



NOAA Professional and Technical Services (ProTech) Satellite Domain IDIQ

Contract Vehicle Highlights

GST provides NOAA with:

- System and architecture design and evolution
- Software development and testing
- Hardware maintenance and evolution
- Program planning and product prioritization support
- Sensor calibration/validation
- Atmospheric and oceanic applications of satellite data
- Program, project, and portfolio management
- Strategic planning
- Cloud architecture and costing
- User engagement support

GST has been awarded the following ProTech Satellite Task Orders:

- Ocean Science and Technology Applications (OSTA)
- Joint Polar Satellite System (JPSS)
- National Weather Service (NWS) Satellite Readiness
- NESDIS Business Operations Support (BOS)
- Office of Space Commerce (OSC) (as a subcontractor)
- NOAA National Coordination Office (NCO)
- Sensor Science and Cross-Cutting Technology (SSCT)

GST ProTech Satellite Contract Vehicle

NOAA's ProTech services solution is a suite of multiple-award IDIQ contracts consisting of four domains: Satellite, Ocean, Fisheries, and Weather. These domains provide resources in support of NOAA and its line and staff offices. This sheet focuses on the ProTech Satellite domain, for which GST is a prime contractor. GST was a major awardee on the ProTech Satellite 1.0 contract and continues its support on the 2.0 contract.

GST has assembled an outstanding ProTech Satellite team with over 50 years of expertise and cutting-edge innovation. When we need unique capabilities to meet a specific task order, we partner with a teammate to fill the gap. Our team of scientists, engineers, and technicians provides expertise in several key areas of the Satellite Domain:

- Systems engineering for space and ground segment
- Spacecraft and sensor/instrument design
- Observing system design
- Science algorithm development
- Calibration/validation
- Test and evaluation
- Data product development
- Education and outreach
- Program and project management
- Application of weather, ocean, and climate data

OSTA Task Order: GST supports NOAA's Satellite Oceanography and Climatology Division (SOCD) in research and development of remote sensing data on the world's oceans. We calibrate space-based and ground instruments for use on ocean-going cruises, perform cal/val on satellite data using in-situ data, and create products to meet the needs of users for satellite data and other information. We transform satellite data into high-quality, state-of-the-art products and information on the oceans. Products include ocean color that help locate phytoplankton, sea-surface roughness to identify sea ice and oil spill extent, ocean surface winds in support of weather forecasts, and sea surface temperature and sea surface height for weather and climate studies. We also provided user engagement support, both through our management of CEOS COAST and through our development of product promotional materials and other communications for NOAA CoastWatch.



JPSS SEAM Task Order: GST supports the Joint Polar Satellite System (JPSS), the nation's new-generation polar-orbiting operational environmental satellite system procured by NOAA through NASA. GST supports the National Weather Service's (NWS) effort to integrate JPSS products into its systems. We provide expertise in systems and software engineering, satellite data processing, and user outreach and engagement. Our scientists and developers use JPSS data to meet NWS needs and assimilate JPSS products into the Advanced Weather Interactive Processing System (AWIPS) for NWS. GST has supported several aspects of the JPSS mission, including the NOAA JPSS Office (NJO), Data Product Engineering and Services (DPES), the Algorithm Management Project (AMP), and Program System Engineering. We supported the planning and execution of the ground systems development and installations in multiple government locations. We play a key role in the NJO Proving Ground Risk Reduction program, empowering improved user applications through cooperative projects. GST supports NESDIS contracting officers, including Acquisition and Grants Office (AGO), DOC Enterprise Services (DOC-ES), Field Delegates, and Purchase Card holders. Our specialists support the development of short/mid/long-term tech refresh hardware plans, trades, parts lists, cost estimates, and spending profiles, along with hardware maintenance and software plus software licenses and subscriptions. GST manages the RF testing and installation of numerous power amplifiers and frequency converters in the L- and S-band frequency range. We also support and upgrade GOES antennas.

NWS Satellite Readiness Task Order: We manage all aspects of observational requirements, including the elicitation, capture, creation, and approval of requirements, tracking of updates, managing verification and validation, and tracking the path to operations. We lead and coordinate the infusion and exploitation of satellite data in NWS and provide subject matter experts in remote sensing, data analytics, and meteorology.

Our staff ensure that all software, whether newly developed or under ongoing maintenance, will be responsive to user needs, while still accountable to broader oversight and agency directives, and confirmed to be accurate, reliable, and efficient, and resilient to unexpected inputs or runtime conditions. We conduct trade studies and alternative analysis studies and ensure that coordination information flows quickly between NWS and its stakeholders and that communication is documented.

NESDIS BOS Task Order: We provide strategic planning and policy development including developing and updating NESDIS' Strategic Plan and supporting office-level strategic plans. We also perform policy analysis and develop NESDIS-

level policies and associated implementation plans. As part of our user engagement, we develop and execute an Annual NESDIS Event Plan, including schedule of events, identification of end users, and approved messaging. We develop business cases for flight, ground, scientific, and mission support projects.

We work with NESDIS management to perform project assessments and provide recommendations on resources, schedule, performance baselines, and areas for automation. We conduct budget management and project lifecycle planning with stakeholders for over 60 project portfolios. We gather resource requirements to justify funding decisions and inform product prioritization. We also lead the effort to transition from waterfall to Agile framework for product development and transition to operations.

Our cloud experts track and analyze costs for NESDIS Common Cloud Framework (NCCF) development, user acceptance testing, and production. We compare cost estimation to actual cost to ensure the integrity of the cost estimation model and suggest improvements to make the model more accurate.

OSC Task Order: We support the Traffic Coordination System for Space (TraCSS) program including the transition of the TraCSS system from the Air/Space Force to the Department of Commerce. OSC is also responsible for tracking orbital space debris. GST serves as the OSC TraCSS representative, liaising with DoD and NASA, addressing information requests, and focusing on high-priority tasks while collaborating with stakeholders. As the Technical Studies Lead, GST collects and analyzes relevant data and ensures data collected is rigorously examined to extract meaningful insights. Drawing upon empirical evidence, we develop strategic recommendations based on study findings. These recommendations serve as valuable guidance for shaping future acquisition strategies and operational decisions within the TraCSS project through our collaboration.



NOAA NCO Task Order: The National Coordination Office (NCO) is part of the National Executive Committee for Space-Based Positioning, Navigation, and Timing (PNT). We support the NCO in their mission to collect Global Positioning System (GPS)-related information from multiple federal agencies to support interagency coordination, consensus development, and the resolution of spectrum and interference issues. GST, in partnership with Overlook Systems Technologies, Inc., maintains the GPS.gov website and develops and disseminates GPS educational materials to the GPS and PNT community. We also support the NCO Director in preparing for and hosting meetings of the National Executive Committee and Executive Steering Group as well as preparing for a variety of other technical and informational meetings, both domestic and international. Preparation involves providing background information and briefing materials as well as investigating, researching, and analyzing technical issues of relevance to the NCO.



ICVS Website Example

SSCT Task Order: GST supported NOAA's Center for Satellite Applications and Research (STAR) with scientific and programmatic services focused primarily on instrument calibration and validation of more than 10 operational sensors from multiple Earth observation satellites. GST worked with STAR to ensure that NOAA's operational satellite sensor data are of high quality and met product requirements and user needs via extensive calibration/validation, scientific/technical research on sensor performance, characterization, anomaly resolution, re-calibration, and independent product validation. Through near-real-time monitoring of satellite instrument performance including sustainment of NOAA's Integrated Calibration and Validation

System (ICVS), GST analyzed trends in the instrument itself and the quality of the satellite data as they are mapped onto the surface of the Earth. GST provided recommendations on product prioritization to NESDIS management and supported STAR program management. GST supported the preparation, planning, and execution of the STAR External Review conducted in May 2023. The recommendations returned by the review board will serve as the basis for improvement to STAR mission execution. GST implemented the product prioritization process, one of the focus areas of the review recommendations. GST collaborated with NCEI via the STAR system engineering group to modify NCEI's PMDB and eazyBI asset management tools for STAR applications. The tools utilize a common framework with NCEI to provide an interface to the IPL process to implement the STAR product baseline and provide stakeholder management, requirement tracing, and product prioritization metrics.