

*We are distinguished from our competitors by:*

The originality we show in developing innovative solutions to difficult problems.

The systems approach that we take to everything we do, considering options and drawing on multiple engineering and scientific disciplines in conducting trade studies that select the best approaches.

Our speed of execution, resulting in lower cost.

The intellectual rigor and depth of our creative thinking.

The depth to which we understand our customer's challenges and the quality and clarity of our work to state, refine, and clarify the dimensions of the problems to arrive at best value solutions.

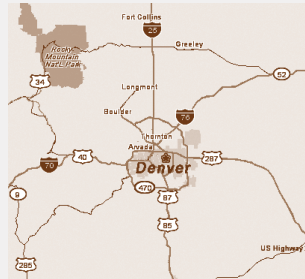
*Some Past and Present Customers*

- Joint Munitions Command
- Naval Research Laboratory
- Defense Modeling and Simulation Office
- National Institute of Standards & Technology
- US Navy
- Defense Information Systems Agency
- TRW
- Hughes Space and Communications Group
- Aerojet Electrosystems
- Hughes Applied Information Systems
- Jet Propulsion laboratory
- Intel
- Microsoft
- Apple Computer
- Mitsubishi

GSC Associates  
2727 Xanthia Court,  
Denver, Colorado 80238-2611

+1-303-388-6355

www.gscassociates.com



*Our Areas of Expertise*

- Systems engineering*
- Systems design, development, and test*
- Logistics and transportation*
- Real-time systems*
- Mathematics and statistics*
- Operations research*
- Performance analysis and modeling*
- Computer graphics*
- Image processing*
- Human-computer interaction*
- Data bases*
- Computer communications*
- Technical and general management*
- Strategic planning*
- Organizational development*
- Usability engineering*
- Standardization*



*Systems Engineering*

*System Development*

*Management Consulting*

A Service-Disabled Veteran  
Owned Small Business

# Capabilities

## *Our capabilities include:*

### ■ **Research in multi-cultural and multi-organization collaboration (CSCW, Groupware), including:**

measuring effectiveness and managing collaborations, organizing information on expertise and collaborative “characteristics” of individuals to find/suggest experts, and understanding and organizing background knowledge. We are especially interested in the vast “gray area” between free-text or semi-structured (i.e. database and spreadsheet) information and formal ontologies. This includes visualization of information spaces and tools at various levels of formality that aid in finding and defining relationships among disparate information. Natural Language Processing (NLP), Social Network Analysis (SNA), Activity Analysis, Linguistic Inquiry and Word Count (LIWC) and Latent Semantic Indexing (LSA and LSI) are some technologies applied to these problems.

### ■ **Web based systems design and development including:**

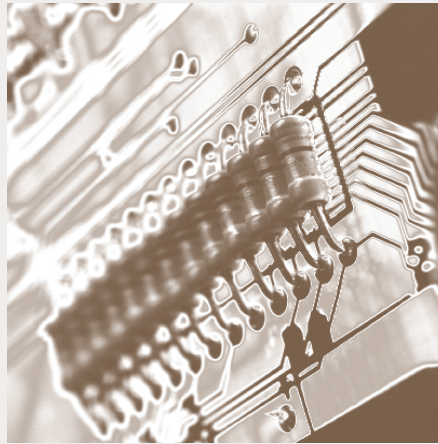
.NET, ASPs, web services; Unix and Linux development; programming in C#, C++, Java and other languages; Systems analysis and design using UML; XML and the semantic web including formal languages such as OCL and OWL; VRML, X3D, and similar computer graphics systems.

### ■ **Modeling and simulating the real world, including:**

the definition of APIs for spatial information processing and ontologies for specifying environmental and geographic information; location-based services; automotive telematics and related wireless Internet appliances; image understanding applied to vehicle traffic monitoring.

### ■ **Systems engineering, including:**

studies to conceptualize new systems and products; engineering and trade studies; writing requirements, system, design and product specifications, including extensive experience using UML; performing modeling and simulation to project performance, compare alternative approaches, and validate systems; integration and test (I&T).



### ■ **Research and development of spacecraft and related ground stations, including:**

control systems; real-time software; command, control, and telemetry; mission planning and mission management; installation and support at operational sites; spacecraft on-board processing; communications protocol design. SIGINT

and COMSEC systems including: new signal acquisition (especially databases and user interfaces); SIGINT mission planning and mission management; firmware for COMSEC systems; digital signal processing (hardware, software, and firmware).

### ■ **Mathematics, statistics, and operations research, including:**

development of mathematical function libraries, numerical analysis, approximation theory, evaluating the accuracy of computational techniques, solutions of differential equations, linear algebra, classical and optimal control theory and mathematical modeling; simulating, modeling, analyzing, and optimizing personnel systems, logistics systems, and transportation systems; optimization of factory operations and process yields; evaluation of military operations and equipment; planning and scheduling of complex systems; decision theory.

### ■ **Research and development of transportation and logistics systems, including:**

information systems for integrated logistics and Inter-modal transportation; minimization of risk in the transportation of hazardous cargo by the selection of the best sources and routes; user interfaces for common logistics operating pictures and Sense And Respond Logistics; and applying operations research techniques to minimize cost and risk; modeling and simulation.



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