



Payload Logistics Lead

JOB OUTLOOK¹

Employment of engineers in the aerospace industry is projected to grow 7 percent from 2019 to 2029, faster than the average for all occupations. Most employment growth for these workers will be in the professional, scientific, and technical services industry. New developments in small satellites have driven greater commercial viability. The growing interest in unmanned aerial systems will also help drive growth of the occupation.

Employment opportunities should be favorable for those trained in software, such as C++, or with education and experience in stress and structural engineering.

SALARY RANGE¹

\$72,450 – \$166,620

WHO ARE THEY?¹

A payload logistics lead is a professional with an advanced understanding of the engineering and mechanics needed to identify mission challenges and drive innovative solutions for spacecraft vehicles' structural payload design, development, integration, testing and in-orbit operations.

They are good at identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. They also have a knack for organization and planning with the teams that are responsible for ensuring that projects are completed on the assigned timeline, within a given budget, and according to all requirements or specifications.

Being the payload logistics lead requires a willingness to lead others, take charge, and offer opinions and direction. This can involve searching for facts and figuring out problems mentally. It also requires creativity and alternative thinking to develop new ideas and answers to work-related problems.

WHAT DO THEY DO?

Payload logistics leads assist in the review, development, and creation of spacecraft structural loads. They model and simulate those loads and dynamic environments while working within system constraints on mass, power, and volume. A payload logistics lead creates, reviews, and assesses the requirements, design, analysis, testing, manufacturing, operating environment, and verification of payloads. Payloads can be a communications satellite, a space probe, or another spacecraft carrying cargo.

Payload logistics Leads lead discussions with management and customers to identify challenges and drive innovative solutions related to the mission payload development, risks, and capabilities. Payload logistics leads participate in reviews and lead cross-disciplinary working groups to assess technical requirements, analyze end-to-end system capabilities, and share information, findings, and recommendations related to vehicle structural loads. They perform post-flight reconstruction and comparisons to pre-flight predictions in order to improve processes.



Payload Logistics Lead (Continued)

EDUCATION/ TRAINING^{1,2}

- Bachelor's degree in engineering or a related STEM field: required
- ABET-accredited program: may be required
- Master's degree in engineering or a related STEM field: preferred
- Project management and other industry-specific certifications: desirable
- Internships and/or on-the-job training to gain practical experience desirable

HOW DO I BECOME ONE?^{1,2}

Payload logistics leads need a Bachelor of Science in engineering, physics, or other STEM area. In addition, the position may require an Accreditation Board for Engineering and Technology (ABET)-accredited program. Positions on projects that are related to national defense may require a security clearance. U.S. citizenship may be required for certain types and levels of clearances.¹

Those interested in this field should build skills in mathematics, physical sciences, and engineering, beginning in high school. Students can build these skills by taking courses such as algebra, calculus, statistics, physics, and computer science. Students should look for cooperative-education programs and other internships in which they earn academic credit. Students will need strong problem solving and communication skills, excellent organization and time-management skills, and keen attention to detail.²

¹ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook. <https://www.bls.gov/ooh/architecture-and-engineering/aerospace-engineers.htm>.

² AIAA Industry Professional Career Timeline. <https://www.aiaa.org/careers/professional-career-timeline>.