



Intrinsyx Technologies Corporation

Capabilities Summary

2008 NASA Ames Small Business Subcontractor of the Year Award

NASA/Research Park, Bldg. 19, Suite 2028, Moffett Field, CA 94035

Tel: (650) 210-9220 Fax: (650) 210-9222

www.intrinsyx.com

Overview

Intrinsyx has unique strengths in NASA Aeronautics, Space Systems, and Science Programs with outstanding performance history for the last Nine years in Software, Systems Engineering, Flight & Ground Data Systems, Networking, IT Security, and Enterprise Architecture.

- The Best of Silicon Valley with in-depth understanding of NASA Requirements
- Primary Focus is NASA Ames with Excellence in IT and Software Development
- Current Contracts: ACITS, NS3, A&SR, and ODIN
- Current Projects: Constellation, SOC, NextGen, SOFIA, KMS, LSI
- Active relationships with other high-tech companies
- Qualified SBA 8(a) Woman Owned business with GSA Schedule-70
- Consistently High Performance in the (95 – 100%) range

Domains Served

- **Aeronautics**
 - NextGen, ASRS, ISDSR, DNFA
- **Space Sciences**
 - KEPLER, SOFIA, Mars Science Lab/Phoenix
- **Life Sciences**
 - Space Station Biological Research Project (SSBRP), Shuttle Payloads Development
- **Enterprise & Data Systems**
 - Constellation Data Architecture (CxDA)
- **Knowledge Management Systems**
 - Constellation Knowledge Management Systems (KMS)
- **IT Security**
 - NASA Security Operations Center (SOC)
- **Astrobiology and Lunar Science Institute**
- **ODIN**

Commitment to NASA

Core Capabilities

- Software Development
- Program/Project Management
- Systems Engineering
- IT Security
- Enterprise Architecture
- Systems Administration
- Semantic Modeling
- Ground Data Systems
- Simulation and Crew Training
- Process Improvement/CMMI
- Networking & Communications
- Safety Reliability & QA
- Documentation & Proposals
- Advanced Studies

NASA Projects Supported

- Next Generation Air Transportation System (NextGen)
- Security Operations Center (SOC)
- Integrated Safety Data For Strategic Response (ISDSR)
- Aviation Safety Reporting Systems (ASRS)
- Constellation Data System (CxDS)
- Space Station Flight/Ground Data Systems
- Shuttle Payloads Development
- Solar Array Constraint Engine (SACE)
- ODIN
- Problem Reporting And Corrective Action (PRACA)
- SOFIA
- Constellation Knowledge Management System
- NASA Engineering & Safety Council (NESC)
- Kepler
- Mars Phoenix/Europa
- Distributed National Flight Archive (DNFA)

Acronyms Used:

ASRS	Aviation Safety Reporting System	NESC	NASA Engineering and Safety Center
CMMI	Capability Maturity Model Intehration	PRACA	Problem Reporting & Corrective Action
DNFA	Distributed National FOQA Archive	PSRS	Patient Safety Reporting System
FOQA	Flight Operational Quality Assurance	SACE	Solar Array Constraint Engine
MOD	Mission Operations Directorate	SOFIA	Stratospheric Observatory for Infrared Astronomy
NEXIOM	NASA Exploration Information Ontology Model		

Aeronautics Experience

➤ **Air Flight Dispatcher and Next Generation Air Transportation System (NextGen)**

The project plays a critical role in National Airspace System (NAS), as the project's flight planning decisions have a direct impact on the efficiency and safety of the resultant traffic flows and on contingency plans to deal with possible events that could arise while en route. Intrinsyx, working with Perot Systems, supports Code-AF (NASA) in the following areas:

- **Data Warehousing Solution Development**

Data warehouse capabilities include analysis of taxi times, surface congestion points, queuing times, arrival and departure runway assignments, terminal area flight profiles and times, and taxi routing procedures.

- **SODAA Tool & Data Integration**

SODAA data mining tools use detailed statistical correlation, clustering, and modeling techniques to access the necessary data elements and provide key insights into the data, supporting the research of airport surface and terminal area operations.

- **Collaboration using SharePoint**

Intrinsyx is providing a complete solution to provide a state of the art solution for the collaboration effort using Microsoft SharePoint.

Aeronautics Experience

➤ Aviation Safety Reporting System (ASRS)

An incident reporting system for pilots in the United States. Intrinsyx working in conjunction with Battelle Memorial Institute participated in the complete lifecycle of the ASRS project including:

- **Requirements Management**

Intrinsyx team was involved in working with the customer and defining the requirements.

- **Configuration Management**

Intrinsyx team developed the complete CM process and successfully implemented it.

- **Verification & Validation**

Intrinsyx came up with the V&V plan and was responsible for carrying out the V&V activities.

- **Software Development**

Intrinsyx participated actively in the software and database support for the project.

Aeronautics Experience

➤ Integrated Safety Data For Strategic Response (ISDSR)

ISDSR involved deploying, operating, and maintaining distributed archives of airline industry flight data and safety reports. Key elements of the project were vulnerability discovery from Distributed Safety Databases, automated evidence-gathering across data sources and the identification of system characteristics or conditions conducive to human error. Intrinsyx team participated in:

- **System Design - Service Oriented Architecture (SOA)**

Intrinsyx team led the systems design effort and implemented a SOA integrating flight data from 10 participating airlines distributed across the US.

- **Data Warehousing & Data Analysis**

Intrinsyx developed the data warehousing solution to store the airline data and developed applications to do data analysis.

- **Network Security**

Intrinsyx was responsible for providing the network security services using Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS).

- **Systems Training**

Intrinsyx worked with the airline staff, deploying the system at respective sites and providing training to the personnel.

- **System Transition**

Intrinsyx successfully worked with FAA and MITRE in transitioning the system capabilities to their organizations.

Space Systems Experience

➤ Constellation Data Systems/Knowledge Management Systems

▪ Data Architecture

- Developed Semantic and Ontology Models for Constellation Data Architecture
- Developed Software to support Ontologies, Graphical User Interfaces, and communications with Legacy Systems
- Developed Nomenclature Plans and Data Interoperability Concepts to Connect Stove Pipe Applications

▪ IT Architecture

- Developed IT Security Plans and Implemented Security Guidelines
- Developed Service Oriented Architecture and TOGAF/DODAF Models
- Developed UML Models and Concept of Operations
- Developed IT Governance Plans

▪ Systems Engineering

- Supported Requirements Management, Risk Mitigation, Configuration Management, Verification and Validation, Scheduling, and Project Planning.

Space Systems Experience

➤ **Space Station Biological Research Project (SSBRP)**

▪ **Flight Data Systems**

- Developed SSBRP End-to-End Data System Architecture
- Developed Software for Crew Laptops on Space Station
- Negotiated Requirements with NASA Centers, International Partners, and Contractors

▪ **Ground Data Systems**

- Architected and Developed the Ames Telescience Support Center for Managing Command and Telemetry, and video and audio
- Operated multi-month life sciences missions with zero loss of data
- Employed a Reusable Architecture to Support Multiple Missions

▪ **Trainer Systems – Astronaut Crew Training Simulators**

- Developed Crew Trainers for Simulating Space Station Flight Hardware

▪ **Intrinsyx Developed Automating Software Generation Tool to manage Command and Telemetry between Missions with minimal coding**

- Enhanced ground systems readiness by converting interface control requirements into operational software used for telemetry processing.

IT Security Experience

➤ **NASA Security Operations Center (NASA SOC)**

Intrinsyx implemented the Security Operations Center (SOC) project in 2008-09, a consolidated IT Security Operations and Incident Response capability that provides Agency-wide, end-to-end visibility and monitoring of NASA networks and systems. SOC is a development, modernization, and enhancement (DME) project and acts as the functional nerve center for monitoring, command, and control for Agency IT Security Incidents.

- **Requirements Management**
- **SOC Enterprise Architecture (EA)**
- **SOC System Design & Implementation**
- **SOC Procedure Development**
- **Tier-2 Incident Analysis & Triage**
- **Configuration Management**
- **Received NASA Group Achievement Award Year 2009**
- **Finalist for Mid-Atlantic Security Project of the Year 2009**
- **Received NASA Ames Honor Award for delivery of Security Operations Center**
- **Intrinsyx represented SOC and conducted sessions at the prestigious NASA IT Security Conference at Sandusky, OH.**

Technical Capabilities

➤ Software Development

▪ Software Support

- Excellence in both .Net Framework, Web 2.0 and J2EE solutions utilizing modern software development methodologies

▪ Full Life Cycle Development

- Planning & Estimating, Requirements, Design, Development, Test, Verification, Integration, Full Documentation

▪ DB Design & Implementation

- Years of experience with database design & development. DB's supported Oracle, MS SQL Server, MySQL, Sybase etc.

▪ Service Oriented Architecture (SOA)

- Software services provided using SOA & combination of SOA/EDA (Event Driven Architecture) solutions

▪ COTS Integration

- Vast experience with systems integrated using J2EE & .Net framework

▪ Search and Search Engine Support

- Full text search support provided using Google Search Appliance, SOLR (Apache solution), Lucene.

Technical Capabilities

➤ Process Engineering

- Supported Two NASA HQ Initiatives:
 - CMMI/Software Process Improvement
 - >> Helped SSBRP Achieve Maturity Level-II Assessment
 - 1st NASA-Wide Project to Achieve CMMI Level II
 - Intrinsyx achieved 100 % Performance Score and a nomination for the George Low Award
- National Engineering & Safety Council
 - NASA-Wide Activity
 - HQ Initiative in Response to Columbia Disaster
 - Managed by Langley
 - Development of Safety Processes for NASA/ARC.

Why Intrinsyx

- Prestigious NASA Accolades
 - Received NASA Ames 2008 Small Business Subcontractor of the year award
 - Received NASA Group Achievement Award Year 2009
 - Finalist Mid-Atlantic Security Project of the Year 2009 award
 - Received NASA Ames Honor Award for delivery of Security Operations Center
 - Nominated for George M. Low Award by NASA/ARC
 - Nominated for Minority Contractor of the Year by Lockheed
- We Provide the Agility of a Small Company
 - Fast Moving, High Performance, Responsive
 - Strong Technical Staff – Best of Silicon Valley
 - Motivated & Responsive Management
- In-Depth Understanding of NASA Culture
 - Experience working with NASA: HQ, ARC, JSC, MSFC, KSC, LaRC, JPL and DFRC
 - Knowledge of NASA Standards, Procedural Requirements (NPR) and Life-Cycle Processes.



Intrinsic Technologies Corporation

An Engineering and Information Technologies Company

Points of Contact:

Arshad Mian
Vice President/CFO
arshad@intrinsyx.com
(650) 464-4686 mobile

Hassan Ali
CTO
hali@intrinsyx.com
(650) 506-1188

Intrinsic Technologies Corporation
NASA Research Park
MS 19-102
Moffett Field, CA 94035

www.intrinsyx.com