

ANALYTICAL GRAPHICS, INC. IN VIEW

2001: An STK 4.2 Odyssey

Analytical Graphics, Inc. has released the fastest, most portable version of its core product to date. Satellite Tool Kit® (STK) version 4.2, which became available in January, offers accelerated “access” calculations, improved 2-D and 3-D graphics, and a highly flexible licensing option. These enhancements will boost users’ competitive advantage in dealing with increasingly tight aerospace schedules and budgets.

STK’s new streamlined access calculations—mathematical formulas that compute when two or more objects can see each other—cut the time needed to perform important aerospace analysis tasks such as station acquisition/scheduling, multi-hop analysis, communication link computations, coverage analysis, and dilution of precision calculations. Additionally, 2-D and 3-D graphics now demonstrate significant load and refresh enhancements. Depending on the task performed and the computer configuration

Improvement	Examples*	Performance Gain** (STK v4.1.1 to STK v4.2)
2-D map updates	24 satellites animating with 60 second time step and satellite icons; 12 hour time pd.	8.9X (27.7 to 3.1 sec.)
	104 satellites (with icons); 34 area targets; 12 hour time pd.	9X (118.2 to 13.2 sec.)
3-D globe updates	104 satellites, 34 area targets; 12 hour time pd.	1.4X (229 to 165 sec.)
“Access” improvements	GDOP calculation (24 satellites) over world land mass regions; 12 hour time pd.	2.2X (237 to 106 sec.)
	Visibility periods from a MEO-based spinning sensor to 34 different area targets; 12 hour time pd.	1.6X (644 to 400 sec.)
	Visibility periods from a GEO based spinning sensor to a fixed ground station; 2 day time pd.	11X (55 to 5 sec.)
	Simple coverage calculation to a “Florida-shaped” area target from a LEO-based rectangular sensor; 3 month time pd.	1.7X (215 to 125 sec.)
	Visibility periods from a MEO satellite to a fixed ground station; 3 month time pd.	1.3X (3.7 to 2.9 sec.)

*All scenarios used 60 second time step
**Results obtained using Dell Dimension desktop computer; NVIDIA GeForce 256 AGP graphics accelerator card (~\$200), 700 MHz, 128 Mb RAM, Windows 2000. Increases will vary based on hardware configuration and operating system.

used, STK 4.2 operates two to 10 times faster than before.

STK 4.2 also incorporates the industry-standard licensing tool FLEXlm by Globetrotter;

Continued on page 2



To support our continuously growing company, STK product line, and user base, AGI moved our headquarters on April 1 to a newly constructed 40,000 square foot facility.

We would also like to extend a warm welcome to all the new people who have recently joined the AGI family.

Software Development and Technical Staff: Leigh Baiocco, Cindy Carrico, Hao Chang, Nick Costa, Lara Counts, Brian Edwards, Ryan Frederic, Justin Hoffman, Qui Lieu, Fran Maley, Kevin Murray

Sales and Marketing: Brett Archer, Tina Cox, Carolyn Dehorty, Greg Dermond, Robert Dudley Jr., Todd Schumaker, Jason Martin, Joanne Welsh, Nikki Wessner

Administration: Elfriede Borst, Sharon Comfort, Tony Lombardi ▲



Courtesy of CNN

The Big Grabowski

AGI “correspondent” Hank Grabowski provided on-site, on-air support for CNN’s Mir reentry coverage, led by Miles O’Brien. STK simulations of the Mir reentry were witnessed across the world on other leading venues such as NBC Nightly News, ABC World News Tonight, CBS Evening News, and the BBC. AGI representatives were also at mission control in Russia where they were invited to provide 3-D visualization of the 130-ton space complex deorbit. To learn more about AGI’s participation in this historic event, visit www.stk.com/mir. ▲

AGI Record Quarter!

AGI announced record revenue and profits for its fiscal quarter ending February 28, 2001. The record fourth quarter yielded \$5.6 million in revenue and \$1.5 million in profit, representing 27% overall revenue growth and 60% software license growth compared to the same quarter in fiscal year 2000. “Despite tightening budgets and pessimistic economic forecasts during the past six months, aerospace organizations continue to choose our leading STK solution and technology,” says AGI chief financial officer Bill Broderick. “With the new administration’s emphasis on space defense, utilization of commercial information technology, and efficient government spending, AGI is well-positioned to accelerate our business prospects.” Special thanks to all of our customers who made this possible through their continued interest in STK and support of AGI. ▲

Upgrade to STK 4.2

Along with the benefits of increased speed and portability of STK version 4.2, AGI is currently offering numerous product discounts and giveaways if you purchase or upgrade particular STK software modules by June 20, 2001. To learn more about these promotions or for an on-site demonstration, call AGI today. ▲



AGI Kicks Off Flight Services Division

With the introduction of its Flight Services division, AGI brings STK's analysis and visualization proficiency to the real-time process of launching and operating space-based systems. The new division specializes in integrating real-time telemetry with STK, which allows mission flight operations teams to easily interpret and analyze incoming data in 2-D and 3-D environments. Prior to launch, Flight Services provides a detailed scenario and comprehensive review of mission operations, integrates STK with telemetry data for real-time support throughout the life of the system,

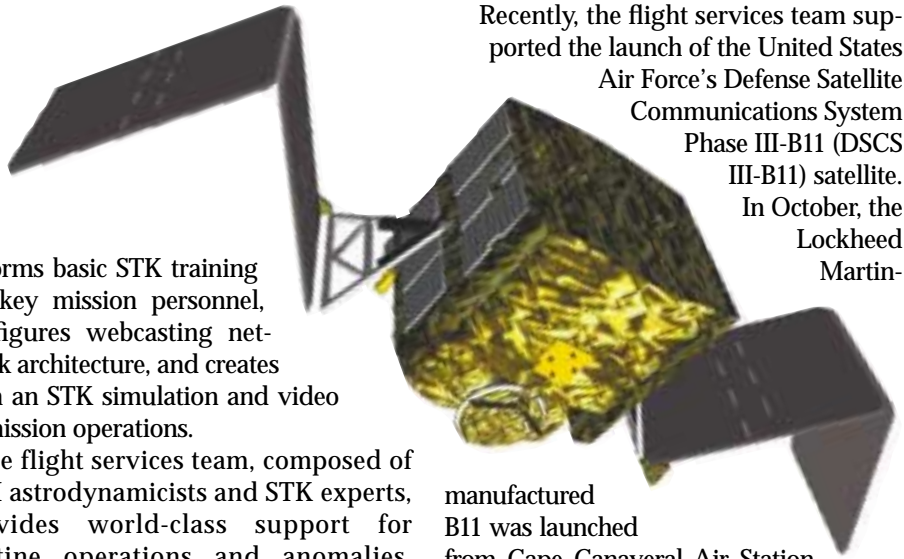
performs basic STK training for key mission personnel, configures webcasting network architecture, and creates both an STK simulation and video of mission operations.

The flight services team, composed of AGI astrodynamists and STK experts, provides world-class support for routine operations and anomalies. Leveraging their expertise and the Satellite Tool Kit software suite, they offer the analytical and visual depth to support nominal operations, help identify potential malfunctions, and assist with correctional procedures.

STK/Advanced VO was used to simulate all phases of the DSCS deployment.



Recently, the flight services team supported the launch of the United States Air Force's Defense Satellite Communications System Phase III-B11 (DSCS III-B11) satellite. In October, the Lockheed Martin-



manufactured B11 was launched from Cape Canaveral Air Station on an Atlas II booster with a Centaur upper stage that inserted the satellite into a Geosynchronous Transfer Orbit (GTO). Two subsequent orbital maneuvers followed to place DSCS into its final near-geosynchronous orbit. DSCS is one in a series of satellites that provides the foundation for U.S. military wideband communications.

Lockheed Martin's launch team served as technical advisers by supporting the spacecraft's progress for the first five days of the mission. Because of AGI flight services division director Bob Hall's extensive experience with the DSCS program, AGI was invited by Lockheed Martin to help support the mission.

Along with performing his duties as an attitude control systems engineer for the DSCS mission, Hall used AGI's interactive spacecraft maneuver tool, STK/Astrogator, to demonstrate how to plan start time, duration, and vehicle attitude for both burns. "STK efficiently determined where to point the satellite, how much fuel was needed for a burn, and when to fire the engines," according to Hall.

For more information about AGI's Flight Services division, visit the Web at www.stk.com/flightservices.▲

2001: An STK 4.2 Odyssey

Continued from page 1

Inc. Portable hardware keys (dongles), registered user lists, and redundant license servers provide new opportunities to use the STK software suite across networks and greatly simplify license management. With a dongle, users can easily transfer licenses from platform to platform, transport them in and out of secure facilities, take



New dongle licensing option provides added portability for STK software.

them on travel, or work from home. Existing reporting tools such as SAMsuite/SAMreport can also analyze how organizations use STK, which helps administrators plan license requirements more effectively.

To learn more about what's new with STK or to upgrade to version 4.2 today, visit www.stk.com.▲

Elsewhere in Orbit with STK

STK Supports Titan Launch



Real-time simulation of recent Titan launch from Vandenberg AFB.

The Satellite Tool Kit software suite was recently used to support the Titan IV B-28 mission. AGI prepared pre-launch mission videos and provided launch and on-orbit support at Onizuka Air Station, Sunnyvale, CA, generating real-time 3-D visualization of the launch from Vandenberg Air Force Base. Using STK/VO and STK/Webcast, the real-time simulation of the launch and spacecraft deployment was broadcast over a private wide-area network.

"We also worked with the Operations Division 4 (OD-4) at Onizuka Air Station. The team provided nominal launch trajectory visualization, prepared pre-launch briefings, and performed analysis of certain events," says Travis Langster, technical director of intelligence programs at AGI. "STK/VO provides mission managers and operators an animated, 3-D visual of

precisely when and how long the launch vehicle and satellite should be in contact with the ground station for communications purposes. Using STK/VO in conjunction with processed real-time data, accurate 3-D models of the payload are articulated during certain key events. For example, if the telemetry feed were to drop out when STK was in use, the 3-D display would switch to the calculated, nominal data until the telemetry feed would be re-acquired from the launch vehicle."

In the rare case of a launch anomaly, mission operators using STK/VO would immediately have a 3-D visual of the current location, position, and attitude of the vehicle and payload. The processed data can be recorded and animated to provide input for anomaly resolution assessments. This capability is also applicable to orbiting satellites. ▲

STK's Role in the GE-7 Satellite Launch

In September, Arianespace successfully launched Flight 130 from its spaceport in Kourou, French Guiana. Flight 130 was an Ariane 5 with a dual payload of the GE-7 communications satellite, owned by GE American Communications, Inc. (GE Americom), and the Astra 2B direct broadcast satellite, owned by the Luxembourg-based Société Européenne des Satellites.

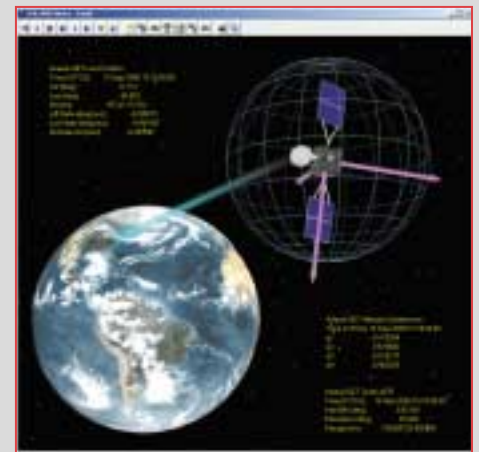
Before launch, AGI received the GE-7 mission profile. STK/Astrogator was employed to model the spacecraft's burn plans and Java scripts were developed to process the telemetry stream. STK/Connect commands were issued and used to display real-time 3-D graphics in STK/VO. From the telemetry, STK extracted information such as the orientation of the satellite as well as the position of the solar arrays.

AGI supported the GE-7 satellite launch at the GE Americom offices in Princeton, NJ, by creating a scenario from predicted information for the satellite. AGI also provided a real-time display shortly after launch. "Telemetry was first received 20

minutes into the launch," explains Josh Lane, systems engineer for AGI. "At that moment, we enabled STK visualization. The software depicted the launch by showing where the satellite had been, its current position, and where it would be in the next few days. Using STK/VO, we easily demonstrated the progress of the satellite in 3-D from early orbit to its intended position in space."

STK was also used as an operational tool, modeling all launch and spacecraft maneuvers including the pop-off sequence of Astra-2B and GE-7. As the GE-7 satellite sent out data, STK translated that information to output it in a real-time 3-D display.

"The visuals that STK provided gave people at every level a solid understanding of what was going on," says Paul Welsh, AGI's vice president of business development. "STK can display a satellite's different orbits in real-time. The results are animated in 3-D within STK/VO and can include a view of the successive orbits, tracked with different colors, so anyone



GE-7 satellite simulation is augmented with real-time visual cues and data displays.

can comprehend the sequence of events at a glance. You cannot envision this in your mind as clearly or as easily as with STK."

In addition to telecommunications services delivered by AT&T Alascom, GE-7 will provide service to regional and national programmers, and in-orbit protection for many current cable and radio customers. ▲



Santa and AGI Busy on Christmas Eve 2000

A record number of visitors turned out to track Santa's trip around the world on the annual Norad Tracks Santa Web site (www.noradsanta.org) in December. The site, developed by AGI and NORAD and hosted by America Online, received 240 million hits in the nine days surrounding Christmas. On Christmas Eve alone, the site peaked at 385,000 hits per minute. For the past four years, AGI has donated its employees' time and services to design the site and create the holiday STK animations. This was the 46th year that NORAD tracked Santa, and the fourth time it did so on the Internet. AGI and NORAD look forward to Santa's journey in 2001! ▲

AGI at the Podium

AGI made its presence known in August at the AIAA/AAS Astrodynamics Specialist Conference in Denver, CO. This event gave AGI an opportunity to showcase cutting-edge technology to the astrodynamics world.

AGI representatives presented three technical papers at the conference. Copies of these papers may be downloaded from the resources section of the AGI Web site.

- **Effects of Eclipse Boundary Crossings on the Numerical Integration of Orbit Trajectories** by Dr. James Woodburn
- **Minimum Order Adaptive Attitude Control** by Dr. Sergei Tanygin
- **Calculation of Weak Stability Boundary Ballistic Lunar Transfer Trajectories** by John P. Carrico and Edward A. Belbruno*

*Belbruno works for Princeton University and Innovative Orbital Design, Inc. ▲

AGI "Nerds on Tour" a smashing success!



John Carrico proudly unveils the latest engineer fashion craze—the STK pocket protector!

Standing-room-only crowds turned out to hear members of AGI's astrodynamics team explain the math "under the hood" of STK at four U.S. regional events in January and February. The day-long technical seminars, held in MD, VA, CO, and CA, drew more than 350 attendees. AGI's self-proclaimed astro "nerds" presented STK's complex equations that simulate motion and orientation of satellites and determine geometrical relationships between physical objects.

These technical seminars earned high marks for the sophistication of STK's access

algorithms and the speed and scope of the software's collision-avoidance processing. One attendee said, "This stuff really is rocket science." Added another: "STK is very rich software." But perhaps the best endorsement came from one audience member, who remarked, "I was surprised at the number of people who attended the conference and the number who returned after lunch. There really are other nerds out there!"

The seminar series was so well-received by the industry that AGI's Astro team will conduct encore "Under the Hood" technical seminars this spring. Upcoming dates and locations include Albuquerque, NM, on April 24; Houston, TX, on April 25; and England, Germany, France, and the Netherlands in May.

For the latest details on the seminars, visit www.stk.com/underthehood. ▲

On-line STK Resources

Visit www.stk.com to utilize on-line STK resources such as models and animations, tutorials, user topics, and STK/Astrogator scenarios. Also, keep on top of what's going on in the aerospace industry by leveraging the Satellite Database, Spacecraft Digest, Launch Notification e-mail subscription, and mission case studies. ▲

AGI Receives Four More Patents

The U.S. Patent & Trademark Office (PTO) has issued four patents to AGI in the past six months, bringing our total to seven.

U.S. Patent No. 6,102,334—Dr. James Woodburn

Method and Apparatus for Determining Close Approaches for Earth-fixed Launch Trajectories

This invention covers a method for minimizing close approaches between a launch vehicle and other objects in space during launch and early deployment phase of the vehicle. It has been incorporated into the close approach analysis feature within STK/Conjunction Analysis Tools (STK/CAT).

U.S. Patent No. 6,144,334—Dr. James Woodburn

Method and Apparatus for Calculating Access between Satellite Constellations and Ground Targets

For a given constellation of satellites, each with a number of sensors, this invention is a method for determining the access times between each sensor and multiple ground targets of varying shapes and sizes. This process has been integrated into many key visibility analysis methods within the STK software suite.

U.S. Patent No. 6,160,509—Paul Graziani

Method and Apparatus for Alerting a User Regarding the Position of a Satellite

This invention allows users to determine the position of a satellite overhead using a portable device such as a wristwatch or handheld computer. The required data can be downloaded from a larger unit, such as a PC, for later use in the field.

U.S. Patent No. 6,195,553—Dave Holland

Method and Apparatus for Determining Optimal Paths Among Objects of a Communications Network

This invention evaluates available links and identifies the optimal path between the starting point and the desired end point in a communications system when the availability of the links is in a constant state of change. It has been incorporated into the STK/Chains module.

Congratulations to Jim, Paul, and Dave for these fine achievements!

STK Out and About

Desperately Seeking STK

Where can you find commercial technology that enables a new user to rapidly create complex visualization of a National Missile Defense (NMD) flight test scenario?

Peter Belch, principal engineer at ARES Corporation, found the solution with AGI's Satellite Tool Kit. ARES Corporation, a subcontractor to Boeing on the NMD program, provides engineering support to Boeing's NMD Test and Evaluation team in Arlington, VA.

"We searched for a COTS product that would provide technically accurate, detailed visualization, so both the specialist and the average person could grasp the complexities of the NMD element interplay while conducting a formal intercept test," says Belch. "The NMD

test team provides live audio feed from Kwajalein Missile Range as well as a limited video that tracks the target's progress downrange after a launch from

Vandenberg Air Force Base. We wanted to display a second screen that would provide a real-time, detailed animation of the key events occurring anywhere throughout the half-hour flight test—land, air, sea, or space. We turned to STK for this need."

ARES acquired STK software in February 2000, and within months Belch became an STK power user. Belch mastered the ability to create ephemeris files, define sensors, and modify models to accurately represent the NMD scenario. He used STK/VO's Viewpath Editor, which provides the user a "flying camera" for dramatic recording effects, to capture key events throughout the mission timeline. These events included the flight and staging of the target and the interceptor missiles, satellite detections, radar tracking, battle management communications, and the final intercept. AGI vice president of marketing Frank Linsalata says, "We were excited to watch a new user become an STK expert and produce a highly professional video using the Satellite Tool Kit software suite."

With STK/Terrain, STK/MFT, STK/VO Earth Imagery, STK/Coverage, STK/Chains, and STK/Advanced VO, Belch recorded a scenario in real-time that depicted the launch of a modified Minuteman II from Vandenberg Air Force Base toward the

Continued on page 8



Peter Belch used STK software to simulate all phases of a recent intercontinental NMD test of an interceptor.

STK Events Across Europe

Specialized STK solution courses are currently being offered around the world in countries such as Canada, Sweden, France, Germany, Italy, Belgium, the Netherlands, and the United Kingdom. During 2000, international courses featured hands-on sessions focusing on fundamentals that helped users apply STK modules to their specific projects. The following is a wrap-up of last year's training events:

France

TEUCHOS organized free, full-day STK training for attendees of the Small Satellites Systems and Services Symposium. The STK training activities demonstrated STK/PRO, STK/Astrogator, STK/Coverage, STK/Comm, STK/Space Environment, and STK/Chains.

Italy

The Italian Space Agency provided generous accommodations for the two-day STK free training in Rome. Representatives from Alenia Aerospazio, DATAMAT, Dataspazio S.p.A., ESA/ESRIN, FIAT AVIO, IDS S.p.A.,

Oerlikon-Contraves, Space Engineering S.p.A., Telespazio, and University of Rome participated. The course demonstrated STK fundamentals and focused on specific requirements of each attendee's project. Day Two offered STK/Astrogator training, which was attended by the engineers of leading space companies such as the Italian Air Force, Dataspazio, and Vega GmbH.

Netherlands

In September, a team from AGI headquarters presented an STK seminar at the ESA/ESTEC offices in the Netherlands. On the first day,

attendees learned applications of STK, including aerospace mission design, planning, and operations. They also got a "nuts and bolts" presentation of the STK/Astrogator module. On the second day, AGI investigated space station docking maneuvers and demonstrated the advanced capabilities of STK/Astrogator.

In late 2000, AGI returned to the ESA/ESTEC offices for the Sixth International Workshop on Simulation for European Space Programs. Here, AGI attracted attendees by demonstrating STK products that are applicable for simulation of space mission planning and design. STK was

also incorporated into several key presentations that addressed the use of simulation technology in satellite constellation space projects.

Israel

In June, AGI, International Aerospace, and Synergy teamed up to hold a two-day seminar in Tel Aviv, Israel, on the STK software suite's capabilities. STK was demonstrated to more than 120 decision-makers and senior members in the commercial, civil, and military fields. The following day, a dozen engineers from Israeli space companies attended a one-day "Introduction to STK" training. ▲

More than
8,000
orbiting
objects
in STK

AGI maintains several databases from which STK users can select satellites and/or orbital debris to analyze and reference within the STK environment. The most extensive, *stkSatDbAll*, is an up-to-date catalog of more than 8,000 objects ranging in size from spacecraft to orbital debris as small as a softball. Using TLE's gathered by the U.S. Space Command, this list is enhanced with common satellite names, launch dates, launch times, apogee, perigee, period, inclination, owner, mission type, and status.

This data is extremely useful to automatically update your scenarios with the latest satellite orbit elements. It is also essential to the STK/Conjunction Analysis Tools (STK/CAT), which accurately alert users to objects that could potentially make a close approach to another object within a given operational or simulated scenario.

AGI also provides scaled-down versions of the main catalog that contain only those satellites matching specific criteria, such as active spacecraft or communication satellites. All information is updated three times a week on the AGI Web site. To access or update your STK satellite database, download the latest files from www.stk.com or connect directly to it from within the STK software by selecting Satellite Database from the Scenario Tools menu. ▲

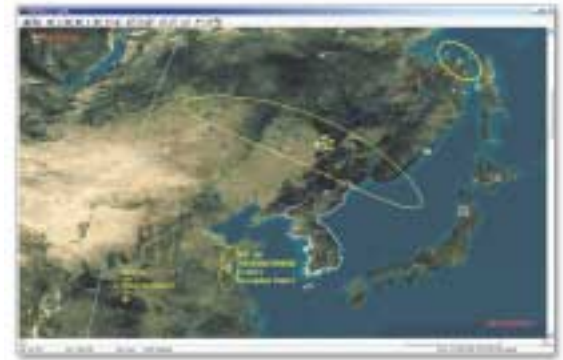
STK Products

OILSTOCK Overlay and Track File Support in STK/GIS

The STK/GIS module has been upgraded (available in May 2001 with STK v4.2.1) to support OILSTOCK overlay and track files within the STK 2-D map environment. OILSTOCK, a high-resolution, interactive, geographic-based system developed by the U.S. government, is used to store, track, and display near real-time and historical data elements.

Using STK/GIS, users can now import OILSTOCK overlays and subsequently specify features such as line styles, line colors, and marker styles. Additionally, users have full control of the OILSTOCK track files, allowing them to specify display and fade details, and view specific data via mouse clicks on both track plot files and track graphics.

As part of the STK/GIS upgrade, users can also display generic graphics primitives in lat-lon, screen, pixel, or pixel-relative coordinate frames. These primitives include lines, markers, polygons, and text and are defined using ASCII files



In addition to GIS shapefile data, STK/GIS supports OILSTOCK track and overlay files.

for easy integration with external applications. STK/Connect commands are provided to add or remove track and overlay files for an automated method of integrating with other applications.

Combining the new features of STK/GIS, its existing standard GIS shapefile support, and STK's support of standard NIMA map and imagery formats, the STK software suite can provide critical situational awareness of dynamic position and sensor data for planners, analysts, and commanders. For more information on the upgraded STK/GIS module contact your AGI representative. ▲

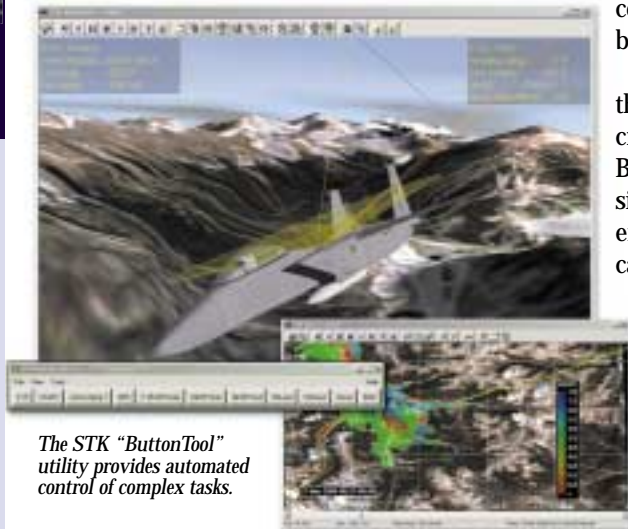
Expand the Power of STK/Connect via the New ButtonTool Utility

A new STK/Connect "ButtonTool" utility, available with STK version 4.2, allows users to quickly and easily automate processes. A graphical user interface (GUI) panel, developed in the Perl scripting language, has been designed to custom program buttons which are much like "macros" that initiate multiple STK functions or

parameter changes with the click of an icon. The buttons are created in a ButtonTool GUI and saved to a file for future use. They can be programmed to point to a file of STK/Connect commands that feeds through a designated socket or link to an executable file that kicks off a user's specific program. The utility also has a command line mode that is applicable in building STK/Connect lists and scripts.

Users can automate actions, such as changing the graphical properties of STK sensors or creating STK reports and graphs. The ButtonTool is useful in operations centers, mission briefings, or project demonstrations that employ STK for specific, complex tasks. Users can design a series of buttons that perform many underlying tasks, enabling the presentation of many scenarios or operations in a given time period.

For more information on this utility, visit www.stk.com/buttontool. Upgrade your STK/Connect today to take advantage of this new, flexible user capability! ▲



The STK "ButtonTool" utility provides automated control of complex tasks.

Get STK Savvy!

SAIC/Applied Technology Group offers STK Proficiency training on a regular basis in Huntsville, AL. This course is a great way to prepare for the new self-study STK Certification test. For more information on and schedules for SAIC's STK Proficiency training or other specialized STK course offerings visit www.cismat.saic.com. ▲

Optimize Your Antenna Design with SATSOFT

AGI has recently partnered with Satellite Software, Inc. to distribute SATSOFT™, a leading antenna design and analysis tool. SATSOFT (formerly known as CPLAN) can be used to easily design optimized spot beam and shaped beam antenna coverages, prepare performance tables, and perform other related tasks required for payload design and regulatory filings. SATSOFT antenna gain files can be exported for use in STK/Comm for dynamic link performance analysis as well as additional satellite system analysis.

“Partnering with AGI expands our market to a group of professionals who can truly benefit from SATSOFT,” says Satellite Software Inc. president Kenneth Sherman. “The combination of SATSOFT and STK enables the spacecraft designer to tackle even greater challenges than before.”

SATSOFT automates the synthesis of single-beam, multi-beam, and shape-beam antennas. A full set of graphical editing tools allows users to interactively modify the component beams, synthesis stations, and coverage polygons used in



the synthesis. Flexible plotting capabilities include contours of directivity, EIRP, G/T, cross-pol C/I, and other key performance parameters.

Graphical displays generated with SATSOFT may be copied for use with Microsoft Office and other programs. Tables of antenna performance at city and station locations can be easily created, and with SATSOFT Professional,

users can also produce tables of pointing error, degradation, pattern slope, and cross-pol C/I.

SATSOFT represents more than 10 years of development, and is utilized by spacecraft manufacturers, operators, and consultants worldwide. For details on SATSOFT options, additional

City	Design	Lon	Lat	Dir (dB)	G/T (dB)
COPTENHUTS	CPN	12.50	48.87	26.81	7.81
LOREKES	LDW	-8.17	53.80	36.00	7.06
FABIS	FAB	2.20	48.87	26.16	7.18
BEH/BE	BEH	15.42	52.53	36.72	7.72
Barrakoa	BCI	2.17	41.42	35.05	7.08
ROME	CR	12.50	41.88	35.93	7.03

Shaped patterns over user-defined regions can be synthesized using integrated antenna models.

functionality and pricing, contact AGI. SATSOFT evaluations are available for downloading at www.stk.com/satsoft. ▲

Military/Satellite Solutions with Flight Control

AGI and Simulyze Inc. have joined forces to provide software tailored to meet the data-gathering needs of the military and intelligence communities.

The product—Flight Control™—was developed by Simulyze as an add-on module to AGI’s Satellite Tool Kit.

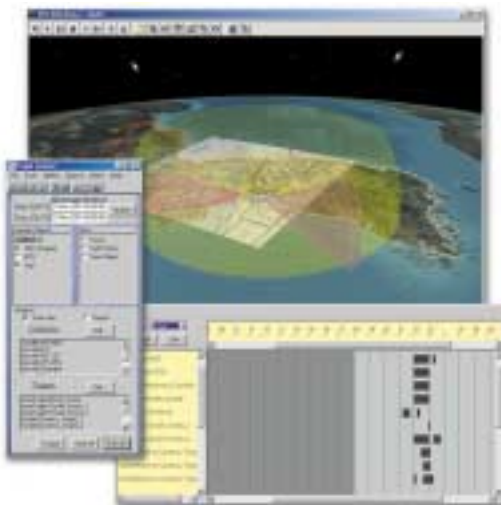
Flight Control, a decision support tool, integrates diverse planning data and near real-time operational and intelligence data with the powerful capabilities of STK. This enables users to analyze and interact with a 3-D virtual battlespace. Current users of the product include the National Reconnaissance Office (NRO) and the Assessment and Demonstration Center (ADC) in the Pentagon.

Says Kevin Gallagher, president of Simulyze, “The Satellite Tool Kit software suite provides tremendous power to analyze and visualize military data, from computing visibility times between space, air, ground, and maritime resources to generating powerful 3-D virtual scenes. We saw great value in creating Flight Control to make it easier

for military users to feed data into STK through a customized user interface.”

Paul Graziani, president and CEO of AGI adds, “We recognize Simulyze’s expertise with STK and their proven history of supporting our mutual Department of Defense [DoD] and intelligence community customers. This relationship demonstrates how our business partners provide specialized STK solutions for specific customer needs.”

Simulyze, Inc., of Fairfax, VA, provides commercial and customized software solutions emphasizing high-end 3-D modeling and simulation products. These products specialize in operator-oriented, user-friendly interfaces and fuse diverse information to provide tailored analytical and visual technology. For more information about Simulyze or Flight Control, e-mail FlightControl@simulyze.com or visit www.simulyze.com. ▲



Flight Control provides a customized interface optimized for military applications.



Adasoft, Inc.
Mission Analysis Environment (MANE™)
www.adasoft.com

The Aerospace Corporation
Strategic Alliance
www.aero.org

Analyticon Limited
Analytic Pointing Performance (APP) Tool
www.analyticon.co.uk

ARC Science Simulations, Inc.
Face of the Earth™ 1-km Resolution Earth Imagery
www.arcscience.com

Ball Aerospace & Technologies Corp.
Intelligent Link Agent - Dayton, OH
Spacecraft Survivability Module - Albuquerque, NM
www.ball.com/aerospace



AGI is the Tops!

AGI was recently recognized locally by *Philadelphia* magazine and nationally by *Mademoiselle* magazine as one of the top companies to work for in the United States. Company growth and unique employee perks attributed to AGI's placement on these highly competitive lists. Read all about these and other AGI honors at www.stk.com/awards. ▲

ESRI
GIS Solutions Partner
www.esri.com

Emergent Information Technologies, Inc.
STK/Space Environment™
www.emergent-IT.com

Frontier Technologies, Inc.
STK Solution Provider
www.fti-net.com

The GeoSphere Project
GeoSphere® 1-km Resolution Earth Imagery
E-mail: geosphere@aol.com

Innovative Orbital Design
STK Solution Provider
www.iorbit.com

The MathWorks, Inc.
MATLAB Connections Partner
www.mathworks.com

Optwise Corporation
STK Developer
www.optwise.com

Orbit Logic, Inc.
STK Solution Provider
www.orbitlogic.com

Paragon Imaging
ELT-3500
www.paragon.com

Photon Research Associates, Inc. (PRA)
STK/Radar Advanced Environment™ & STK Solution Provider
www.photon.com

Princeton Satellite Systems, Inc.
Spacecraft Control Toolbox
www.psatellite.com

SAIC/Applied Technology Group (SAIC/ATG)
Missile Modeling Tools (MFT, MCT, & IFT) & STK Solution Provider
www.cismat.saic.com

Satellite Software, Inc.
SATSOFT™
www.satsoft.com

Simulyze, Inc.
Flight Control™
www.simulyze.com

Space Exploration Engineering, Inc. (SEE)
STK Solution Provider
www.see.com

Surface Optics Corp. (SOC)
RadBase™
www.surfaceoptics.com

Sygenex, Inc.
STK Developer
www.sygenex.com

Continued from page 5

Desperately Seeking STK

Kwajalein Missile Range. A hit-to-kill Exoatmospheric Kill Vehicle (EKV), launched from Meck Island in the Pacific Ocean, intercepted the missile. "STK helped us hit a home run by permitting easy visualization of an extraordinarily complex intercontinental NMD missile test," says Belch. "We're looking forward to taking advantage of



additional capabilities such as STK/Connect's link to MathWorks' MATLAB."

Based in Arlington, VA, ARES Corporation, provides defense planning, analyses, and technology development solutions to government and defense industry customers.

For more information on ARES Corporation, please contact your AGI representative. ▲

Correction

The "Multispectral Thermal Imager Satellite a Success!" story on page 3 of the August 2000 InView should have stated that Sandia National Laboratories is situated in Albuquerque, NM, not Los Alamos, CA. Sorry to all of our friends in New Mexico!

Become an



www.stk.com/certification

AGI OFFICES

Headquarters

40 General Warren Blvd. **New!**
Malvern, PA 19355
Phone: (800) 220-4STK (4785) or (610) 578-1000
FAX: (610) 578-1001
E-mail: info@stk.com
Web: www.stk.com

Field

Washington, D.C.
4600 Forbes Blvd. • Suite 103
Lanham, MD 20706
Phone: 301-918-4244
FAX: 301-918-9456

Colorado Springs

1150 Academy Park Loop • Suite 100
Colorado Springs, CO 80910
Phone: 719-573-2600
FAX: 719-573-9079

Northern California

2001 Gateway Place • Suite 325E
San Jose, CA 95110
Phone: 408-451-1450
FAX: 408-451-1455

Southern California

3760 Kilroy Airport Way • Suite 270
Long Beach, CA 90806
Phone: 562-424-1200
FAX: 562-424-1214

INTERNATIONAL SALES

International Aerospace, Ltd.

2 Venture Road
Chilworth Science Park
Southampton, United Kingdom SO16 7NP
Phone: 011-44-23 8076 3800
FAX: 011-44-23 8076 3801
E-mail: info@intaero.com
Web: www.intaero.com

International Aerospace, Japan

Yuki Nomizo
Tokyo, Japan
Phone: 813 (0)3518 4741
E-mail: yuki@intaero.com

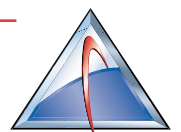
ANALYTICAL GRAPHICS, INC.



Published by:
Analytical Graphics, Inc.
40 General Warren Blvd.
Malvern, PA 19355 USA

Phone: (800) 220-4STK (4785)
or (610) 578-1000
Fax: (610) 578-1001
E-Mail: info@stk.com

© Copyright 2001 Analytical Graphics, Inc.



www.stk.com