KURTEK

CURATED TECHNOLOGIES

ADVANCING TECHNOLOGY ◆ ADVANCING HUMANITY

SYSTEMS ENGINEERING

*AGENCIES MUST ADDRESS **TRANSFORMATIONAL PARADIGM SHIFTS** IN DEVELOPING, DEPLOYING, AND OPERATING THE NEXT GENERATION OF MISSION-CRITICAL SPACE AND GROUND SYSTEMS.*

As the complexity of space and ground systems continues to grow, so too does the need for robust systems engineering at all phases of the system lifecycle, from program formulation to system decommissioning. Kurtek provides a portfolio of systems engineering services that combines integrated, multidisciplinary methodologies and specific domain expertise to deliver optimized technical solutions and support agencies in technology acquisition, evolution, and sustainment.

THE KURTEK DIFFERENCE

Our core strength is an **unparalleled team** of senior engineers and specialized subject-matter experts. Our engineers have decades of **proven performance** in multiple technical disciplines, with direct **hands-on experience** supporting numerous agencies, missions, programs, and systems across the global space community.

Every mission and program is different. Our staff implement robust processes to ensure compliance with key systems engineering standards, including ISO 15288, DoDI 5000.88, and NPR 7123.1, while seamlessly tailoring and adapting the standard practices, frameworks, and methodologies of the SEBOK to mitigate risks, reduce implementation costs, and effectively address unique mission and program constraints.

*LEVERAGE OUR PROVEN ENGINEERING EXPERTISE TO ARCHITECT OPTIMIZED SOLUTIONS AND **REDUCE PROGRAM RISK**.*

Working with Kurtek gives you access to unique experience and expertise from across the global space industry. Our engineers have contributed to the design of numerous key space and ground systems and can deliver comprehensive, end-to-end engineering support for your program's unique requirements.

To learn more about our capabilities, email us at **info@kurtek.io** or call our team at **703-943-7236**.

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Our wealth of experience and expertise allows us to provide effective systems engineering support across all phases of the program lifecycle.

SYSTEM DEFINITION

- Support **program formulation** to identify stakeholder objectives and develop technology acquisition strategies.
- Define **operational concepts** and develop architecture models and views.
- Conduct **feasibility studies** and manage technology risk and maturity assessment and proof-of-concept demonstration.
- Define, document, and manage program, system, and element **requirements**.

SYSTEM IMPLEMENTATION

- Conduct design exercises, analyze technical tradeoffs, and execute preliminary and critical **design reviews**.
- Support commercial-off-the-shelf **technology assessment** and acquisition.
- Oversee hardware and software component **development** and delivery.
- Manage system **interface compatibility** and ensure element and component interoperability.

SYSTEM SUSTAINMENT

- Identify, mitigate, analyze, and resolve **operational anomalies** while ensuring asset health and safety.
- Support operational **performance monitoring** and trend analysis.
- Plan and execute system **capability enhancements** and upgrades.
- Evaluate system and component **obsolescence** and execute technology refresh cycles.

SYSTEM TRANSITION

- Manage formal **verification and validation**, requirements traceability, and end-to-end system testing.
- Oversee **operational readiness** planning, operator training and certification, and mission activity rehearsals.
- Coordinate **transition planning** across mission and agency boundaries.
- Support asset launch, on-orbit checkout, and **commissioning** into full operations.

We have successfully delivered results to government and commercial programs across the global space community.

REPRESENTATIVE PROGRAMS

- Developed numerous process and technical artifacts, including engineering plans, concept and architecture documents, system requirements and interface control documents, mission and service specifications, and verification and validation plans for NASA's Near Space Network.
- Conducted multiple engineering studies and analyses to evaluate potential architectures, commercial solutions, implementation strategies, and decision tradeoffs in support of program planning and pre-formulation for NASA's Space Communications and Navigation program.

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