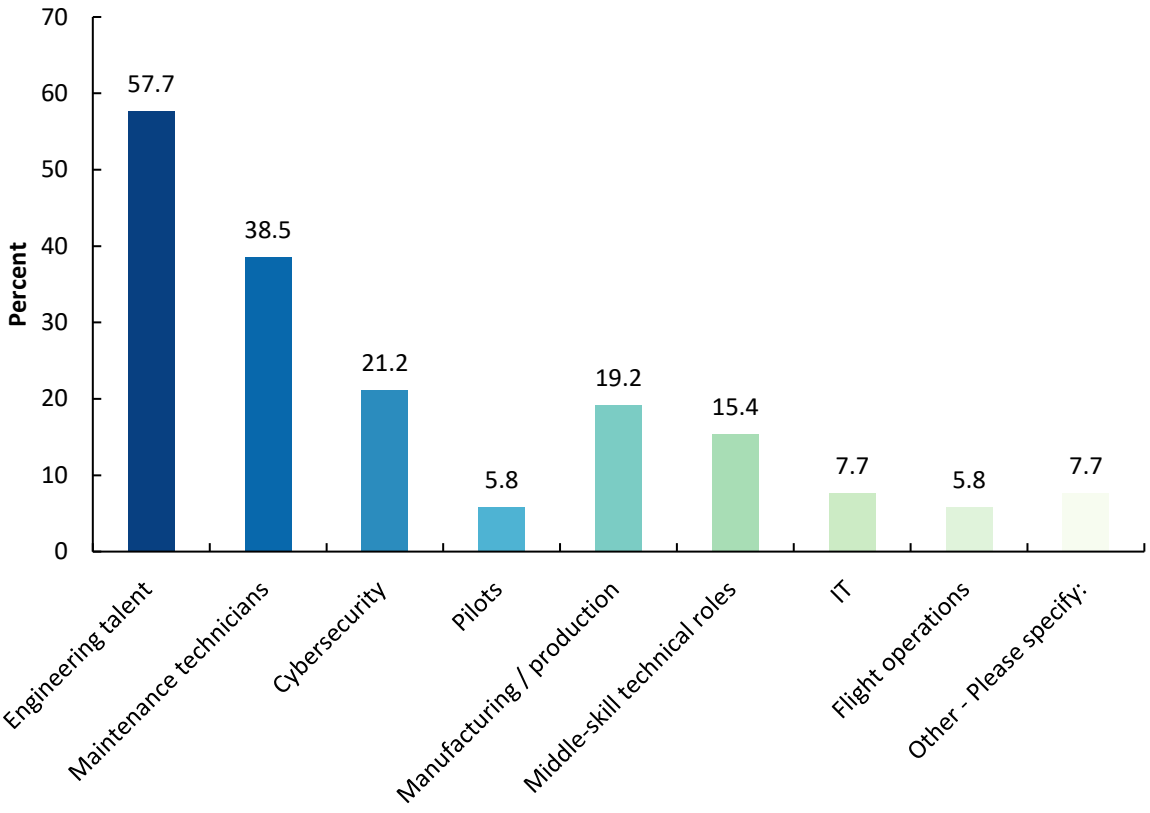
J-STD for soldering	1
Totals	2

27.Please rate entry-level workers' overall level of preparedness for employment in the aerospace field.



Value	Percent	Count
0-Not at all prepared	5.3%	3
1-A little prepared	12.3%	7
2-Somewhat prepared	54.4%	31
3-Prepared	24.6%	14
4-Very prepared	3.5%	2
	Totals	57

28.Where do you see the biggest skill shortages in today's entry-level aerospace/aviation workers?

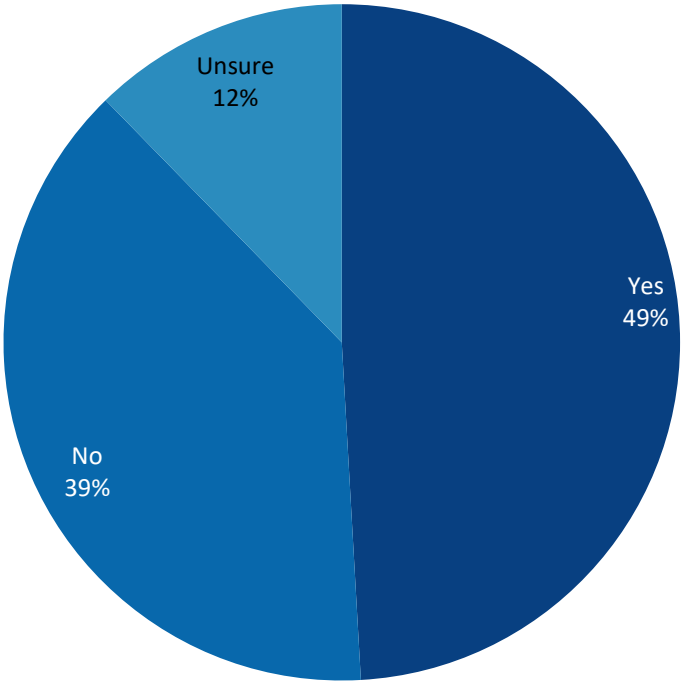


Value	Percent	Count
Engineering talent	57.7%	30
Maintenance technicians	38.5%	20
Cybersecurity	21.2%	11
Pilots	5.8%	3
Manufacturing / production	19.2%	10
Middle-skill technical roles	15.4%	8
IT	7.7%	4

Flight operations	5.8%	3
Other - Please specify:	7.7%	4

Other - Please specify:	Count
All types of Technicinas	1
N/A	1
Project management	1
airports/business	1
Totals	4

29.Does your company/organization offer one or more internal training programs for job-related skills or certifications?



Value	Percent	Count
Yes	49.1%	28
No	38.6%	22
Unsure	12.3%	7
	Totals	57

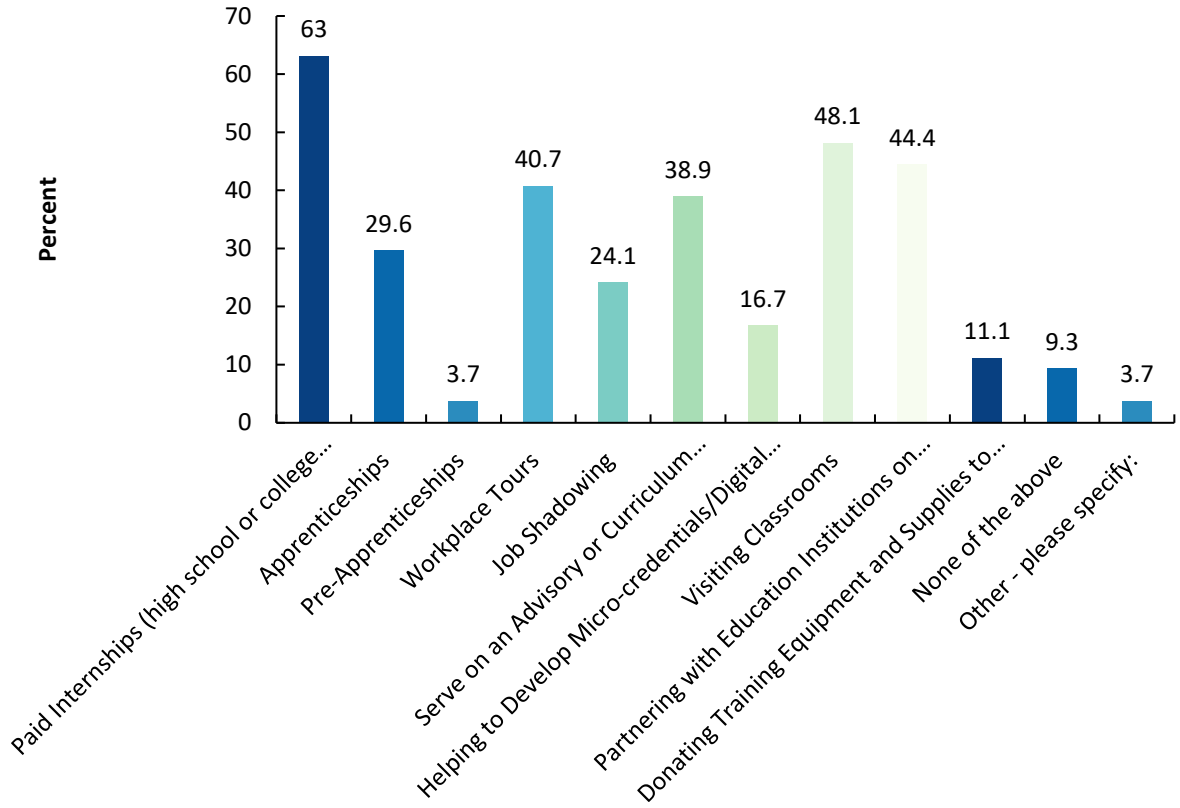
30.Please describe the internal training program(s) your company/organization offers its employees.

ResponseID	Response
80	Tuition reimbursement program, Managers allocated training budgets, internship program, mentoring program
82	professional development
83	1
84	initial and recurrent for certifications
96	Electricity, Welding. Machining, Maintenance, Construction
100	A/P MECHANICS GO THROUGH EXTENSIVE TRAINING WHILE ON THERE 6 MONTH PROBRATIONARY PERIOD. 4 WEEK GEN FAM TRAINING 2 WEEKS SYSTEMS TRAINING 6 MONTHS OJT'S OR ON THE JOB TRAINING
104	ai
105	Extensive training available through formal university courses, informal university couress, Linked-In, etc.
108	We have certificates and full degree programs in GIS and a single course in UAS applications.

109	We have to train entry level engineers to be able to perform effectively. We do one on one training by sitting them next to a mentor
122	On-the-job and computer based training
127	Pathways allows post graduate students working on their PHD to intern at NASA along the way.
131	Three sessions weekly on modern software development practices and AI
139	Fiber-optic splicing J-STD soldering Polymerics prep and applications ESD Laser Eye Safety
147	Engineering, IT, AI, and multi-media training with mentors - we hire about 20 interns every summer
157	We pay for advanced degrees that are job related. We pay for 50% of a pilot's license, instrument rating, or commercial license training. We support other training when it makes sense.
158	Internal mentoring program
167	BRCC offers a FAA approved AMT training program.
175	145 and AQMS Training for our systems.
184	AMT AAS & A&P Certs

194	Part 135 Flight Training Program
209	In the past, we have put together 1-2 hour training courses on CAD, airport finance, operations, etc.
211	Basic and advanced UAS training. Engineering technician training
212	internships

31.Which of the following might your company/organization be willing to offer as a way of developing the aerospace workforce or recruiting qualified entry-level workers?



Value	Percent	Count
Paid Internships (high school or college students)	63.0%	34
Apprenticeships	29.6%	16
Pre-Apprenticeships	3.7%	2
Workplace Tours	40.7%	22
Job Shadowing	24.1%	13

Serve on an Advisory or Curriculum Development Committee	38.9%	21
Helping to Develop Micro-credentials/Digital Badges	16.7%	9
Visiting Classrooms	48.1%	26
Partnering with Education Institutions on Service-Learning Projects	44.4%	24
Donating Training Equipment and Supplies to Education Institutions	11.1%	6
None of the above	9.3%	5
Other - please specify:	3.7%	2

Other - please specify:	Count
N/A	1
unpaid internships	1
Totals	2

32.How can education and workforce development institutions improve their programs to better prepare entry-level workers for success in the aerospace workforce?

ResponseID	Response
72	Hands on experience and projects are really important.
75	Communication skills
78	Introduce them to hands-on work and the real-world expectations of the workforce. This includes introductions to interviews, creating resumes, true pay expectations, and an average workday.
80	Encourage participation in internships to expose students to professional work environment. Partner with industry on internship programs.
82	more industry engagement
83	What do you need from graduate that you are not getting and do you have any ideas how to improve education improve those outcomes.
84	Expanded offers for traditional institutions. More industry tailored programs
94	Increase real engagement with Industry Advisory Councils (vs. tick-in-box)

95	Get the students to understand the fundamentals and how they build upon each other. Don't just accept that the computer did the work, but have the engineering knowledge to think about what the answer should be and critically assess your result to check it's realistic
96	We can create programs directly with aerospace employers to ensure students have the correct skills to be successful in the industry.
97	Institutions can improve programs by integrating hands-on technical training with employer-led curriculum and stackable certifications to ensure entry-level workers possess both the specialized skills and workplace readiness required for immediate industry success
98	offering credentialed programs
99	Institutions can bridge the gap by aligning curriculum directly with industry standards through employer partnerships and hands-on apprenticeships, ensuring graduates earn stackable credentials that guarantee immediate workplace readiness
100	Exposure. I believe some students don't realize the possibilities in aviation which cause them to miss out completely. If we can get more scheduled visits in the classroom early with this prospective students i believe will continue

	to see a trend of more students getting into this field.
104	more hands on application
105	Partner with industry on emerging aerospace topics
108	Create me engaged collaborative research, service projects and internships. Organize short courses or seminars around emerging topics, problem-based learning, and inviting real world speakers (e.g., ODU Drone Seminar)
109	We take people fresh out of college, so having the universities actually make sure their students know the basics is essential. Virginia Tech used to have an excellent pipeline for us, but a past governor had them change their curiculum and they REMOVED time spent learning the basics. We've noticed a drop in capability since that was done. If they can go back to what they used to do, have MORE time in Statics and Deformables, they'll produce better engineers.
110	The aerospace industry needs to become more involved with educational institutions to help attract students into this field.
111	Soft skills development
122	Work with commercial companies to develop targeted curriculum related to direct programmatic needs.

123	Emphasize the advancements in technology and opportunities that are available with unmanned aircraft and the future need of qualified pilots to execute missions.
125	More involvement in competitions, drone competitions, and other design competitions
126	Skill training for writing, communications, use of IT technology (for example: data collection and analytics) safety and teamwork.
127	In addition to core curriculum, provide some Introduction to research.
131	Expose them to the broad range of options and help destigmatize certain roles
139	Talk to us and visit our labs/facilities
140	One of the best ways we've found to educate and prepare individuals to advance and become an integral part of the aerospace workforce is real-world exposure. Classrooms and controlled academic environments are clearly necessary, but hands-on experience in diverse industry settings is essential.
141	Educational institutions in general need to offer more "real-life" experience opportunities in the Engineering area. Aerospace Engineering degree programs have historically been highly technical (aerodynamic, hypersonics, fluid flows, thermodynamics, etc., but are almost totally lacking in many essential areas such as

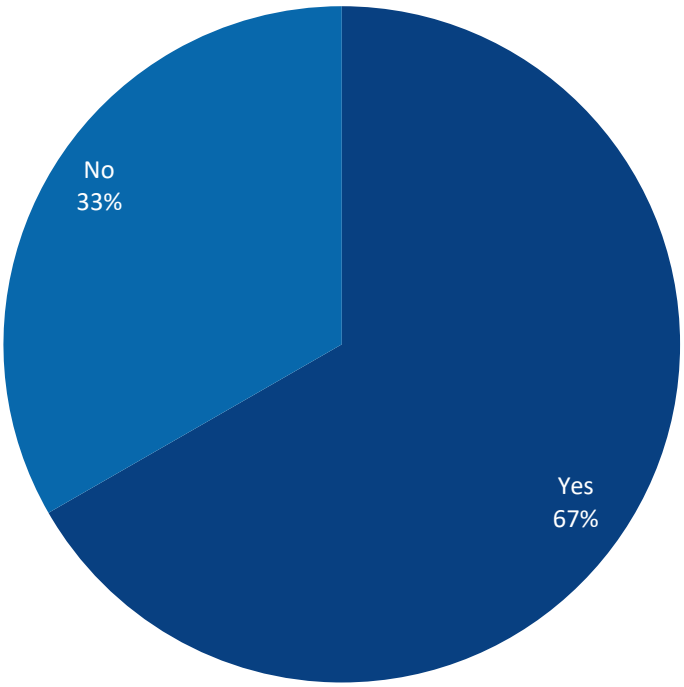
	operations, requirements development, and things such as the elements of the NASA life cycle. Graduating students frequently enter the workforce totally unprepared for essential jobs in these areas. Recommend implementing course work, training programs, job shadowing activities and such programs to educational and workforce institutions.
145	Lean from other successful institutions' experiences.
147	For software and programming skills, make sure they can leverage AI
149	Better understand employer needs
151	In my opinion, much of this needs to start at the middle and early high school levels. In order to reach these students, we need to first reach the teachers who interact with and can actually have an impact on the students.
156	I really don't know. Entry level workers need to be driven
157	We have a very good track record of hiring from primarily two universities that we stay in contact with. Generally, the new hires have been great. One thing I have noticed, graduates from one of the universities will bring/present figures without units. That is meaningless. I'm not sure if it's the university's fault or just a lack of rigor. I had a professor that said he would give us a zero for a test that had a units

	mistake. It seemed harsh at the time but keeping track of units is a key way to recognize and prevent mistakes.
158	Would need to discuss
163	hands on learning with the design/build/modify/flying of UAS
164	Get involved with/start programs like the Talent Pipeline Program (TPP), originated by PEO Strategic Submarines, and now run thru Blue Forge Alliance. There is growing need for talent to integrate UAS into sea-going vessels, submerged and surface.
167	Focus on scaling existing programs instead of establishing new competing programs. Encourage state wide marketing for these professions.
168	That's our job. Improved facilities, better connection with UAS industry.
174	Simple. Develop, Implement, see it work, get feedback and improve. A task can be mastered. By having a feedback loop that effects the end user. This feedback, from seeing the actual impact, with iterative development is the only way.
175	Better integration of institutional learning into the workplace. refocus on trades. Better Integration of AI and use of technical software

	tools. Return to STEM core focus. Focus on written and spoken english.
178	The $5k space grant has been a fantastic tool for us in the past. Keep offering that.
183	Early exposure to STEM-related learning and experience for students is key, starting in Kindergarten and throughout elementary-, middle-, and high school. College and university for-credit internship programs.
184	Funding and resources
186	Provide options to obtain official technical certifications. That should hold true for people going into management positions. If you're going to oversee an aerospace team of professionals, you should also have the ability/knowledge to perform the duties on the shop floor on top of managing the business operations/program management portfolio.
187	n/a
188	shifting from purely theoretical instruction to applied, industry-aligned training that emphasizes software skills, RF fundamentals, and hands-on experience with satellite systems.
190	See previous responses
192	Fundamentals

194	Get the word out that non-college skill based careers are the path to success in an AI dominated future.
196	Collaborate with industry and government partners in curriculum development. Create short-duration projects that engage industry and government. Perform field tours as part of educational programs.
204	Working together toward a long term vision without worrying about whether anything makes sense in the short term.
209	Continue to emphasize all the types of jobs that the industry provides. Finance, business, airport planning, etc. seem to be less of a focus than engineering.
211	ESCC in partnership currently offers aerospace training.
212	Include training in soft skills like working in teams

33.I would be willing to talk briefly with a VABA/VSGC representative to provide additional information about our organization's aerospace workforce needs.



Value	Percent	Count
Yes	66.7%	38
No	33.3%	19
	Totals	57