

NEWSPACE MARKET · COMPANY PROFILE



a.i. solutions

United States · founded 1996 · ai-solutions.com

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PRODUCTS

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SERVICES

newspacemarket.com/companies/a-i-solutions/

as of 20 August 2026



a.i. solutions

a.i. solutions designs and manufactures the FreeFlyer Astrodynamics Software, which provides astrodynamics functionality for missions of any size, scale, and orbit regime. This software supports the full lifecycle of missions, including flight dynamics computations, maneuver planning, constellation and relative motion dynamics analysis, sensor modeling, access and coverage metrics, and optimization. The company also offers mission services solutions. Its products are used by government, civil, and commercial space agencies, including NASA, the Missile Defense Agency (MDA), and the USSF. FreeFlyer is used for daily operations of the International Space Station (ISS), powers the JWST Flight Dynamics Ground System, optimizes Gateway's NRHO, and forms the backbone of the flight dynamics ground system for Dream Chaser. The company was founded in 1996 and is headquartered in Lanham, MD, with additional locations across the United States. It has nearly 450 employees. FreeFlyer has heritage on over 250 missions. a.i. solutions provides Quality and Mission Assurance solutions and Launch Services solutions.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Communications and Telemetry (C&T) Operations and Management (O&M) a.i. solutions ensures continuous operational readiness through effective C&T O&M, sustaining engineering, and development, achieving high uptime rates.	Launch and Range Systems Solutions a.i. solutions provides cutting-edge launch and range systems solutions, covering every aspect from precise engineering to seamless operational integration and risk mitigation.
Mission Services Solutions a.i. solutions provides comprehensive mission services solutions to government, civil, and commercial space agencies, leveraging their FreeFlyer astrodynamics engine.	Operational Launch Support The company provides operational launch support, including range maintenance, hardware/software sustainment, asset scheduling, and facility operations and maintenance.
Radio Frequency Link Margin Assessments The company provides precise and reliable Radio Frequency Link Margin assessments to demonstrate high Signal-to-Noise (SNR) for various communication links.	

Product catalogue



A.I. SOLUTIONS

FreeFlyer Astrodynamics Software

ITAR-free astrodynamics and mission analysis software with heritage on 250+ missions (ISS, JWST, Lunar Gateway) — orbit propagation, maneuver planning, orbit determination, contact

Mission heritage	250+ missions
Force models	Gravitational harmonics, 3rd body, SRP, drag
OD methods	Batch Least Squares, EKF, UKF
Optimization	SNOPT, Ipopt, NLOpt
Runtime API	Python, Java, C/C++, C#
ITAR	ITAR-free
Certifications	CMMI Level 3, CMMC Level 2

price on request

Contact a.i. solutions

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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