

Functional Area 1 - Research and Development Support

Customer: NASA

Contract: Orion Multi-Purpose Crew Vehicle (MPCV)

ISYS provides research and development, thermal design, analysis, research, planning and development support for the Thermal Protection System of the Orion Crew Module. This support includes thermal and ablation math models for the Crew Module heat shield, forward bay cover, and Back Shell.

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Functional Area 2 - Engineering, System Engineering and Process Engineering Support

Customer: Missile Defense Agency

Contract: Joint Research and Development Contract (JRDC)

ISYS provides the Missile Defense Integrated Operations Center (MDIOC) with systems engineering expertise in Architecture and Project implementation activities and sustainment engineering. ISYS supports the MDIOC CIO's processes, technology components, in conjunction with the areas of sustainment, integration checkout-testing, transition, and capacity management. ISYS supports the MDA Event Managers with trend analysis, problem investigation, root cause analysis, problem closure and follow up with recommendations on adopting and implementing new technologies and improvements for the stability of the MDIOC IT Infrastructure.

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Customer: US Air Force

Contract: Integrated Space Command and Control (ISC2)

ISYS leads the engineering design and requirements development activities and supports the full spectrum of lifecycle artifacts, including system and subsystem level requirements, Version Content Notifications, and Version Description Documents. ISYS conducts new system functionality studies to determine operational benefit to the ISC2 system. ISYS developed and maintains the requirements traceability matrices, system design documents, and supports the software development specifications, basis of estimates, and process reviews.

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Customer: NASA

Contract: Orion Multi-Purpose Crew Vehicle (MPCV)

ISYS provides engineering support for the Crew Module spacecraft design, development, production, assembly, test, and certification activities to deliver a complete spacecraft for integration with the launch vehicle. These engineering activities include producing detailed part, component and system designs, drawing development, checking and verification against requirements, design delivery and design documentation updates.

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Customer: MDA

Contract: Decision Support System (DSS)

ISYS supported the overall program to include project, architecture, design, software, data, test, hardware, infrastructure requirements. ISYS facilitated the coordination of the Ballistic Missile Defense System baseline data and provided guidance to ensure the DSS team fulfilled mission requirements. ISYS was a key contributor in developing the Software Requirements Specification (600+ pages) which cross-checked and ensured contract technical requirements were met.

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Functional Area 3 - Modeling, Simulation, Stimulation, and Analysis Support

Customer: Missile Defense Agency

Contract: Joint Research and Development Contract (JRDC)

ISYS provides Model and Simulation support to the Threat Modeling Center (TMC). ISYS is the TMC Lead for developing algorithms for missile threat trajectories using the MatLab simulation software package.

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Functional Area 4 - Prototyping, Pre-Production, Model-Making, and Fabrication Support

Customer: NASA

Contract: Orion Multi-Purpose Crew Vehicle (MPCV)

ISYS provides engineering support for MPCV spacecraft design, development, production, assembly, test, and certification activities to deliver a completed spacecraft for integration with the launch vehicle and other mission elements. Engineering activities include producing detailed parts, component and system designs, drawing development, checking and verification against requirements, design delivery and design documentation updates. ISYS led for the Worst Case Circuit Analysis activity for the Orion Avionics Power and Wiring Integrated Product Team.

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Functional Area 5 - System Design Documentation and Technical Data Support

Customer: NASA

Contract: Orion Multi-Purpose Crew Vehicle (MPCV)

ISYS provides engineering support for the Crew Module (CM) spacecraft design, development, production, assembly, test, and certification activities to deliver a completed spacecraft for integration with the launch vehicle and other mission elements. Engineering activities include producing detailed parts, component and system designs, drawing development, checking and verification against requirements, design delivery and design documentation updates. ISYS led for the Worst Case Circuit Analysis activity for the Orion Avionics Power and Wiring Integrated Product Team.

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Functional Area 6 - Software Engineering, Development, Programming, and Network Support

Customer: US Air Force

Contract: Integrated Space Command and Control (ISC2)

ISYS provides software engineering support for the design, implementation, test, documentation and maintenance of the COTS software infrastructure. ISYS' software engineering activities includes verifying development code against requirements and ensuring the code is properly deployed to mission-critical systems. ISYS developed an automated system to read requirements documents and load servers and workstations directly with the corresponding software allowing installation and integration teams to easily track and install segments. ISYS' software engineering activities support the software incident reporting resolution process for software deficiencies and improvements.

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Customer: Missile Defense Agency

Contract: Joint Research and Development Contract (JRDC)

ISYS' network engineering activities include maintaining detailed network infrastructure and communication systems for the Missile Defense (MDA) enterprise LAN/WAN for customers located in Colorado Springs, CO, Huntsville, AL, the National Capital Region, and other MDA sites. ISYS maintains many of the classified networks in support of the Missile Defense Integration and Operations Center (MDIOC) in Colorado Springs. ISYS provides system administration throughout MDIOC which includes network configuration management and impact assessment, network operations, load balancing, troubleshooting, and maintenance. ISYS provides Tier III trouble ticket investigation and resolution.

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Functional Area 7 - Reliability, Maintainability, and Availability (RM&A) Support

Customer: Missile Defense Agency

Contract: Joint Research and Development Contract (JRDC)

ISYS supports the Missile Defense Integration Operations Center, by providing Reliability, Maintainability, Availability and Supportability (RMAS) analysis. ISYS' RMAS function provides input during Ground Test planning meetings, distributed and individual test events, and, as required, develop Ballistic Missile Defense System-Ground Test RMAS reports containing comparative analysis of past test events for an accurate and complete assessment of the Ballistic Missile Defense System reliability.

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Functional Area 10 - Configuration Management (CM) Support

Customer: MDA

Contract: Decision Support Services (DSS)

ISYS supported the DSS Quality Assurance Team to achieve Capability Maturity Model-Integration (CMMI) and Quality compliance. ISYS developed a CMMI chart deck to comply with CMMI obligations. ISYS established and led the DSS Change Advisory Board consisting of technical leads, software, systems, and test engineers and coordinated the implementing software builds.

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Functional Area 11 - Quality Assurance (OA) Support

Customer: MDA

Contract: DSS

ISYS supported the DSS Quality Assurance Team to achieve Capability Maturity Model-Integration (CMMI) and Quality compliance. ISYS developed a CMMI chart deck to comply with CMMI requirements. ISYS established and led the DSS Change Advisory Board consisting of technical leads, software, systems, and test engineers and coordinated the implementing software builds.

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Customer: Missile Defense Agency

Contract: Joint Research and Development Contract (JRDC)

ISYS provides Model and Simulation support to the Threat Modeling Center (TMC). ISYS is the TMC Lead for developing algorithms for missile threat trajectories using the MatLab simulation software package. ISYS developed the initial Quality Assurance/Quality Control (QA/QC) function for the TMC.

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Functional Area 12 - Information System (IS) Development, Information Assurance (IA), and Information Technology (IT) Support

Customer: MDA

Contract: JRDC

ISYS supports the Missile Defense Agency (MDA) Computer Emergency Response Team (MDA CERT) which is responsible for securing the Missile Defense Integration Operations Center networks. ISYS supported the development of the Intrusion Detection System baseline that provided the methodology to document, manage, and report vulnerabilities and network incidents of the MDIOC's networks. ISYS provides analytical support for IA certification and Computer Network Defense/Exploitation. ISYS assesses the MDIOC IT Infrastructure for impacts to security documents, network configurations, security controls and parameters, IT network boundaries, and makes the appropriate recommendations to correct any potential vulnerability.

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Customer: US Air Force

Contract: Integrated Space Command and Control (ISC2)

ISYS provides security engineering and Information Assurance (IA)/Information Security (InfoSec) engineering and certification and accreditation (C&A) support that ensures the ISC2 systems comply with DoD Information Assurance Certification and Accreditation Process (DIACAP) standards. ISYS security engineering and IA activities include assessing and mitigating system security threats/risks, updating security documents, validating system security requirements, implementing security measures in hardware, software and procedures and performing system C&A activities.

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Functional Area 14 – Interoperability, Test and Evaluation, Trials Support

Customer: NASA

Contract: Orion Multi-Purpose Crew Vehicle (MPCV)

ISYS provided integration, verification, and testing to evaluate conformance and performance integrity of the MPCV development program. ISYS' integration activities included verifying functional development, operational mission and software functionality against requirements. ISYS authored the Spacecraft Master Verification Plans that documents the sequence of activities which ensured compliance of the Orion system when compared against system requirements. ISYS supported the creation of the Master Test Plan, Detailed Verification Plans, Test Information Sheets, and the Verification Information Sheets and maintains these documents.

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Customer: US Air Force

Contract: ISC2

ISYS provides operational testing support at Peterson AFB and Cheyenne Mountain AFS. ISYS leads the testing at Peterson AFB and at operational sites for Cheyenne Mountain Message Processing, Communication Processing System, Missile Warning Teletype, and other ISC2 systems. ISYS identifies, resolves and documents system software and hardware issues and plans, implements, tests, documents, and maintains enterprise-wide solutions for the Scenario and Injection Generator System using internally created and/or off the shelf products.

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Functional Area 16 - Logistics Support

Customer: US Army Space and Missile Defense Command (SMDC)/Army Strategic Command (ARSTRAT)

Contract: COSMIC

ISYS tracks and maintains all property listed under U.S. Army Space and Missile Defense - Battle Lab for the Property Book Unit Supply Enhance System. ISYS updates and maintains separate Sub-Hand Receipt Holder records spreading over three geographically locations.

Functional Area 18 - Training Support

Customer: US Air Force

Contract: ISC2

ISYS leads the test engineering activities for the Space Defense Operations Center (SPADOC) at Vandenberg AFB, California. ISYS provides test engineering activities in support of Instructor modifications to the Space Operations training curriculum and scenarios. ISYS provides technical support including system administration for the training equipment, stand-alone PC-based analysis tools, identifying and documenting incident reports, and performing analysis on software or hardware anomalies.

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